**Implementation Plan**

**Course/Course format: BIO 200 General Ecology - Lecture**

**Module:** [Investigating human impacts on stream ecology: locally and nationally](https://tiee.esa.org/vol/v8/issues/data_sets/nuding/abstract.html)

**Quantitative learning objective:**

* Summarize raw data
* Create charts and plots
* Interpret maps and figures

**Other learning objectives:**

* Hypothesis generation and testing
* Theoretical thinking
* Prediction Development
* Understand how biogeochemical processes and human activities influence nutrient concentrations in water bodies

**Expected dates of implementation**: Late April 2019

1. What learning objectives (content) are you planning to address in your course using the selected module materials?

I plan to address the above listed quantitative and ecological topics objectives.

1. Briefly describe the pedagogical techniques you plan to use to facilitate the module and reinforce the learning objectives you identified above.

I will assess student understanding using quizzes, homework, discussion, and exam questions.

1. Are you planning on making any adaptations to the materials? If yes, please describe them here. If no, please indicate why.
2. Do you think you will need to incorporate any supplemental materials with this module? If yes, please either describe what you are planning or include any materials you have already found.

Yes. I plan on developing a Powerpoint presentation with select materials from the exercise for organizational purposes. I will include some of my own teaching materials on water quality assessment. These are materials that I have used in past exercises (i.e. macroinvertebrate supplements on macroinvertebrate ecology and sampling techniques; water quality assessment using algae, etc.). I will use databases from local habitats (i.e. HRECOS is a database that provides real-time data on the Hudson River; Riverkeeper has an active database on fecal contaminant data in the Hudson River).

1. What assessments are you planning on using to measure student progress? If possible, describe, attach, or provide a link here.

I will be developing exam questions that will serve to examine student understanding of ecological concepts learned as well as quantitative skills and methods.

1. Please provide any additional notes here (i.e. a to-do list of items that you need to accomplish before your implementation)

I will need to gather files that I have used previously and post them to Blackboard and create a Powerpoint presentation.

**Reflection Questions for after your implementation**

1. Overall, how did your implementation go?

It went well overall. The students specifically enjoyed migration attempts. We celebrated successful attempts. The students felt that they learned a lot during this exercise.

1. What feedback (positive or negative), if any, did you get from your students about this experience?

 Because I was not the lab instructor, I ran the exercise in my classroom. Students said it would have worked better in the larger lab setting.

1. Do you plan on continuing to use this module in your future courses?

I would like to use this module again. I thought it covered a wide range of ecological topics with the added bonus of hypothesis development skills, and other skills including data organization and analysis in Excel.

1. What would you do differently if you were to implement this module again?

I would run it in a larger area. I would most likely implement it in the lab portion of the class.