Freshwater: Cyanobacteria

*Microcystis, Cylindrospermopsis, Lyngbya, Anabaena, Oscillatoria, Aphanizomenon*
Freshwater: Cyanobacteria
Target Audience

• Health care providers
• Residents
• Visitors
• Workers
Target Audience (continued)

- Veterinarians
- Farmers
- Pet Owners
Blue-Green Algae Toxin (Cyanotoxin) Illness

CAUSATIVE AGENT: Blue-green algae toxins (cyanotoxins) result from exposure to the toxins associated with algae blooms in freshwater habitats. Their complexity, diversity, and number of species involved make the assessment of health impacts an emerging research and medical area. Species of blue-green algae that form HABs in marine and freshwater include Microcystis aeruginosa, Anabaena circinalis, Anabaena flos-aquae, Aphanizomenon flos-aquae, Cyanothece sp., and Lyngbya sp. Exposure can occur through ingestion of contaminated drinking water, inhalation of aerosols, dermal contact with contaminated water, and consumption of contaminated fish and shellfish. Cyanotoxins are known to cause gastrointestinal distress, organ damage, and death in both animals and humans.

SIGNS/SYMPHTOMS: Symptoms of cyanotoxin intoxication include nausea, vomiting, diarrhea, and liver and kidney damage. Symptoms may also include headache, dizziness, chest pain, shortness of breath, and decreases in blood pressure. Severe cases may result in liver or kidney failure, coma, and death.

ONSET/INCUBATION: Onset of symptoms can vary from immediate to several days after exposure. Liver damage and kidney damage can occur up to weeks after exposure.

DIAGNOSIS: Diagnosis is based on clinical evaluation, laboratory tests, and exposure history. The identification of cyanotoxins in the urine or blood is not common.

TREATMENT: Treatment is supportive and includes hydration, monitoring, and hospitalization. There is no specific treatment for cyanotoxin poisoning.

RISK GROUPS: All individuals exposed to cyanotoxins are at risk. However, individuals with pre-existing liver or kidney disease, or those taking medications that affect liver or kidney function, are at increased risk.

PREVENTIVE MEASURES: To avoid exposure, avoid contact with cyanobacteria-contaminated water, especially in shallow areas. Use personal protective equipment when handling contaminated water. Ensure proper disposal of sewage and animal waste in contaminated areas. Monitor for cyanobacteria blooms, especially during warm weather.

REPORTING REQUIREMENTS: In case of suspected cyanotoxin exposure, contact your local health department. In Florida, contact the Florida Department of Health at 1-888-232-8635.
Public Health Surveillance Tools

EpiCom
- Public health bulletin board

Florida Poison Information Centers
- Tampa, Jacksonville, Miami

Florida reportable disease system
- Merlin

ESSENCE
- Syndromic surveillance
- Includes Florida hospital emergency department and acute care facility data
ESSENCE - Florida

“Electronic Surveillance System for Early Notification of Community-based Epidemics”

Florida Poison Control Centers

“Merlin” Reportable Disease Database

Florida-Based Emergency Dep’t Data
EpiCom System

Full text subscribers = 309; “Title” only subscribers = 78

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### Forums View All

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<thead>
<tr>
<th>Forum</th>
<th>Last Update</th>
<th>Message Count</th>
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<tbody>
<tr>
<td>2015 Hurricane Season</td>
<td>8/28/2015 @ 8:40 PM</td>
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<td>Anthrax</td>
<td>8/11/2011 @ 11:01 AM</td>
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<td>Antimicrobial Resistance</td>
<td>7/18/2013 @ 2:33 PM</td>
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<td>Aquatic Toxins</td>
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### Topics

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<th>Create New Message</th>
<th>View All Messages</th>
<th>Messages</th>
<th>Last updated</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue Green Algae</td>
<td>Create New Message</td>
<td>View All Messages</td>
<td>20</td>
<td>3/25/2016 @ 9:57 AM</td>
<td>Andrew Reich</td>
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<tr>
<td>Red Tide</td>
<td>Create New Message</td>
<td>View All Messages</td>
<td>279</td>
<td>9/29/2014 @ 5:41 PM</td>
<td>Andrew Reich</td>
</tr>
</tbody>
</table>
Florida “Slime Crime” Tracker
Cyanobacteria Tracking Website

In 2012, the Florida Department of Health developed an online tracking module for coordinating statewide cyanobacteria bloom response.

Caspio Web Hosting Site:

- http://www.caspio.com/
- Multi-user capability
- User name/password protected
- Somewhat “development” friendly
- Redacted public portal also available
HABs Tracking Website: Caspion

Harmful Algal Bloom Tracking Module

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

- 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)
- (*) indicates the field is required

Descriptive Bloom ID*
Format: AgencyName_Date_WaterBody
- Use the name of the agency you represent: Examples: FDOH, CHD, FDEP, FDACS, FWI

Contains a searchable database for retrieving data

Collects information on the location of bloom events, environmental conditions, site visit observations, & laboratory results
# Public Access Bloom Records

## Searchable Database of Bloom Records

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<thead>
<tr>
<th>Field</th>
<th>Value</th>
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<td>Date/Time Bloom Was Seen</td>
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</tbody>
</table>

[Search Button]
Public Access Bloom Records

Searchable Database of Bloom Records

Waterbody Name

Search
Public Access Bloom Records

Bloom Information
- Bloom Contact ID
- Descriptive Bloom ID
- Algal ID
- Species of Algae Detected
- Latitude
- Longitude
- Lat/Lon Comment Box
- County
- State
- Date Time Received
- Date Added
- Agency of Recorder

Searchable Database of Bloom Records

Waterbody Name

Search
Caspio – 270 records

Many counties represented (33)
Andrew Reich MS, MSPH, RRT
Division of Disease Control and Health Protection
andy.reich@flhealth.gov
850.245.4187
www.floridahealth.gov/environmental-health/