January 10, 2020

MES Thesis Fund Committee

The Evergreen State College

Olympia, WA 98505

To the MES Thesis Fund Committee,

Please accept the attached materials as my application for a MES Thesis Fund award for 2020. I received credit for Case Studies and Thesis Design in Fall 2019. I have installed my thesis work described in my thesis prospectus, and I expect to graduate in Fall 2020.

The goal of my thesis is to test the effectiveness of experimental coastal prairie vegetative mats to enhance and restore coastal prairie areas currently and formally utilized by the Oregon silverspot butterfly caterpillar. My research question is: will vegetative mats growing Early blue violet (*Viola adunca),* Roemer's Fescue (*Festuca romeri),* and Beach Strawberry *(Fragaria chiloensis)* made from coconut coir and Red Alder (*Alnus* *rubra*) chips promote the Early blue violets’ ability to establish and maintain interstitial spacing within the mat more effectively than the traditional plug planting techniques?

The project will utilize three plant species associated with the larval life history of the Oregon silverspot butterfly based on ecological field data associated with the Oregon silverspot butterfly’s habitat usage at Mt. Hebo, Oregon. Restoration areas prioritized for the out planting of plant material will include sites that have received restoration treatments; scraping and mowing. Within these two treatment types, vegetative mats made from coconut coir and red alder chips sown with Early blue violet, Roemer's Fescue seed,andBeach Strawberry cuttings will be out planted in the treatment areas. As a control to the vegetative mats, an equal number of plants grown in plugs will be out planted within 1x1 meter plots. Out planting of the mats and plug plots will occur within the two types of restoration treatments, with the plots spaced evenly across the areas. Plots will be measured as the percent native and bare ground aerial cover to non-native invasive plant aerial cover within the 1x1 meter quadrat of the vegetative mat and control plug planting areas. The surrounding 3x3 meter treatment area of the mats and plug plots will also be measured as 8 1x1 meter quadrats to understand the response of the existing plant community to the treatment types and its potential effect on the experiment. I am proposing to collect my data from March – October 2020. I am requesting $1000 to cover mileage expenses to conduct field data collection this spring, summer and fall, as listed in the attached budget.

Thank you for considering my application.

Respectfully, Graham Klag – The Evergreen State College - Master of Environmental Studies Candidate