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## Comments on the Preliminary International Joint Commission Recommendations on Microplastics in the Great Lakes

### Submitted by:

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We wish to generally support the recommendations as already articulated by the IJC, and provide the following additional comments in three broad areas:

### SCIENCE

- In developing standardized sampling and analytical methods, consideration should be given to the choice between grab or neuston net field sampling techniques. Barrows, et al.<sup>1</sup>, show a significant difference in the number of plastics recovered in samples collected from a single source using both methods.
- In addition to the important knowledge gaps identified in the current recommendations, there is a lack of understanding of how microplastic concentrations change over time, particularly in dynamic riverine systems. Spatial trends of microplastic concentrations are being researched throughout the region, but temporal trends are equally critical for identifying representative distributions.
- Further study is needed to better understand the mechanism by which microplastics travel through landscape and river systems. This, along with other lines of research suggested, will help in the development of predictive tools for the much needed Fate and Transport models included in the preliminary recommendation document.
- To better understand and communicate the full motivation for these studies, a greater emphasis on ecological and human health impacts is crucial.

### POLLUTION PREVENTION

- Collaboration with material/fiber science researchers is recommended in order to tackle the issue of microfiber sloughing from clothing.

## POLICY

- The 2015 Microbead Free Water Act is well-intentioned and takes an important step toward addressing microplastic pollution, but it does not address several microplastic types found to be abundant in some environments. We recommend that, in the context of what the science is saying about microplastics in the Great Lake, the Parties articulate a description of what this Act does and does not do with respect to preventing microplastic contamination in the future. It is critical to communicate clearly to policy makers that further action may be necessary.
- As the evolution of the 2015 Microbead Free Water Act shows (local and state policy initiating federal action), local regulations can spur action at larger scales. We recommend that the Parties continue to work with local governments to develop innovative and effective approaches for addressing microplastic pollution issues.

<sup>1</sup> Barrows, A., Neumann, C., Berger, M., & Shaw, S. (2016). Grab vs. neuston tow net: a microplastic sampling performance comparison and possible advances in the field. *Anal. Methods*. Advance online publication. doi: 10.1039/c6ay02387h