



March 25, 2020

VIA EMAIL & ONLINE ONLY

International Joint Commission
U.S. Section
1717 H Street Northwest, Suite 835
Washington, DC 20006

RE: Comments on the International Red River Board's recommended nutrient concentration objectives and load targets for the Red River of the North

We are writing on behalf of the Minnesota cities of Breckenridge, Moorhead, Roseau, and Warroad to provide comments to the International Joint Commission (“IJC”) on the International Red River Board’s (“IRRB”) proposed nutrient concentration objectives and load targets for the Red River of the North. Our communities care deeply about the health of the Red River and Lake Winnipeg and we each have wastewater treatment facilities that discharge within the Red River watershed. If the proposed nutrient concentration objectives and load targets are adopted and enforced against our cities, they could require our communities to each spend millions of dollars to make process changes or upgrade our wastewater treatment facilities.

To be clear, we support the IRRB’s effort to develop *a total phosphorus (TP) load target* for the Red River designed to protect Lake Winnipeg. We believe the proposed total phosphorus load target is reasonable and that the IJC should accept that recommendation. In fact, we are voluntarily participating in a stakeholder process facilitated by the Red River Basin Commission to work with Minnesota agricultural groups, watershed organizations and state agencies to develop and implement a water quality plan that focuses on reducing total phosphorus in the Red River and protecting Lake Winnipeg.

We requested a hearing on this matter because we have identified significant concerns with the proposed TP and total nitrogen (TN) concentration objectives and the total load target for nitrogen.¹ The focus of this letter is to summarize our key procedural, technical, and economic concerns with the proposed water quality objectives and to recommend a constructive path forward for the IRRB and IJC on this matter.

¹ Request for a public hearing on proposed numeric nutrient targets for the Red River proposed by the International Red River Board, IJC Reference 81R, from the cities of Breckenridge, Moorhead, Roseau, Thief River Falls, and Warroad, Minnesota (Oct. 16, 2019).

Summary of Procedural Concerns

Our principal concern is that the process utilized by the IRRB to develop the concentration objectives and load targets was largely closed to the public and failed to adequately engage local government stakeholders. For example, the participants in the development of the IRRB's proposed water quality objectives were almost exclusively representatives from state and federal government agencies, and to our knowledge, there was no one exclusively representing municipal wastewater interests.²

We want to note our gratitude to the IJC for granting our hearing request in this matter, and we appreciate the efforts of IJC staff and commissioners to engage with our representatives throughout the hearing process. We also appreciate the IRRB's willingness to grant our 2018 request for a peer review of the Development of a Stressor-Response Model for the Red River of the North (RESPEC, June, 2016) ("RESPEC Report"), which serves as the technical basis for the proposed total phosphorus and total nitrogen concentration objectives. However, from our perspective, it is unfortunate that we had to expend such significant efforts and resources to insert ourselves into the process in the first place. Because we did not receive notice or an invitation to participate in the process early on, we did not get involved until after much of the technical work had already been completed and key decisions and recommendations had been formulated by the IRRB and its Water Quality Committee. This has placed our communities at a significant disadvantage and significantly limited our ability to effectively represent our communities' interests and share our expertise.

This lack of explicit notice and invitation to participate is unfortunate because cities and other local government interests are critical to achieving any approved IJC water quality objectives and we could be required to expend millions of dollars to comply with any objectives that are enforced. Early engagement of critical stakeholders in the water quality objective development process is not only an issue of fairness and practicality, it is also a legal requirement under both Minnesota and U.S. law.³

We request that we are formally consulted and invited to participate in the process from the beginning if and when the IRRB and/or IJC to seeks revise and/or develop water quality objectives for the Red River in the future. We suggest utilizing a process consistent with Minnesota law, which requires early engagement of the public on the development of technical documents, independent peer review, comprehensive regulatory and economic analyses and multiple opportunities for public engagement.⁴

² IJC Presentation at Public Hearing in Fargo, ND, p.10 (Jan. 16, 2020).

³ See *e.g.*, 33 U.S.C. § 1313(c); 40 C.F.R. part 131; Minn. Stat. ch. 14.

⁴ Minn. Stat. § 115.035; Minn. Stat. § 14.131.

Summary of Concerns with the TP and TN Concentration Objectives and TN Load Target

Our cities have already submitted extensive technical analyses provided by both Hall & Associates⁵ and Dr. Steven Chapra⁶ that outline our concerns with the RESPEC Report and the proposed TP and TN concentration objectives.⁷ Attached to this letter is an updated analysis from Hall & Associates which summarizes our technical concerns and provides some new analysis and recommendations. Below is a brief summary of our concerns:

Multiple independent technical reviewers have determined that the proposed TP and TN concentration objectives are not scientifically defensible.

