Testimony of Michael G. Baker Representing
the Association of State Drinking Water Administrators

Before the Subcommittee on Environment & the Economy
on H.R. 212, the Drinking Water Protection Act

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Who We Are: I am the administrator of Ohio's drinking water program within the Ohio Environmental Protection Agency as well as a recent past President of the Association of State Drinking Water Administrators (ASDWA) on whose behalf I'm testifying today. ASDWA represents the collective interests of the fifty states, the five territories, the Navajo Nation, and the District of Columbia.

The Continuing Challenges Posed by HABs; My Approach to Today's Testimony: Director Craig Butler of the Ohio EPA testified before this committee in November 2014 on the subject of Harmful Algal Blooms, and, in particular, Ohio's experiences with the August 2014 incident in Toledo and its aftermath. Today, I would like to speak on behalf of ASDWA and represent a broader perspective. Algal toxins in drinking water are -- and likely will continue to be for the forseeable future – an extremely challenging issue for all of us at the Federal, state, and local levels. Real progress has been made on a number of fronts, but much remains to be done.

PRINCIPAL COMMENTS ON HR 212

Overview: I'd like to frame my remarks in the context of the various components of H.R. 212, since that's the impetus for today's hearing, and to offer a few suggestions for adjustments to the bill's language. In general, we feel that HR 212 is an appropriate set of requirements that has the potential to advance our collective understanding of algal toxins and further develop the tools to deal with them. The suite of activities envisioned by the proposed bill strike us as the right series of actions and steps to be taking. Indeed, EPA, in concert with states and other Federal agencies, are already taking several of these actions. This legislation will underscore and highlight the importance of these steps.

Strategic Plan for Cyanotoxin Risk Assessment & Management: The bill's emphasis on a strategic plan is well placed. It's become abundantly clear, to those who have wrestled with this issue, that the steps involved in protecting the public from HABs in drinking water are very much part of an interconnected puzzle. The various challenges relate closely to one another, as I'll explain more in a moment. The problem needs to be attacked holistically and thoughtfully, rather than piecemeal.

Comprehensive List of Harmful Cyanotoxins: It is indeed appropriate to "establish, publish, and update" a list of harmful cyanotoxins, as the bill would require. Such a list will drive the work undertaken in other parts of the strategy, such as refining health assessments, analytical methods, and treatment effectiveness. However, priorities should be those toxins for which there is evidence suggesting there is a reasonable likelihood that they are or may be in drinking

water at levels of concern. The list can also be expanded, if, in the future, additional cyanotoxins are found in such concentrations in source waters.

Assess Known Adverse Human Health Effects of Harmful Cyanotoxins: This is perhaps the most critical element of this Bill. States need solid information about the health effects of cyanotoxins. At present, individual states are developing their own health benchmarks or relying on consensus bodies, such as the World Health Organization (WHO). We need a national approach based on sound science and welcome EPA-derived Health Advisories. There are a host of assumptions and uncertainty factors that need to be considered in establishing an advisory level as well as policy considerations (e.g., a tiered standard for sensitive populations vs. healthy adults; acute vs. multi-day exposure; and single congener or consideration of equivalent cyanotoxins in water). We support this provision of the bill and believe that states need to be engaged in these health assessment deliberations before the advisory number is finalized.

Factors that Cause Cyanobacteria to Proliferate and Express Toxins/Monitoring Strategies: Additional information on the "ecology" of cyanobacteria, including what triggers them to produce cyantoxins, is also sorely needed. HABs sometimes follow predictable paths; but sometimes the causes and timing of algal proliferation are much harder to predict. The state of knowledge about the key parameters to measure and the most appropriate monitoring strategies needs to be enhanced. This is also an area in which consultation and coordination (another key provision of the bill) are essential. For instance, some of the early predictive assessment tools and models used by the National Oceanographic and Atmospheric Administration (NOAA) and the National Aeronautics and Space Administration (NASA) on portions of the Great Lakes are showing great promise. We also agree that monitoring guidance is needed on the appropriate frequency of monitoring, considering the dynamic nature of algal blooms.

Guidance Regarding Feasible Analytical Methods: We certainly agree with the bill's emphasis on analytical methods. There are currently several analytical methods for measuring the concentration of algal toxins in drinking water. Each has its advantages and disadvantages in terms of cost, precision, accuracy, and selectivity. We believe more work is needed to evaluate the capabilities and applicability of all appropriate analytical methods and how they can be used in tandem with one another – both the relatively inexpensive screening methods as well as the more definitive (but expensive) methods. Multi-lab comparative studies are also needed in connection with these methods. These various methods questions also "double-back" on the health assessment work mentioned earlier. How health advisories are expressed – i.e., whether in terms of individual cyanotoxin species (e.g., Microcystin LR) or whether for a broader class of toxins (e.g., all cyanotoxins) will drive the needed analytical methods.

