



DATE: March 11, 2021
TO: House Committee on Water
FROM: Rian vanden Hooff, Legislative Analyst
SUBJECT: HB 3102 (2021 Session) – Harmful Algal Blooms

HB 3102 would provide resources aimed at improving cyanotoxin monitoring and testing capacity in response to harmful algal bloom threats around the state.

Harmful algal blooms (or HABs) in lakes, streams and rivers typically refer to the excessive abundance of cyanobacteria: a variety of single-celled photosynthetic organisms that – under some circumstances – produce and release dangerous compounds referred to as cyanotoxins. When cyanobacteria release toxins into the water, it can be harmful to humans as well as other vertebrates including pets, livestock, fish and other wildlife. HABs can cause extensive economic, environmental, or health consequences by potentially impacting our recreational areas, fisheries, agricultural operations, or our drinking water supplies.

HAB causation tends to be waterbody specific but typically includes one or more contributing factors involving warm water temperature, low flow, excess nutrients, or disrupted food webs resulting from introduction of non-indigenous species. Watersheds impacted by large wildfires are susceptible to increased risk of HABs due to increased erosion and nutrient runoff, as well as increased stream temperatures resulting from loss of riparian vegetation. HABs are also likely to become more common due to climate change as well as land and water use changes related to population growth.

As resources allow, DEQ supports the Oregon Health Authorities responsibility to issues HAB advisories by monitoring blooms, collecting and testing samples for areas where other designated management agencies are not available. For waterbodies impaired by HABs, DEQ is responsible for developing a watershed management plan or alternative strategy aimed at reducing HAB occurrence, frequency and severity. DEQ developed a [Harmful Algal Bloom strategy](#) in 2011 to improve its abilities to address HABs and identify resource needs, and is preparing to update the strategy document in 2021.

After the Detroit Reservoir HAB event in 2018 that affected the City of Salem drinking water supply, the Legislature appropriated resources to DEQ to conduct cyanotoxin analyses from samples collected by drinking water providers subject to testing requirements established by Oregon Health Authority ([weblink](#)). Beyond these resources, there is limited capacity for collection and testing of other waterbodies at risk for cyanotoxins, maintaining timely analysis of samples during peak HAB events, or providing backup contingencies if the current instrument fails or needs repair.

DEQ has been an active participant on the HAB Legislative Workgroup established by the House Water Committee following the 2019 Legislative Session. A diverse range of stakeholders on the workgroup articulated a need for better statewide cyanotoxin analytical capacity, including testing covering a greater geographic area, recreational water bodies, and pre- and post-bloom analysis. The resources described in the -3 amendment are consistent with workgroup recommendations and would support an increasingly proactive monitoring program for waterbodies susceptible to HABs (municipal and domestic drinking water; and recreational) by collecting and analyzing cyanotoxin and water quality samples to assess

public health risks. Specifically, a new cyanotoxin instrument at DEQ would:

- Increase capacity to analyze cyanotoxin samples collected in response to OHA testing requirements for vulnerable public water systems;
- Increase capacity to analyze cyanotoxin samples from a broader range of waterbodies, supporting OHA with information they need to interpret recreational risks to the public;
- Allow for increased sample testing during peak HAB season conditions and to meet increased testing frequency requirements for waterbodies experiencing cyanotoxin detections;
- Provide for more robust assessments and timely analysis to support and expedite issuance and lifting of drinking water or recreational contact advisories;
- Complement the existing instrument by supporting additional testing capacity and providing a contingency back-up for high priority sampling in the event that one machine needs repairs or becomes inoperable.
- Provide scheduled opportunities for higher education students to learn DEQ's cyanotoxin analytical methods and operational procedures.

To achieve the benefits of the new instrument described above, additional personnel resources for sample collection and analytical testing would be required.

The -2 amendment would also provide increased capacity to assess HAB vulnerable waterbodies for nutrients by providing for an additional nutrient analyzer for the DEQ lab. Nutrients are a potential contributing factor to HAB formation. The additional sample processing capacity provided by this equipment would further contribute to our understanding of HAB formation and contributing factors while also supporting efforts to predict HAB vulnerability and the development of watershed management strategies.

The appropriations to DEQ identified under Section 4 of the -2 and -3 amendments are adequate to carry out the objectives described in the bill, as amended. DEQ has no position on this bill.

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