

APPENDIX M

Emergency Operations

Background

For normal operations, the HAB Response Program relies on complex teamwork and a time sensitive chain of operations performed by skilled staff. Whenever a link in this chain is broken or missing, the agency needs to have a backup plan on hand. During the COVID-19 pandemic lockdown of 2020, agency operations were severely altered. This included greatly curtailed capacity for fieldwork, toxin analysis, algal taxonomy, and even sample receiving. Therefore, in April 2020, an Emergency Operations Plan was approved and enacted.

Good communication and partnership are at the foundation of all teamwork but especially Emergency Operations, since on-site Lake Managers are asked to assume the responsibility of collecting and submitting information. The goal was and is to allow for the HAB team to make well documented decisions that are consistent across the state, consistent throughout the season, and protective of public health, without unnecessary restriction of lake recreation activities.

If any situation arises in the future that compromises a link in the normal chain of activities, a version of this Emergency Operations plan can be enacted again, either statewide or for a certain region. Note that this plan can be modified based on best professional judgement of program staff and agency leadership, and/or augmented with resources that are available, but Partners will be notified immediately of any changes to normal operations and included in decision making as much as possible.

Partners:

KDHE Partners:

1. KDHE BOW-Monitoring and Assessment Section: HAB Response Team
2. KDHE BEFS: District Staff
3. KDHE Kansas Health and Environment Laboratories (KHEL)
4. KDHE BOW - Public Water Supply Section
5. KDHE Bureau of Epidemiology and Public Health Informatics (BEHPI)
6. KDHE Communications Office

External Partners, critical to operations:

7. KDWP: Communications office, Leadership team, and on-site Lake Managers
8. USACE: District leadership, on-site Lake Managers
9. Counties and Municipalities: on-site Lake Managers

HAB Response Program Emergency Operations Plan – Outline

1. Preparations:
 - a. HAB Response Team will notify all partners when Emergency Operations begin (and end), discuss details of altered work flow, and confirm responsibilities.
 - b. Post a notification for the public on HABs website.
 - c. Recommend that all Lake Managers post basic informational signage at all lake access points, on how to recognize HABs.
 - d. HAB Response Team arrange for KHEL to ship at least half a dozen cyanotoxin sample containers to District offices, and work with KHEL to assure that adequate test kits are stocked. Response Team will provide KHEL staff with Lugol's preservative, vials, and instruction on how to preserve aliquots for taxonomy (prior to first freezing of sample for toxin analysis).
2. Most Advisories on recreational water bodies will be based on VISUAL data, as follows:
 - a. Upon receiving credible complaints, HABs response team will contact on-site Lake Managers to request jar test, site photos, and other supporting information.
 - b. A structured data form will be provided for data collection, including map with KDHE sample points marked. Jar test instructions and photo instructions will also be provided. The form is structured to allow lake managers to accurately depict and describe the nature, intensity, and extent of bloom.
 - c. Watch vs. Warning status is based on intensity of bloom at designated sample points, extent of bloom, and other information. Hazard status will require a site visit by KDHE staff.
 - d. Additional data provided by Lake Managers, such as private laboratory data, will be taken into consideration but will not be used for quantitative threshold comparisons.

- e. For the ~30 large lakes where it is possible, the HAB Response Team will review and consider CyAN satellite data as a supplement to data from Lake Managers.
 - f. An Advisory that is issued on any day other than Thursday will be formalized the following Thursday and cannot be lifted before then, *i.e.* no lake will be on Advisory for less than one full week.
 - g. Once a lake is on Advisory, KDHE will check in weekly with Lake Manager (typically on Tuesday) to review status.
 - h. Advisory can be lifted when bloom has dissipated and does not reappear within a week.
 1. Visual data (report, photos, and photo of jar test) are required again for lift of Advisory.
 2. If a lake has had high toxins in blooms from previous or current years, or if it is a PWS, Response Team may request toxin test before Advisory is lifted (see below).
3. If a PWS lake goes on Advisory (Watch or Warning) and its water plant is NOT part of voluntary program, KHDE PWSS will contact the water plant and ask them to submit a sample ASAP.
- a. Sample bottles will normally be shipped from KHEL directly to the water system at the request of PWSS.
 - b. If water system lacks ability to overnight the samples and/or faster turnaround is required, KDHE PWSS and/or HAB Response Team will coordinate with KDHE District offices to provide the water plant with sample bottles and/or assist with shipping. District offices will maintain a stockpile of raw & finished water sample bottles and coolers for these instances.
4. SITE VISITS and WATER SAMPLES by KDHE (Districts or Central office staff) are rare but would be warranted in the following instances:
- a. BEPHI receives notice of a human or animal health incident, and a sample is needed to support BEPHI investigation.
 - a. PWS lake, if raw water samples cannot be provided by the water plant in a timely manner. (In such cases, "raw water proxy" sites should be sampled.)
 - b. "Hazard" level bloom: extreme conditions that could result in lake closure.
 - c. Lake Manager unavailable to provide report, or conflicting views over whether an Advisory should be issued or lifted.

- d. If capacity allows, special arrangements may be made for one-time cyanotoxin testing prior to important event, *e.g.* an open water triathlon event with a lake swim component.
 - e. Note: Any samples collected will be overnighted direct to KHEL (Forbes Field) on wet ice, preferably on Monday for arrival Tuesday. Response Program staff may pick up taxonomy/ID aliquot from KHEL.
5. KHEL has agreed to do toxin testing when needed: Microcystins by default, others as resources allow.
 - a. KDHE Response Program staff will contact KHEL with as much lead time as possible to alert them to incoming samples.
 - b. Maximum capacity is about 4-5 lakes/week (half of typical in-house analytical capacity).
 - c. KHEL can preserve taxonomy samples for possible later examination, but IDs/cell counts are not routine. Samples are set aside for optional post-season analysis.
 - d. MASS Analytical will provide backup microcystin analysis capacity and could call in taxonomists or other staff if critical.
6. If KDHE sampling and/or analytical capacities are compromised, either by staff shortage, by supply chain issues, or for some other reason, the Response Program may use contract laboratories or alternative methods as needed. Partners will be notified if this occurs.
7. KDHE will host weekly stakeholder calls and issue advisories on Thursday afternoons, as usual, but this will be supplemented with email messaging and phone calls throughout the week. If analysis turnaround time becomes problematic, meetings may be moved to Friday mornings, but the preference is to maintain Thursday schedule so that Lake Managers have time to post signage and all agencies have time to update websites.