

Risk Communication of Harmful Algal Blooms

Utah Department of Environmental Quality

Background and Environmental Agency Program/Capacity

The Utah Department of Environmental Quality (DEQ) is an independent agency tasked with environmental protection in the state. DEQ works closely with the Utah Department of Health (DoH) to sample, test, and communicate risks of HABs. The agencies have been successful in communicating information about recreation in and around contaminated waterbodies.

The partnership began in 2014 when a large bloom was discovered in Utah Lake, a major freshwater lake known for the presence of endangered species and popular for public recreation. DEQ and DoH formed an interagency workgroup, gathered research from other states, and created [guidance](#) to assist local governments that maintain a majority of jurisdiction over public health aspects of waterbodies in the state. The guidance closely matched that of the [World Health Organization](#). Following the publication of [U.S. EPA's](#) recreational HABs guidance, Utah incorporated that information into what is now its HABs document.

Today, DEQ and DoH host monthly meetings with all stakeholder agencies, including the Utah Department of Natural Resources, Utah Department of Agriculture and Food, Local Health Departments (LHDs), and Utah Poison Control Center, that focus on avoiding conflict and confusion when relaying information to the public. Each agency has its own response plan linked to DEQ's HABs [webpage](#). DEQ also hosts an annual HABs Response Workshop in May open to stakeholder agencies. The workshop prepares agencies for disseminating information during the HABs season.

Rollout and Dissemination of Advisory and Relevant Resources

DEQ and its partners established a timeframe of approximately 48 hours from sample collection to send a message to the public about contaminated waterbodies. DEQ sends sampling data to the LHDs, who then can use the joint DEQ-DoH guidance to determine if the impact on the waterbody warrants an advisory based on cell counts and toxin levels. Once a bloom is confirmed as toxic, the LHD issues an advisory. Depending on the circumstance of the bloom size and potential impacts to the communities, the LHD may request that the Utah Division of Emergency Management coordinate with agencies to disseminate information.

DEQ is responsible for several activities when HABs are identified. These include:

- Publishing press releases on the HAB to which stakeholder agencies contribute in a Google Document. While DEQ is often the issuing authority, all agencies involved provide edits, logos, etc., illustrating the joint, collaborative effort.
- Collecting data from water samples and disseminating it to the appropriate agencies. DEQ personnel are involved in collecting many of the samples.
- Posting and disseminating information about HAB advisories in press releases and on the [website](#).
- Updating an [online map](#) of HABs on Utah Lake. Because of Utah Lake's vulnerable ecosystem and significant recreational use, DEQ's Division of Water Quality uses data buoys that measure water quality parameters every 15 minutes and transmit that data every 60 minutes. DEQ also [tracks monitoring](#) of the latest sample locations and results of testing elsewhere in the state.

LHDs have authority over issuing and lifting health advisories for HABs. However, DEQ's guidance suggests lifting advisories following two consecutive sampling events for which all indicators measure below the advisory thresholds. When advisories are lifted, DEQ updates its website, issues press releases, and/or updates or removes any posted signs at the affected waterbody.

Key Messages for the Public

Key messages in the advisory include how to stay safe, what an individual should and should not do in and around the contaminated waterbody, and what cell counts and/or toxin levels were discovered. Messages also include general information on HABs and links to additional health information associated with blooms. Additionally, Poison Control hosts an [online clearinghouse](#) where concerned citizens can get more information on HABs-related symptoms.

Gaps and Challenges

DEQ acknowledges the following challenges of effectively monitoring and communicating the risks of HABs:

- Closing a waterbody due to a bloom can result in an economic impact on stakeholders and the public.
- Data collection is an arduous process but is critical for issuing advisories and communicating risks.
- Avoiding sensational journalism is difficult. DEQ encourages the media to use calm language and not to stretch the truth to avoid public panic.
- Education is an ongoing priority. DEQ is working to improve mechanisms for disseminating necessary information to the public.
- Coordinated and succinct messaging is helpful for clarifying risk levels. For example, when a HAB impacts the recreational use of a waterbody but the drinking water is not impacted, the drinking water provider needs to articulate to the public that their water is still safe to drink.
- Sorting out responsibilities is important. Multi-agency involvement is key, but collaboration only works if agencies identify roles prior to a contamination event. Prearranged messaging ensures no agency is caught off guard when the HABs season arrives.