



# MANITOBA ECO-NETWORK

3<sup>rd</sup> Floor 303 Portage Ave., Winnipeg MB R3B 2B4  
Tel: 204-947-6511 [www.mbeconetwork.org](http://www.mbeconetwork.org)

Attention: International Joint Commission

March 27, 2020

## **RE: MbEN Comments on IRRB Nutrient Objectives and Targets**

The Manitoba Eco-Network (MbEN) appreciates this opportunity to comment on the recommendations made by the International Red River Board (IRRB) in relation to proposed nutrient concentration objectives and nutrient load targets for the Red River at the boundary of the United States (US) and Canada. Since 1988, MbEN has promoted positive environmental action by supporting people and groups in our community. MbEN is currently transitioning our programming to focus more on policy advocacy, engagement in consultation processes and developing capacity building tools that benefit the environmental non-profit sector and our member groups. We welcome more opportunities in the future to engage with the IRRB and International Joint Commission (IJC) in the development of stronger water protection measures in the Red River Basin.

### Nutrient Objectives and Targets:

MbEN supports the addition of nutrient objectives and targets to the list of water quality objectives for the Red River and recommends the IJC engage with the governments of Canada and the US for approval. However, MbEN would like to see the inclusion of stricter phosphorus objectives and targets and a recommendation from the IJC for government resources dedicated to reducing phosphorus levels in the Red River and Lake Winnipeg.

MbEN acknowledges the ongoing scientific discussion regarding the need for both nitrogen and phosphorus objectives and targets. Please see Appendix A for examples of peer reviewed research on this issue. MbEN will leave the technical analysis required to engage in this discussion to other more qualified organizations but acknowledges the need for more funded opportunities for research and monitoring studies in this area.

MbEN would also note that the water quality data sets and the scientific reports that have been relied upon in the development of the nutrient objectives and targets need to be updated and improved. After mentioning the lack of available current data at the February 12<sup>th</sup> hearing, MbEN was pleased to receive some updated information and find out a new State of the Lake Report will soon be published by the Governments of Manitoba and Canada. However, it would be helpful if all interested participants had access to this same information and these updated materials were incorporated into the IJC's recommendation report.

### Public Engagement and the Winnipeg Hearing:

In terms of the public engagement process undertaken by the IJC, MbEN felt adequate notice was not given of the February 12<sup>th</sup> hearing in Winnipeg. We could have used more time to collect feedback from our members and develop a presentation for the hearing, especially since much of the analysis was of a technical nature and required scientific expertise to fully understand. We appreciate the additional

opportunity to submit written comments, but with more time, could have improved our participation at the hearing.

Governance:

There are many multi-scale issues affecting the Red River Basin, including climate change, water supply, groundwater connectivity and contaminants such as pesticides, pharmaceuticals, endocrine disruptors, micro-plastics, foreign biota and invasive species. Given that the IRRB's Water Quality Committee strategy includes principles such as "an integrated watershed perspective and approach"; has a "particular focus on the protection and/or restoration of aquatic ecosystems and water uses"; and, recognizes and considers "synergies between sub basins and sub watersheds", the Committee, and the IRRB in general, could play an important role in navigating these issues. MbEN therefore recommends that the IRRB and the Water Quality Committee be recognized by the IJC as permanent entities.

To take a holistic and ecosystem watershed approach to solving water issues in the Red River Basin there is a need for the IJC to make the IRRB a permanent entity and expand its role to a full board similar to the IJC's existing Watershed Boards. There could also be a role for the IJC and an expanded IRRB in the study of Lake Winnipeg, similar to the IJC's studies of Lake Champlain and Lake Memphremagog. MbEN also sees a role for the IJC to facilitate the development of an international agreement for the protection of Lake Winnipeg, similar to the Great Lakes Water Quality Agreement.

MbEN also recognizes a need for more engagement with Indigenous Governments since, as noted by the MMF at the Winnipeg hearing, there is a difference between "stakeholders" and "rights holders" that has not been adequately acknowledged. MbEN suggests the IJC require Indigenous membership on the IRRB and the Water Quality Committee. MbEN is also very supportive of the IRRB and the IJC forming partnerships with local Indigenous and Environmental organizations, for example as part of a monitoring program, to ensure the IJC's objectives are met.

