August 08, 2025

Dear selection committee,

I am writing to share my recommendation for Connor O'Loughlin as he applies for the Michigan Sea Grant Graduate Student Research Fellowship. I am a principal investigator at the Cooperative Institute for Great Lakes Research (CIGLR) and a member of the research faculty at the University of Michigan. My research group studies nutrient biogeochemistry in the Great Lakes. I reviewed Connor's proposal and prospectus and have agreed to assist his research by providing feedback and suggestions on his plans and approaches, as well as helping connect him with information resources and specialists. We have discussed several ways his proposed research could draw upon existing products from CIGLR and other regional partners, synergize with ongoing projects and monitoring, and help inform future predictive models for Great Lakes nutrient issues.

Connor's research proposal focuses on a key connection in biogeochemistry, namely the exchange of nutrients and carbon between plankton and their environment. The elemental content of plankton, in this case free-living heterotrophic bacteria, is integral to mechanistic models used to predict how the Great Lakes food webs respond to changing nutrient concentrations. This property represents a yield term (i.e., biomass per nutrient) that determines how much biological material is produced at a given nutrient concentration. Connor's proposed work could improve our understanding of this key linkage, particularly the extent to which it varies between nutrient-poor, oligotrophic environments such as Lake Superior and comparatively nutrient-rich environments in regions of Lake Huron. I expect that the product of his work will be of interest to applied researchers and modelers working to provide decision support for Great Lakes management.

Connor's proposal includes diverse and up-to-date methodological approaches. The incorporation of these tools will help connect his findings to other adjacent research areas that are important to agencies and academic researchers, including the microbial food web, 'omics-informed approaches, and modeling. His dissertation advisor and research center have the disciplinary expertise and resources to help him pursue his research aims. Connor's plans to communicate his findings and engage through conferences and publications are commensurate with his career stage and will help extend the impact of the proposed work. In his Career Goals Statement, Connor conveyed a sense of responsibility to the Great Lakes and a desire to join the regional science and management community as an agency researcher.

In working with Connor over the past several months, I have found him to be a strong communicator, an eager and thoughtful self-directed learner, and responsive to feedback. I believe these attributes will make him a productive and successful recipient of the Graduate Student Research Fellowship. Please contact me if you require additional information.

Sincerely,

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