



State of New Jersey

DEPARTMENT OF HEALTH

CONSUMER, ENVIRONMENTAL AND OCCUPATIONAL HEALTH SERVICE

PO BOX 369

TRENTON, N.J. 08625-0369

PHILIP D. MURPHY
Governor

www.nj.gov/health

SHEILA Y. OLIVER
Lt. Governor

JUDITH M. PERSICILLI, RN, BSN, MA
Commissioner

MEMORANDUM

To: Tina Fan, Chair, DWQI Testing Subcommittee
Anthony Matarazzo, Chair, DWQI Treatment Subcommittee
Keith Cooper, Chair, DWQI

From: Jessie Gleason, Chair, DWQI Health Effects Subcommittee

Re: Health Effects Subcommittee review of RfD and drinking water guidance for cyanotoxins

Date: October 17, 2022

On behalf of the Drinking Water Quality Institute (DWQI) Health Effects Subcommittee, I am writing to provide the conclusions of the Subcommittee's review of the basis of the Reference Doses and drinking water guidance values developed by the New Jersey Department of Environmental Protection's Division of Science and Research (NJDEP DSR) for four cyanotoxins: microcystins, cylindrospermopsin, anatoxin-a, and saxitoxin.

The information reviewed by the Health Effects Subcommittee included sections of several NJDEP documents and several NJDEP DSR memos, as listed below. This information has been compiled into a single document, "**Information on NJDEP cyanotoxin Reference Doses and drinking water guidance reviewed by Drinking Water Quality Institute Health Effects Subcommittee,**" which should be posted on the DWQI website along with the other information on the DWQI's cyanotoxin recommendations. The information that was reviewed and compiled includes the following:

1. NJDEP (2018). Cyanobacterial Harmful Algal Bloom (HABs) Freshwater Recreational Response Strategy. <https://www.state.nj.us/dep/hab/download/NJHABResponseStrategy2018.pdf>. Appendix 4 (Derivation of Health Advisory Guidance Levels for Cyanotoxins) of Appendix I (DSREH [Division of Science Research and Environmental Health] Document: Recommended NJ Action Level and Health Advisory Guidelines for Recreational Exposure to Microcystin-LR, Cylindrospermopsin, and Anatoxin – A. March 10, 2017; pages 68-94).
2. NJDEP (2020). Cyanobacterial Harmful Algal Bloom (HABs) Freshwater Recreational Response Strategy. <https://www.state.nj.us/dep/hab/download/NJHABResponseStrategy.pdf>. Part 1 (Basis for NJDEP Reference Doses for Cyanotoxins) of Appendix E (Basis for Health Advisory Guidelines; pages 47-59).
3. NJDEP (2021). Cyanobacterial Harmful Algal Bloom (HABs) Freshwater Recreational Response Strategy. <https://www.state.nj.us/dep/hab/download/HAB2021StrategyFinal.pdf>. Part 2 (Basis for NJDEP Recreational Advisory for Saxitoxin) of Appendix E (Basis for Health Advisory Guidelines; pages 61-88).

4. Memorandum to Patricia Gardner, Director, Division of Water Supply and Geoscience, through Gary A. Buchanan, Ph.D., Director; Alan Stern, Dr.P.H., Chief, Bureau of Risk Analysis, from Gloria Post, Ph.D., Research Scientist. Updated review of USEPA Drinking Water Health Advisories for cyanobacterial toxins and recommendations for NJDEP drinking water guidance. September 1, 2017; pages 1-5

5. Memorandum to Patricia Ingelido, Director, Division of Water Supply and Geoscience, through Gary A. Buchanan, Ph.D., Director, Division of Science and Research and Mingzhu Fang, Ph.D., Chief, Bureau of Risk Analysis, from Brian Pachkowski, Ph.D., Research Scientist. Recommendations for NJDEP drinking water guidance for saxitoxin. May 11, 2021; no page numbers.

6. Memorandum to Patricia Gardner, Assistant Commissioner, Water Resource Management, through Gary A. Buchanan, Ph.D., Director, Division of Science and Research and Mingzhu Fang, Ph.D., Chief, Bureau of Risk Analysis, from Brian Pachkowski, Ph.D., Research Scientist, and Gloria Post, Ph.D., Research Scientist. Clarification of exposure duration for cyanotoxin drinking water guidance values. June 23, 2021; no page numbers.

In its review, the Health Effects Subcommittee evaluated the risk assessment process used to developed the Reference Doses, which are applicable to short-term exposure. The Subcommittee concurred that the Reference Doses are based on reviews of recent health effects literature and sound science. The Subcommittee also noted that the derivation of these Reference Doses underwent external peer review by experts in human health risk assessment and/or health effects of cyanotoxins and that NJDEP DSR incorporated the peer reviewers' comments.

The Health Effects Subcommittee also agreed with NJDEP DSR that the drinking water ingestion assumptions for ages 0 – 6 years and 6 years of age - adult used in the U.S. Environmental Protection Agency drinking water Health Advisories for two cyanotoxins are appropriate for use in NJDEP drinking water guidance for cyanotoxins. The Subcommittee further concurred with NJDEP DSR that the NJDEP drinking water guidance values based on these Reference Doses and exposure assumptions are protective for short-term exposure.

In conclusion, the Health Effects Subcommittee supports the use of the drinking water guidance developed by NJDEP DSR for the four cyanotoxins. For additional information, please contact me at jessie.gleason@doh.nj.gov.

Regards,



Jessie Gleason, MSPH
Chair, Health Effects Subcommittee
New Jersey Drinking Water Quality Institute
Research Scientist
New Jersey Department of Health