

Austin Heinrich

Bryan Milstead, Mentor

EPA Student Intern

Milstead.Bryan@epamail.epa.gov

Phone #: (207) 272-5657

Marisa Mazzotta, Mentor

Austin_Heinrich@my.uri.edu

Mazzotta.Marisa@epamail.epa.gov

Cyanobacteria: State Monitoring Programs, Beach Closures, and Potential Human Health Risks

New England is rich in freshwater lakes and ponds, many of which are subject to cyanobacteria (blue-green algae) blooms that can limit recreational use and cause health problems. This study was conducted to better understand the health risks to human and animal populations that are exposed to cyanobacteria blooms in the six New England states. This assessment required extensive online research and outreach to state departments of environmental management and public health to determine the incidence of beach closure and advisories due to cyanobacteria blooms during the last three years. Additionally, we analyzed state monitoring programs, organizational responses, and the economic impacts of Harmful Algal Blooms (HABs) in the New England area. Information on cyanobacteria health issues, monitoring programs, and state responses were collected from official websites, publications and fact sheets, and interviews with state officials. The characteristics of state responses include (but are not limited to) program type, toxin analyses, actions taken to address blue-green algae blooms, and recorded closures/advisories. Resources such as state health departments were utilized to discover specific human and animal health incidents related to cyanobacteria exposure. Geographic Information System (GIS) analysis was used to estimate the number of people (based on census data) living in close proximity to lakes with known cyanobacteria blooms. The World Health Organization (WHO) has established guidelines for the probability of acute health effects starting at 20,000 cyanobacteria cells/ml, and our research shows that only four of the six states in New England follow similar criteria.