Feasible Treatment Options to Mitigate Adverse Health Effects: We're fortunate in that algal toxins are generally amenable to treatment at a public water system. But, it's in no way a straightforward problem and guidance of the type contemplated in the bill is much needed. One needs to know, for instance, if the algal toxins of concern in the source waters of a public water system are within an intact algal cell (in which case the cells can be physically removed) or whether the cell has been "lysed" or fractured, thereby releasing the toxin directly into the water -- with associated treatment implications. Treatment challenges must also be tied closely

to the aforementioned health advisories and analytical methods -- so that water utilities can know if the treatment has been effective and the water is safe to drink.

Cooperative Agreements with and Technical Assistance to Affected States and Water Systems: We very much appreciate the draft bill's emphasis on EPA entering into agreements with and offering assistance to affected states and water systems. Ongoing technical assistance and resources are needed to effectively tackle this very challenging, multi-faceted problem. We would also respectfully point out that there's an important role for Congress in this regard to adequately fund EPA (through their yearly appropriation), states (through the PWSS grant made to states within EPA's appropriation) and to water utilities, through the Drinking Water State Revolving Loan Fund (DWSRF).

Coordination and Consultation with All Concerned Parties: The bill very properly includes a requirement for consultation with other Federal agencies, states, operators of public water systems, multinational agencies, foreign governments, and research & academic institutions. My state's experience with the Toledo water system this past summer showed that a team effort – comprised of Federal, state, and local experts as well as academic institutions – was needed to best address the challenges we faced. During that event and afterwards, we have been much impressed with and have turned to the capability of various partners organizations and we believe such collaborative efforts offer the best prospects for success along our path forward.

ADDITIONAL COMMENTS/RECOMMENDATIONS

Clarify "Other Purposes": We understand and appreciate that this is an amendment to the SWDA. However, the bill's title notes "other purposes." Is this reference to drinking water used for other purposes or source waters used for other purposes? If the latter, the human health concerns associated with *recreational* use of waters with blooms could be explicitly stated as one of the purposes.

Managing Algal Blooms: We believe the proposed bill could be improved by including a requirement for developing guidance on how to *manage* source waters known to have HABs (e.g., application of algaecides). Such management approaches may be an effective option for public water systems that have smaller sources of water (versus those using a Great Lake, for instance).

Prevention of Algal Blooms: The most reliable and, in the long run, the most protective of public health approach to providing safe water at that tap is a *multi-barrier approach*, that starts with protecting sources of drinking water. A reactive approach to HABs and algal toxins that does not include source protection and places most of the burden for removing harmful algal toxins on the water treatment facility is an expensive and unpredictable way to proceed. While H.R. 212 and much of this hearing properly address mitigation and responses to proliferation of cynaotoxins, we believe it's extremely important they we collectively stay focused on the *root causes* of algal blooms. These problems are ultimately the result of point and nonpoint sources of nitrogen and phosphorous pollution, coupled with weather conditions that can exacerbate algal blooms and cause them to occur earlier and longer. Data-driven and targeted efforts to address all sources of nutrient pollution are needed – including both voluntary measures and incentives

(e.g., conservation practices on the farm) and mandatory steps (e.g., point source discharges from Publicly Owned Treatment Works (POTWs). This multi-faceted pollution challenge requires a cooperative and collaborative pollution control approach designed to leverage a variety of tools and authorities by an array of stakeholders.

CONCLUSIONS

- State drinking water programs across the country take very seriously the quality of drinking water supplied by public water systems.
- Ohio and many other states have taken many steps to proactively address the issues associated with cyanotoxins in drinking water, but it's a complex and multi-faceted challenge and much remains to be done.
- We strongly believe that Federal, state, and local leaders need to work closely together in partnership to quickly advance the science and practice to detect and effectively treat cyanotoxins in drinking water and to target our efforts based on our collectively best understanding of the threats to human health posed by cyanotoxins.
- We believe the steps articulated in H.R. 212 are an appropriate series of actions to be taking, at this stage.
- ASDWA and individual states stand ready to continue to lead in this effort and will gladly work with partners, at all levels, to tackle this tough and very important challenge.