**TO**: All CNH-Lakes team members

**FROM**: Weizhe Weng

**DATE:** Dec. 10, 2017

**EXISTING CONTRIBUTORS:**

Kevin Boyle, Cayelan Carey, Weizhe Weng, Kait Farrell, Paul Hansen, Kelly Cobourn, Sreeya Brahma

**MANUSCRIPT TITLE:**

Coupling Water Quality Numerical Simulation and Hedonic Models to Evaluate Impacts of Changes in Nutrient Loading

**TARGET JOURNAL:**

Journal of Environmental Management (other suggestions welcome)

**MANUSCRIPT TYPE**:

Interdisciplinary research (limnology and economics)

**MANUSCRIPT DESCRIPTION:**

This paper is an example of how lake and hedonic models can be coupled to provide projections of economic impacts that are linked to limnological process. Literature on hedonic model is based on observed limnological condition, and no papers we are aware have explicitly coupled a water quality numerical simulation model to a Hedonic model. Linking hedonic models to models of limnological processes in catchments can help policy makers understand how potential changes in the landscape can alter water quality and, in turn, lakeshore property values, to support decision making.

We are contacting you because you have been listed as a potential co-author on the above manuscript that is associated with the CNH-Lakes project. On the next page is a list of potential contributions by co-authors on manuscripts. This list is intended to foster an open dialogue on authorship that starts at the very beginning phase of a manuscript and carries through until manuscript submission and acceptance. This document is intended to clearly define each co-author’s responsibilities and accomplishments throughout the effort, as well as the overall strategy for determining co-authorship as described below.

1. **If you are interested in being a co-author on this manuscript, we ask that you email Kevin Boyle (**[**kjboyle@vt.edu**](mailto:kjboyle@vt.edu)**) and Cayelan Carey (cayelan@vt.edu) by Jan 16th, 2018 and describe in specific terms the ways that you will contribute to the manuscript.** Some examples of potential manuscript contributions are listed on the next page (note that this list is not exhaustive; please contact the lead author(s) if you would like to make contributions not included in the list). For each of these contributions, please be as specific as possible as to your contribution (e.g., instead of “collect data,” please specify what data will be collected and how this data collection will occur); this additional step is critical for tracking the progress of this contribution in ODS, as described in the CNH-Lakes Manuscript Authorship Guidelines.

2. **Addition of co-authors.** We recognize that in some cases it may be impossible to identify all co-authors at the beginning stages of a manuscript. In situations when an individual’s expertise is added to a manuscript in the middle of the manuscript development process, they should be added to the author list if their contributions satisfy the conditions described below.

3. **Once contributions are identified, the manuscript leads (Kevin and Cayelan) should create a task for each co-author in ODS. Each co-author should then populate ODS with specific sub-tasks that describe their contributions to the manuscript.** We expect the co-authors to regularly update their progress in ODS to ensure transparency with the full CNH team and enable coordination of manuscript activities within the authorship team.

4. **Author ordering will be determined on a case-by-case basis after discussions among all co-authors of the contributions of each co-author throughout the manuscript process.** In general, authorship is in order of significance of contributions by each co-author to the final manuscript. However, we recognize that some disciplinary differences exist with respect to authorship position (e.g., the last author indicates lab leadership in some scientific disciplines). It will most often be the case that the manuscript lead(s) will be listed first, followed by co-authors in order of contribution. Where different contributions cannot be compared, an alphabetical listing of co-authors is the recommended practice.

5. **In general, data provision is not assumed a priori to warrant co-authorship.** In many cases, providing data in and of itself is not considered a contribution significant enough to constitute co-authorship. However, there may be exceptions when significant data processing has been undertaken to make the data usable for this manuscript, the manuscript may not have been possible without the data, or the suggestion of providing the data led to enhancing the breadth or quality of the manuscript. If any data provider expresses an interest in co-authorship, it is the responsibility of the manuscript lead(s) to contact that person to confirm the data provision and other contributions justify co-authorship.

6. **All co-authors must approve the final version of the manuscript prior to submission.** It is unethical to submit a manuscript in which all co-authors did not read and approve the final submitted version. This task is not included in the contributions list below because all co-authors must do it.

7. **Co-authors are held accountable for the content of the manuscript.** This idea provides an important distinction between a co-author and someone who is acknowledged. We recognize that every co-author will not have full knowledge of all aspects of the research; however, they need to know enough to defend the work.

8. **It is recommended that an author-contribution paragraph be written for each manuscript**. This step is important to ensure that all co-authors (particularly early-career team members) are recognized for the contributions that they make to the CNH-Lakes project. Because many journals don’t automatically publish these statements, we recommend adding it to the Acknowledgements section in the manuscript.

**EXAMPLES OF POTENTIAL CO-AUTHOR CONTRIBUTIONS**

Potential co-author contributions identified here are a starting point for CNH team members to think about whether their contributions to a manuscript rise to the level of co-authorship. This is by no means an exhaustive list of ways in which co-authors may contribute, and not all of these contributions may warrant co-authorship. As the project evolves and different types of manuscripts are created, the contributions made by potential co-authors are likely to vary significantly and should be evaluated on a case-by-case basis.

**Examples of Concept and Design Contributions**

1.     Conceived or contributed to the conception of a manuscript idea/overarching topic such that input helped define the fundamental contribution of the manuscript

2.     Developed or fundamentally contributed to formulating research questions

3.     Designed/outlined the manuscript

4.     Contributed to the conceptual/theoretical framework for the manuscript

5.     Supervised and/or co-supervised authors and manuscript progress

6.     Provided platform for research to occur (e.g., facilitated interactions with lake associations, created CNH-Lakes infrastructure that enabled research interactions to occur, etc.)

**Examples of Research Contributions**

1. Collected data (e.g., lake association interviews, downloaded data from databases)

2. Compiled or synthesized data (e.g., merged data from different datasets for model activities)

3. Oversaw or led quality assurance/quality control (QA/QC) of data

4. Developed models or a part of a model

5. Calibrated models

6. Ran or estimated models

7. Integrated models

8. Developed model scenarios

9. Analyzed observed data or model output data

10. Contributed new analyses or methods

11. Interpreted results or placed results in a policy context to enhance the greater contributions of the CNH-Lakes project

**Examples of Writing Contributions**

1. Wrote sections of text

2. Designed figures and tables

3. Performed critical reviews or substantial re-working of manuscript

**Other**

We welcome additional contributions and encourage a potential co-author to discuss other contributions with the lead author(s) so that they can be made explicit in ODS.