Hall & Associates and Dr. Chapra both concluded that the analysis contained in the RESPEC Report—the basis for the proposed TP and TN concentration objectives—is not scientifically defensible.⁸ Further, both experts also concluded that the concentration objectives proposed are not necessary to protect either the Red River or Lake Winnipeg.⁹

It is important to note that many of our experts' most significant concerns with the RESPEC Report were not only confirmed by the authors of the Consensus Report,¹⁰ but also identified by other experts via their public comments in this matter. For example, despite reaching different conclusions about the need to regulate for both TP and TN and at what level, Dr. Eva Pip states the following in her comments:

In the end, one is inclined to agree with the Hall and Associates assessment as itemized in the Consensus report:

CONCERN 1 (page 2): (re: Hall and Associates Review). “The recommended nutrient target limits presented in the report (at 64) were based on a skewed evaluation of non-representative data and are not related to any accepted metric of aquatic life use impairment. Consequently the recommended nutrient target limits are not scientifically defensible.”

CONCERN 4 (page 7): “The Report claims to have followed USEPA's stressor response guidance (2010) in developing the proposed nutrient targets, but it is clear

⁵ Summary of concerns with the proposed nutrient concentration objectives and loading targets for the Red River at the United States/Canada Boundary, Hall & Associates (2020) (hereinafter “Hall Analysis”) (attached).

⁶ Dr. Steven Chapra, Scientific opinion on proposed numeric nutrient targets for the Red River proposed by the International Red River Board, IJC Reference 81R (Nov. 26, 2019) (hereinafter “Chapra Analysis”) (attached).

⁷ The Development of a Stressor-Response Model for the Red River of the North. Topical Report RSI-2611. Prepared for International Red River Board, US Section, RESPEC (June 2016).

⁸ See Chapra Analysis at 3-5; Hall Analysis at 2.

⁹ See Chapra Analysis at 4-6, 9; Hall Analysis at 2, 15.

¹⁰ The IJC Consensus Report agrees with Dr. Chapra and Hall & Associates that the RESPEC report failed to identify biological thresholds at which adverse impacts to designated uses occur in the Red River (or Lake Winnipeg) when developing the TP and TN concentration objectives. See Walter Dodds and Helen Baulch, Consensus Report for the International Joint Commission on RESPEC 2016 Report, 8 (June 2016).

that this was not done. The analyses presented in the report are scientifically deficient and do not support the proposed nutrient targets".¹¹

Given that multiple independent experts have found that the proposed TP and TN concentration objectives are not scientifically defensible, we request that the IRRB withdraw or the IJC remand these recommendations to the IRRB to substantively address the serious technical deficiencies identified by Hall & Associates and Dr. Chapra in an open and transparent manner.

The IRRB has failed to demonstrate that nitrogen control is necessary to protect the Red River or Lake Winnipeg.

Based upon our experts' review of the information made publicly available by the IJC, we are concerned that IRRB has failed to demonstrate that nitrogen control is necessary to protect either the Red River or Lake Winnipeg.

As noted above, the TN concentration objective, which was developed to protect the Red River, is not scientifically defensible. Further, Minnesota's River Eutrophication Standards ("RES") do not regulate TN as necessary to protect the Red River and the Minnesota Pollution Control Agency (MPCA) has concluded that TP is the primary nutrient that limits excessive algal growth in Minnesota rivers, including the Red River.¹² To our knowledge, nothing in the RESPEC report or other public information presented by the IJC provides a legitimate scientific basis to contradict MPCA's earlier findings that regulation of TN is not necessary to protect the Red River from eutrophication.

The IRRB also claims that the TN load target is necessary to protect Lake Winnipeg. According to our experts, however, neither the IRRB nor the IJC has presented any site-specific information showing that nitrogen control, *in addition to phosphorus control*, is necessary to protect Lake Winnipeg from excessive algal growth. Moreover, the IRRB's recommendation that TN reduction is necessary to protect Lake Winnipeg conflicts with the findings of several recent peer-reviewed studies that demonstrate that TN reduction is not necessary to protect the Great Lakes from the negative impacts of eutrophication.¹³ Therefore, unless and until the public is presented with clear studies based on conditions in Lake Winnipeg that confirm TN reduction is required to ensure

11 Dr. Eva Pip B.Sc. (Hons.), Ph.d, Comments on Recommendations by the International Red River Board on proposed nutrient concentration objectives and nutrient load targets for the Red River at the boundary between the United States and Canada, 20 (2020).

