

## Undergraduate Research Symposium May 19, 2017 Mary Gates Hall

### Online Proceedings

---

#### POSTER SESSION 3

Balcony, Easel 87

2:30 PM to 4:00 PM

##### **The Seasonal Variation of Chlorophyll and pH in Possession Sound**

*Sloane Spencer, Freshman, BioMed, Biochemistry, Chemistry, Everett Community College*

*Hannah Aaenson, Freshman, Chemistry, Biochemistry, Neuroscience, Everett Community College*

*William Keogh, Freshman, Computer Science, Everett Community College*

*Chase Nielson, Senior, Biochemistry, Everett Community College*

*Mentor: Ardi Kveven, Ocean Research College Academy, Everett Community College*

The meeting of the fresh water from the Snohomish River and the salt water from Possession Sound creates a unique habitat that is important for many species that make up the biodiversity within this ecosystem. The purpose of this investigation was to observe seasonal variation trends from the pH, chlorophyll, dissolved oxygen (DO) and temperature data at the Deep site in the Possession Sound in Everett, Washington. The study was conducted using a Yellow Springs Instrument 85 and Exo Sonde to collect temperature, dissolved oxygen, pH, and chlorophyll data between 0-3 meters in comparison to 7-10 meters in the the water column. It was hypothesized that during the spring and summer months, there will be a higher chlorophyll concentration due to photosynthesis causing an increase in pH and DO throughout the water column. We also predicted during fall and winter months, there will be a decrease in photosynthesis causing a decrease in chlorophyll, pH, and DO. The hypothesis was not supported. There was an inverse relationship between temperature and dissolved oxygen; as temperature was increasing during the summer months, dissolved oxygen was decreasing. When the temperature was decreasing during the Fall and Winter months, there was a increase in dissolved oxygen.

#### POSTER SESSION 4

Commons East, Easel 82

4:00 PM to 6:00 PM

##### **Mobile App Usage and Empathy among College Students**

*Chad Rosevear, Sophomore, Biochemistry, Seattle University*

*Mentor: Megan Moreno, Pediatrics*

Empathy is the capacity to understand or feel what another person is experiencing from within the other person's frame of reference. Empathy has been shown to be steadily declining in college students. Use of various types of media has been shown to increase empathy if the media is prosocial, relating to a positive behavior, while violent or antisocial media is shown to decrease empathy. College students are highly connected through social media. There has been little research on the impact of mobile app usage on empathy. The purpose of this study is to compare smartphone app usage to the Interpersonal Reactivity index, a measure of empathy. A sample of approximately 30 college students with iPhones from two universities were recruited through class Facebook pages and email listservs. The study was conducted through an online survey that uses an established measure (Interpersonal Reactivity Index) to determine perspective taking, empathetic concern, fantasy, and personal distress of each participant. Additionally, participants were asked to submit a screenshot of their weekly app usage that shows time spent on apps. A codebook was used to identify these apps as prosocial or antisocial. Analysis included comparing scores from the Interpersonal Reactivity Index to the amount of time spent on apps according to the screenshot. From these sets of data it will become more clear what kind of smartphone app usage is prosocial, what kind is antisocial, and the effects of app usage on perspective taking, fantasy, empathetic concern, and personal distress amongst college students.