

## STUDY INFORMATION

**Title of the study:** Adapting monitoring indicators for cumulative effects assessment

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### Purpose of this letter

To help you make an informed decision regarding your participation, this letter will explain what the study is about, the possible risks and benefits, and your rights as a research participant. If you do not understand something in the letter, please ask one of the investigators prior to consenting to the study.

### What is the study about?

You are invited to participate in an academic research study that strives to bring together known information from different science and management agencies to determine aquatic monitoring indicators for cumulative effects assessment of eutrophication and/or nutrients in Lake Erie's nearshore area at the Grand River's estuary.

This study is being undertaken as part of my PhD research, in collaboration with an undergraduate student in Biology, who is co-leading this research for her honour's thesis. This study will:

1. Further develop a new approach for indicator selection and prioritization ([Criteria-Based Ranking](#), developed during exploratory work in 2016)
2. Provide a concrete example for application of theoretical principles of cumulative effects assessment from the literature
3. Demonstrate how existing frameworks may be adapted for cumulative effects assessment



We have three objectives in this study:

1. Develop a metadata database of indicators related to nutrients currently being measured in the area
2. Assess indicators for use in cumulative effects assessment of nutrients
3. Contribute to a proposed estuary working group framework that helps connecting monitoring and management

## **I. Your responsibilities as a participant**

### **What does participation involve?**

Participation in the study consists of three workshop-related contributions:

1. *Before the workshop*: respond to two questions via the document titled “preparatory contributions”
2. *During the workshop*: participate in a three-hour, online workshop via Microsoft Teams.
3. *During the workshop*: complete an activity to score existing indicators on their usefulness in cumulative effects assessment.

If you cannot attend the workshop, you may provide comments and your ranking activity via email instead. Please note, the workshop will be recorded for note-taking purposes only (the recording will not be shared). Our time during the workshop will be dedicated to group discussion and an indicator selection exercise (more information will be shared before the workshop).

Please think about the following questions, which we will discuss at the workshop:

1. What is currently being measured to understand the issue of nutrients? What do these indicators tell us? What do we still need to learn?
2. What indicator or set of indicators should be monitored for understanding cumulative effects related to nutrients?
3. Do you have any ideas about how to measure/use these indicators in cumulative effects assessment? How would you analyze the data? What challenges do you foresee?

Please note, all documents and outcomes related to this study will be available on the study website, [www.GrandErieStudy.ca](http://www.GrandErieStudy.ca), until at least April 2021.

### **Who may participate in the study?**

To participate in this study, you must be at least 18 years of age, and have knowledge or experience of cumulative effects and/or nutrients in the context of the Grand River and its contributions to Lake Erie’s Eastern Basin.



## **II. Your rights as a participant**

### **Is participation in the study voluntary?**

Your participation in this study is voluntary. You may decline to answer any of the pre-workshop questions by leaving them blank on the “preparatory contributions” form. Further, you may withdraw any information provided to us until November 28, 2020. By November 30, 2020 we will send a metadatabase – compiled via “preparatory contributions” – to all participants, and so we will not be able to withdraw your contributions once this resource is sent out. While you may leave the workshop at any time, your contributions will not be separable due to anonymous notes being taken from collective group discussion.

### **Will I receive anything for participating in the study?**

No, there is no remuneration for participation in this study.

### **What are the possible benefits of the study?**

The results will help implement early iterations of cumulative effects assessment in the Grand River estuary and/or Lake Erie. The case study in the lower Grand River demonstrates a way to adapt existing monitoring approaches for cumulative effects assessment of nutrients.

### **What are the risks associated with the study?**

Please be advised that when information is transmitted over the internet privacy cannot be guaranteed. There is always a risk your responses may be intercepted by a third party (e.g., government agencies, hackers). University of Waterloo practices are to turn off functions that collect machine identifiers such as IP addresses. We will not use or save this information without your consent.

### **Will my identity be kept confidential?**

Please be assured there will be no direct quotes or attribution, whether by live attendance or emailed responses. All information collected from this workshop will be synthesized into a report summarizing anonymized, collective discussion. Recordings will be maintained on a personal, password protected computer until the summary report is finalized by all participants, at which point the recordings will be deleted.

### **What is the outcome of this study?**

Before the workshop, a metadatabase of nutrient-related indicators will be compiled, based on participant responses. In addition, pre-workshop responses will contribute to the development of criteria for assessing whether indicators are appropriate for cumulative effects assessment. After the workshop, a summary report will describe the indicator selection process and outcome, as well as indicators that may be used for cumulative effect assessment of nutrients. All workshop participants will have the opportunity to review and comment on the draft report before it is finalized.

The summary report will contribute to a proposed monitoring framework for the Grand River estuary at Lake Erie (PhD research) and will be used as the foundation for a senior Biology research project on stressors and effects of nutrients in the area (undergraduate research). Indicators that emerge from the workshop will be analyzed collectively, and recommendations for practicing cumulative effects assessment of nutrients using these indicators will be generated.

### **III. Questions, comments, or concerns**

#### **Who is sponsoring/funding this study?**

This study is partly supported by the Lake Futures project (under Global Water Futures) at the University of Waterloo.

#### **Has the study received ethics clearance?**

This study has been reviewed and received ethics clearance through a University of Waterloo Research Ethics Committee (ORE #42584). If you have questions for the Committee contact the Office of Research Ethics, at 1-519-888-4567 ext. 36005 or ore-ceo@uwaterloo.ca.

#### **Who should I contact if I have questions regarding my participation in the study?**

If you have any questions regarding this study or would like additional information to assist you in reaching a decision about participation, please contact Elaine Ho by email at e23ho@uwaterloo.ca. You may also contact her supervisor or co-supervisor. Dr. Simon Courtenay supervises both student investigators and can be reached at 519-888-4567 x35796 or at simon.courtenay@uwaterloo.ca. Dr. Andrew Trant co-supervises Elaine Ho and can be reached at 519-888-4567 x30385 or at atrant@uwaterloo.ca.

Thank you for your time and consideration,



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On behalf of Denise Ding, Senior undergraduate student, University of Waterloo