12 Statement of Need and Reasonableness, Eutrophication Standards for Streams, Rivers, Lake Pepin, and Navigational Pools, Book 2, Minnesota Pollution Control Agency, 103, *available at* <https://www.pca.state.mn.us/sites/default/files/wq-rule4-06f.pdf>.

13 *See e.g.*, David W. Schindler, The Dilemma of Controlling Cultural Eutrophication of Lakes, 279 Proceedings of the Royal Society B 4322 (2012), *available at* <https://royalsocietypublishing.org/doi/pdf/10.1098/rspb.2012.1032>; Alice Dove and Steven Chapra, Long-term trends of nutrients and trophic response variables for the Great Lakes, *Limnology and Oceanography*, 696 – 721 at 717 (2015), *available at* <https://aslopubs.onlinelibrary.wiley.com/doi/epdf/10.1002/lno.10055>; D.W. Schindler et al., Reducing Phosphorus to Curb Lake Eutrophication is a Success, 50 *Envtl. Sci. and Tech.* 8923, (Aug. 6, 2016), *available at* <https://pubs.acs.org/doi/pdf/10.1021/acs.est.6b02204>.

algal levels decrease, the proposed TN load target should be withdrawn by the IRRB and not accepted by the IJC.

As discussed in greater detail below, this issue is critical given that requiring TN reduction in addition to TP reduction could impose excessive and unplanned costs on our communities that ultimately may not be necessary to mitigate harmful algal growth.

The proposed TP and TN concentration objectives and the TN load target are more restrictive than existing Minnesota standards for the Red River and could require multi-million-dollar expenditures for our communities.

Our cities are gravely concerned that the proposed TP and TN concentration objectives and the TN load target are more restrictive than Minnesota's adopted and U.S. EPA-approved RES, which currently apply to Red River. For example, Minnesota's RES do not regulate TN in the Red River, whereas the IRRB proposes to do so.¹⁴ Further, the RES require a violation of algal or other biological response criteria before nutrient regulation is imposed, whereas the IRRB proposes to establish stand-alone TP and TN objectives.¹⁵

If the TP and TN concentration objectives and the TN load target are enforced on our communities through our wastewater permits, we may be required to spend millions of dollars to make process changes and/or capital improvements to our wastewater treatment facilities. This is a significant and well-founded concern for our communities given MPCA's history of seeking to impose mandatory permitting requirements on our cities pursuant to the Boundary Waters Treaty between the U.S. and Canada, as well as the IJC's efforts.¹⁶ Further, MPCA previously informed us that the focus of the effort to protect Lake Winnipeg would be to reduce TP, not TN.¹⁷ The recent change to focus on TP *and* TN is significant because the costs associated with treating for both of those parameters are significantly higher than if we were treating just for TP.

For example, the City of Moorhead, which operates a mechanical wastewater treatment facility, performed a preliminary evaluation of the cost to comply with TP and TN effluent limits. Given the uncertainty related to how the proposed water quality objectives would apply, the city assumed it would be required to meet a TP permit limit of 1.0 milligram per liter ("mg/L") and a TN limit ranging between 15.0 mg/L to 10.0 mg/L. The cost for the city to comply with a TP limit of 1.0 mg/L is \$10 million (USD). If the city is required to meet a TN limit in the range of 15.0 mg/L to 10.0 mg/L—in addition to a TP limit—the cost could increase by an additional \$14 to \$26 million. Therefore, the city's nutrient removal costs for both TP and TN could range between \$24 to \$36 million.¹⁸

¹⁴ See Minn. R. 7050.0222.

¹⁵ See *id.*

¹⁶ See Memorandum, "The 1909 Boundary Waters Treaty and MPCA staff Recommendations For Total Phosphorus Effluent Limits For NPDES/SDS Dischargers in the Red River Basin" To: Lisa Thorvig et al., From: Steve Weiss and Denise Oakes (December 4, 2012); Memorandum, A revised Approach for Implementing Total Phosphorus Effluent Limits in the Red River Basin, Minnesota, Minnesota Pollution Control Agency, 2 (March 27, 2014).

¹⁷ *Id.*

¹⁸ Letter to the International Joint Commission from the City of Moorhead, Preliminary assessment of potential cost impact for the City of Moorhead, MN (Feb. 21, 2020).