MbEN appreciates the IJC's consideration of these comments and welcomes future opportunities to engage with the IJC and IRRB in the development of better governance approaches and stronger water protection measures for the Red River Basin.

Sincerely,

Heather Fast  
Board Member  
Policy Committee Chair, Manitoba Eco-Network

Glen Koroluk, Executive Director, Manitoba Eco-Network



# MANITOBA ECO-NETWORK

3<sup>rd</sup> Floor 303 Portage Ave., Winnipeg MB R3B 2B4  
Tel: 204-947-6511 [www.mbeconetwork.org](http://www.mbeconetwork.org)

## Appendix A

David W. Schindler, R. E. Hecky, D. L. Findlay, M. P. Stainton, B. R. Parker, M. J. Paterson, ... S. E. M. Kasian. (2008). Eutrophication of lakes cannot be controlled by reducing nitrogen input: Results of a 37-year whole-ecosystem experiment. *Proceedings of the National Academy of Sciences*, 105(32), 11254–11258. <https://doi.org/10.1073/pnas.0805108105>

Higgins, S., Paterson, M., Hecky, R., Schindler, D., Venkiteswaran, J., & Findlay, D. (2018). Biological Nitrogen Fixation Prevents the Response of a Eutrophic Lake to Reduced Loading of Nitrogen: Evidence from a 46-Year Whole-Lake Experiment. *Ecosystems*, 21(6), 1088–1100. <https://doi.org/10.1007/s10021-017-0204-2>

Gobler, C., Burkholder, J., Davis, T., Harke, M., Johengen, T., Stow, C., & Van de Waal, D. (2016). The dual role of nitrogen supply in controlling the growth and toxicity of cyanobacterial blooms. *Harmful Algae*, 54, 87–97. <https://doi.org/10.1016/j.hal.2016.01.010>

Bunting, L., Leavitt, P., Simpson, G., Wissel, B., Laird, K., Cumming, B., ... Engstrom, D. (2016). Increased variability and sudden ecosystem state change in Lake Winnipeg, Canada, caused by 20th century agriculture. *Limnology and Oceanography*, 61(6), 2090–2107. <https://doi.org/10.1002/lno.10355>

McCullough, G., Page, S., Hesslein, R., Stainton, M., Kling, H., Salki, A., & Barber, D. (2012). Hydrological forcing of a recent trophic surge in Lake Winnipeg. *Journal of Great Lakes Research*, 38(3), 95–105. <https://doi.org/10.1016/j.jglr.2011.12.012>

Newell, S., Davis, T., Johengen, T., Gossiaux, D., Burtner, A., Palladino, D., & McCarthy, M. (2019). Reduced forms of nitrogen are a driver of non-nitrogen-fixing harmful cyanobacterial blooms and toxicity in Lake Erie. *Harmful Algae*, 81, 86–93. <https://doi.org/10.1016/j.hal.2018.11.003>

Schindler, D., Hecky, R., & McCullough, G. (2012). The rapid eutrophication of Lake Winnipeg: Greening under global change. *Journal of Great Lakes Research*, 38(S3), 6–13. <https://doi.org/10.1016/j.jglr.2012.04.003>

Pip, E., Munford, K., & Bowman, L. (2016) Seasonal Nearshore Occurrence of the Neurotoxin  $\beta$ -N-methylamino-L-alanine (BMAA) in Lake Winnipeg, Canada. *Environment and Pollution*, 5(1), 110-118. <http://dx.doi.org/10.5539/ep.v5n1p110>

Katelyn M. Mckindles, Paul V. Zimba, Alexander S. Chiu, Susan B. Watson, Danielle B. Gutierrez, Judy Westrick, ... Timothy W. Davis. (2019). A Multiplex Analysis of Potentially Toxic Cyanobacteria in Lake Winnipeg during the 2013 Bloom Season. *Toxins*, 11(10). <https://doi.org/10.3390/toxins11100587>

Bishop, S., Kerkovius, J., Menard, F., & Murch, S. (2018). N - $\beta$ -Methylamino-L-Alanine and Its Naturally Occurring Isomers in Cyanobacterial Blooms in Lake Winnipeg. *Neurotoxicity Research*, 33(1), 133–142. <https://doi.org/10.1007/s12640-017-9820-z>