

## **New Projects**

**Title: Predicting stream nutrient concentrations from landscape metrics to develop better nutrient criteria**

**Investigators:**

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**Project duration:**

July 1, 2016 – June 30, 2018

**Objectives:**

The overall goal of this project is to increase our understanding of the factors and processes driving natural variability (both temporal and spatial) in background nutrient concentrations to better inform nutrient criteria. Specifically, we will:

- a) Synthesize stream nutrient concentration, landscape, and climate data from Trask, Hinkle and Alsea.
- b) Identify primary and secondary controls of nutrient concentrations at a catchment scale by modeling the relationship between stream nutrient concentrations and landscape and climate variables.
- c) Create a model to predict magnitude, duration, and frequency of stream nutrient concentrations at a catchment scale.

**Summary of accomplishments toward objectives over past year:**

- We have started to compile stream chemistry data, and landscape and climate metrics from the Trask.
- We have also started data analysis to identify primary and secondary controls of nutrient variability.

**Problems, barriers, proposed changes to objectives:**

The analysis of the complete set of storm water samples for the Trask, initially planned for Spring/Summer 2016, has been delayed until Spring 2017 due to the moving of the laboratory where we are analyzing all of our samples (the COLLAB) during Peavy remodel. This might delay the end date of the data analysis phase.

**Planned work:**

Fall 2016: compilation of stream chemistry data, and landscape and climate metrics from the Trask, start compiling Hinkle and Alsea datasets.

Winter/Spring 2017: identification of primary and secondary controls of nutrient variability in the Trask using statistical methods.

**List of names and brief overview of graduate and/or undergraduate engagement in project:**

- Casey Steadman, a PhD student, will study the fundamental processes and principles of water and nutrient movement through forested watersheds and how these may be impacted by land management activities using data from the Trask Watershed.

- Emilee Moles, an undergraduate student in the Mentored Employee Program, will begin working on this project in Fall 2016. She will assist with acid washing, organization of samples to be analyzed, and water chemistry analysis using manual methods and the Lachat auto-analyzer instrument.

**List of presentations, posters, etc.:**

None to report

**List of publications, thesis citations:**

None to report