The cities of Breckenridge, Warroad, Thief River Falls, and Roseau all currently own and operate pond wastewater treatment systems. If these cities are required to treat to similar levels for both TP and TN, each individual city may be required to invest millions to upgrade or replace its pond system with mechanical wastewater treatment facilities. Mechanical systems would not only require major capital investments, but the operation and maintenance costs are also much higher than with pond systems. Based on the technical deficiencies with IRRB's proposed water quality objectives, we are concerned that we could be forced to expend significant resources—especially for TN removal—that are not necessary to improve water quality.

This concern about the excessive cost and minimal environmental benefit of regulating both TP and TN is not limited to our communities. For example, a recent study examining long-term trends in the Great Lakes stated the following:

It has become clear in hindsight that the management of nitrogen . . . would have been *largely futile and wastefully expensive*, as the system was clearly phosphorus limited and has become increasingly so as P loadings were reduced. Thus, *any expenditure for nitrogen control would have yielded no benefit*.

This result has implications beyond the Great Lakes. In recent years, there has been a push to control eutrophication of freshwater systems by simultaneously regulating both phosphorus and nitrogen. As eloquently argued by several experts and supported by our study of the Great Lakes, *universally adopting such a strategy for all freshwater systems would be an ineffective and costly strategy for mitigating eutrophication*.¹⁹

Given the broad concerns identified about the lack of scientific basis and environmental need for the proposed TP and TN concentration objectives and the TN load target, we are concerned that if the IJC accepts those recommendations without requiring more detailed analysis we will be forced to spend millions of dollars and those investments will prove ineffective at mitigating eutrophication in the Red River or Lake Winnipeg. Such a result is unreasonable, and we believe that there is a better way forward.

Recommendation for Moving Forward: Adaptive Management Strategy Prioritizing Adoption and Implementation of TP Load Target

As discussed above, multiple experts have determined that the proposed TP and TN concentration objectives are not scientifically defensible. Further, the IRRB has not established that TN reduction is necessary to address eutrophication in the Red River or Lake Winnipeg. Accordingly, it would be inappropriate for the IJC to accept or recommend adoption of the proposed TP and TN concentration objectives or TN load target at this time.

However, based on our review of the public comments submitted thus far, there does appear to be a consensus that a phosphorus load reduction from the Red River is reasonable and appropriate for

¹⁹ See *supra* Dove and Chapra. at 717 (emphasis added).

the protection Lake Winnipeg. Therefore, we recommend that the IJC accept and adopt the proposed TP load target. We support the TP load target rather than the proposed TP concentration objective because the concentration objective (which was developed exclusively to protect the Red River, which is not impaired per Minnesota standards) is not only scientifically flawed, but according to our consultant, is also more restrictive than necessary to achieve the TP load target, which was designed for the protection of Lake Winnipeg.²⁰ Thus, only the proposed TP load target is necessary for the protection of Lake Winnipeg.

We request that the IJC pursue an adaptive management approach by adopting and prioritizing the TP load target for the Red River (as designed to protect Lake Winnipeg) and immediately focus on working with each jurisdiction in the U.S. and Canada to develop strategies to implement and achieve this load target. The IJC should simultaneously remand the proposed TP and TN concentration objectives and TN load target to the IRRB Water Quality Committee to work with stakeholders—including our cities—in a collaborative process to address the technical concerns identified and determine what, if any, additional TP or TN reductions are necessary to protect Lake Winnipeg.

An adaptive management approach of this type would allow the IJC and IRRB to make significant and immediate progress by finalizing the TP load target now. This would facilitate the IRRB's efforts to work with stakeholders in the U.S. and Canada to prioritize resources to address the clear problem of concern—TP loading to Lake Winnipeg—and defer what could be expensive and unnecessary efforts until there is more certainty about what, if any, additional nutrient reductions are necessary to protect the Red River and Lake Winnipeg.

Thank you again for granting our cities' hearing request. We look forward to working with the IJC and IRRB going forward. If you have any questions or concerns about these comments, please contact our representative in this matter, attorney Daniel Marx, at dmmarx@flaherty-hood.com.

Sincerely,

Jeff Pelowski, Mayor of Roseau
Renaë Marthaler, Breckenridge City Administrator
Christina M. Volkers, Moorhead City Manager
Bob Marvin, Mayor of Warroad

(Enclosure)

Cc: Katrina Kessler, MPCA
Jim Ziegler, MPCA

²⁰ See *attached*, Summary of Concerns with the Proposed Nutrient Concentration Objectives and Loading Targets for the Red River at the US/Canada Boundary, p. 14 -15 (Hall & Associates, Feb. 2020).