Cyanobacteria (Blue-Green Algae) Bloom
Lower Bolton Lake
Community Update
August 29, 2012

Robert Miller, MPH, RS
Director of Health
Eastern Highlands Health District

Presentation Outline

- Introduction – Eastern Highlands Health District
- Event Timeline
- Public Health Concerns
- Water Quality Monitoring
- Current sampling results
- Next Steps

Introduction

- Who is the Eastern Highlands Health District?
- What does the EHHD do?
- What is the EHHD role in response to BGA?

Event Timeline

- 8/20 late PM – first email complaint of “green” water received by Town of Bolton
- 8/21 – Town contacted consultant for investigation/guidance
- 8/22 AM – first complaint of “green” water received by EHHD
- 8/22 PM – field investigation conducted, DEEP notified, samples grabbed for analysis by consultant
- 8/23 AM – analysis report received identifying potential toxin producing algae
- 8/23 AM – Public Beach closed before noon, Public Health Advisory issued soon after
  - Public access points posted, Advisory sent to Town/state officials, media notified, emailed to lake residents

Cyanobacteria (Blue-green algae) – Public Health Concerns

- Exposure to toxin containing water is a real concern animals, including pets
- Limited information linking actual human cases of illness to harmful algae blooms, none in Ct.
- Direct contact linked to skin irritation, rashes, and eye irritation
- Swallowing (larger amounts of) toxin containing water can cause : nausea, diarrhea, vomiting
- Swallowing (larger amounts of) toxin containing water can cause: liver damage, kidney damage, neurological damage
- Inhaling water droplets can cause: upper respiratory congestion, sore throat, asthma-like symptoms

Water Quality Monitoring

- Utilizing "MDPH Guidelines for Cyanobacteria in Freshwater Recreation Water Bodies…"
  - Goal: "prevent health effects **before** cyanobacteria or toxins reach levels of concern"
  - Response triggers (field observation, water test results)
  - Health-based guidelines for surface water
    - Cyanobacteria cell count: 70,000 cells/ml
    - Microcystin toxin conc.: 14 ppb
  - Monitoring frequency (weekly minimum)
  - *Advisory may be lifted after two successive sampling rounds one week apart demonstrate cell counts, toxin levels below the health guidelines*

Current Sampling Results

Date Sampled	Location	Dominant algae	Microcystin toxicity (ppb)	Cell Count (cell/ml)
8/22	Boat launch	Anabaena Aphanizomenon	0.3	NA
8/24	Lakeside La.	Anabaena	< 1.0	91,000
8/24	Boat launch	Anabaena	< 1.0	130,000
8/24	Vernon Rd.	Anabaena	< 1.0	220,000

Next Steps

- Continued water quality monitoring following MDPH guidelines
- Ongoing evaluation of current conditions by DEEP, and Town of Bolton's consultant
- Solutions?
- Explore possibility of establishing Connecticut monitoring/response protocols with DEEP/DPH

Questions?