

PKTS. 3-04-22

Dear Ames City Council,

This is Delaney Good and Eli Cosby and we are going to share our opinions about HAB toxins. Many pets and people want to have fun at a beach whether or not it's a lake or pond or ect many people want to be safe when having fun in the water. They also want to be able to eat fish freely and not have to worry about eating harmful toxins in fish. Because we value our pets and we both like to be safe when around water and we think it is important to spread awareness about this topic and the harmful HAB toxins from these blooms.

HAB toxins have a harmful effect on people and pets. HAB toxins appear when algae grows out of control and produce toxic or harmful effects on people, fish, shellfish and marine mammals. These toxins can cause dementia, amnesia, other neurological damage, and death to humans and animals. Check for advisories before visiting a body of water. Ohio's Governor in 2014 declared a state of emergency and issued a "Do Not Drink" water advisory for two days. This advisory alerted the 450,000 water supply users not to drink or use the water for cooking or brushing teeth. In this case, even boiling the water would not make it safe to use. The Ohio National Guard brought in emergency water supplies and set up water distribution sites for communities in the affected areas, while public health authorities and other partners worked to clear the microcystin toxin from the water supply. Authorities lifted the "Do Not Drink" water advisory after two days, once tests showed that the toxin levels in the water were below the set limit. The most common type of fish to be affected by HAB toxins and to get people sick is shellfish, impacted by HABs due to the retention of toxins in their tissues. In marine mammals, fish, and other aquatic marine life, exposure to algal toxins can cause widespread illness or death. Animals can be poisoned with different symptoms. Species that are the most threatened by overfishing are sharks, Bluefin tuna, monkfish and the Atlantic halibut. Other mammals that are not as commonly associated with the seafood industry, such as whales and dolphins are also at risk. When these fish are caught and served as food with HAB toxins in them from the algal bloom, they can be very harmful towards humans and animals.

Think about the problem statement and the needs that you need to address, then brainstorm as many. There is a general consensus that prevention is the preferred management strategy for HABs, but this management strategy can be difficult to implement, and there are presently few active efforts aimed at directly preventing blooms. A growing field of research is focused on methods and technologies to control or suppress blooms. These approaches include strategies that kill HAB organisms or limit growth, and/or physically remove cells and toxins from the water column. Bloom control or suppression activities can be controversial, however, due to concerns regarding unintended ecosystem impacts of these controls. Most mitigation studies fall under four broadly defined categories, summarized below. In practice, perhaps the best known involves physical or mechanical control (e.g., flocculation), but in addition to mechanical control, there are several other categories or strategies that theoretically could be used to control or suppress HABs and their toxins.

HAB toxins in bodies of water. We think that some people believe that HAB toxins are not harmful or anything to worry about but they are wrong. HAB toxins can be dangerous in many ways, to your pets, to you and your family. Final Call To Action statement: We need to be placing signs and finding even more solutions to help keep our families and pets/friends safe.

Sincerely,

Delaney Good and Elijah Cosby

