Presentation Objectives

• Characterize health concerns related to blue-green algae
• Describe how DHS gets information about blooms and health complaints
• Discuss respiratory health issues related to blue-green algae
Health Effects of Cyanobacteria

• Most commonly associated with direct water contact (swimmers, boaters and water skiers)
• Irritant, allergenic and gastrointestinal symptoms are common
• Several high-profile outbreaks related to drinking water reservoirs (not in WI)
• May be hard to distinguish from pathogens
Case Reporting Pathways

• DHS website case reporting tool
• DNR and local health agency referral
• WI Poison Center
Partnership with the WI Poison Center
Automated Case Reporting Process

WPC Receives a HAB-related call

Case report is faxed to DPH

Email generated to DPH staff with case description

DPH contacts caller for full case description

WPC sends monthly summary of cases
Douglas County: 1 case

Burnett County: 1 (canine)

Dunn County: 22 cases
Microcystin-LR, Microcystin-LA detected in Lake Menomin;
Anatoxin-a, Microcystin-LA detected in Tainter Lake

Adams County: 17 cases
Microcystin-LR, Microcystin-LA, Microcystin-YR detected in Petenwell flowage

Dane County: 8 cases
Microcystin-LR, Anatoxin-a detected in Lake Kegonsa; Microcystin-LR,
Anatoxin-a detected in Lake Kegonsa

Oneida County: 2 cases (1 canine)

Winnebago County: 2 cases

Green Lake County: 1 case

Dodge County: 1 case

Racine County: 1 case

Walworth County: 1 case
Case Reporting 2009/2010

- 2009: 37 cases (2 canine)
- 2010: 27 case reports

<table>
<thead>
<tr>
<th>Symptom</th>
<th># of Cases</th>
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<tbody>
<tr>
<td>Dermal Rash</td>
<td>9</td>
</tr>
<tr>
<td>Respiratory Irritation</td>
<td>5</td>
</tr>
<tr>
<td>Gastrointestinal Distress</td>
<td>32</td>
</tr>
<tr>
<td>Cold/flu-like illness</td>
<td>18</td>
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</tbody>
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These cases included one or more of the following symptoms: wheezing, shortness of breath, cough, sore throat, chest tightness, fever, fatigue, loss of appetite, ear ache, headache or nasal congestion.
Asthma and Algae

- Inhaling water droplets from irrigation or water-related recreational activities can cause runny eyes and nose, a sore throat, asthma-like symptoms, or allergic reactions

  • Inhalation is more likely during activities in which toxins are aerosolized, such as wake boarding or water skiing

- Some cyanotoxins (i.e. Brevatoxin, produced by red tide forming marine algae) have been found to aerosolize and cause changes in pulmonary function in asthmatics
Respiratory Health Issues

- Respiratory irritation is a common reported symptom
  - Anaerobic bloom decay scenarios
  - May be related to cells and/or toxins

  - Measured toxins in nasal swabs in recreational water users
  - Detectable levels of toxin were observed