MES Thesis Fund Budget Justification

Kevin Lester 1/10/2020

**Travel.** (This may include mileage in a personal vehicle for driving to/from study sites to collect data, or to conduct in-person interviews. If you are collecting data in a more distant location one round-trip airfare will be considered. Mileage to/from the Evergreen campus, even if to process or analyze lab samples, cannot be included.)

Gasoline was one of the top expenses for my thesis research even without considering gasoline used by the cars and trucks to move myself and equipment to and from the dock. The new motor purchased during the summer survey ideally consumes around 1 gallon of gas per hour. Survey days can last anywhere from 3-7 hours depending on the day and the trip from Olympia to the dock in Port Orchard takes around 10 hours (add another 10 hours for the return trip). Extra gas was stored in portable gas-cans for later use during the survey.

Each season consumed around 99 gallons of gasoline (unleaded then treated for ethanol) totaling around 297 gallons for the entire project. This gas was purchased for around \$2.86 per gallon, totaling the cost (before tax) at \$849.42. Sails and an electric motor were used when possible and when going out for short shore excursions paddles were used. The shallow water areas were all done by kayak as opposed to using the dinghy which would ultimately be more expensive.

**Materials/Supplies**. (These are typically items that you buy multiples of, e.g. lab supplies, flagging or notebooks, other field supplies, sample testing, postage for mailed surveys (or to send samples off), printing costs (of surveys or other materials needed for research, not the thesis itself).

Materials utilized in my thesis research were donated and are not considered in my expenses sheet.

**Equipment**. (These are typically one-time purchases, e.g. of an instrument or tool necessary for data collection, or of specialized computer software. Computer hardware (e.g. a new laptop) should not be requested.

Equipment purchases were the largest hurdles to the completion of my thesis research and will haunt me for years to come in the form of the debt I have accrued from them. Despite the enormity of these costs, they were required for my own survival and the survival of my research. These items were typically the cheapest I could get them and alternatives were compared to find the cheapest option that still worked.

The largest expenses of the survey came in the form of engine trouble. Both the dinghy and the main vessel came with older motors that gave-out during the survey cause very big threats to my life and research. Replacing these motors immediately solved the largest

problems of the survey and made the entire project safer for everyone involved. Here is an excerpt from the Captains Log during one of the final nights with the old main engine:

"June 20th, 2019 Hope island to Case Inlet to Hope Island

0900 - Set off from Hope Island.

**1100** - Engine died suddenly and is failing to restart, wind and waves picking up in Case Inlet, resolved to sails.

**2100** - Sailed to Henderson Inlet, the wind too strong and overpowering the sails, sails down and drifted to land, dropped anchor beneath cliffs in Dana Passage, wind and waves too powerful for the dinghy to tow.

## June 21st, 2019

**0000** - Anchor pulled, now adrift again in the middle of Dana Passage, anchor dragging too difficult to pull, called 911.

**0045** - Pulled up the main engine and installed dinghy motor, pulled anchor with sail winch. Riding current to Hope island with dinghy motor assist.

0300 - Arrived at Hope Island."

The story above speaks for itself, even so, I survey another 4 days with the old motor until it died for good on June 25th. A new motor was required to make it through the survey and get home and it has held strong throughout the following surveys.

Another expense I accrued in the progression of my thesis research is the price of the vessels themselves. A kayak, dinghy, and 28-foot live-aboard sailboat were all purchased for under \$1000 total. The real cost of these vessels came in the time it took for me to make them seaworthy again, and the equipment I purchased to be able to use them as research vessels. Installing solar panels, a generator, and the related electrical infrastructure meant that I was unrestricted in using my Survey123 device and navigation equipment throughout the project. Many small purchases were made to make the vessels more accessible and comfortable, but these were not listed in my expenses except for the marine rope ladder as some of my volunteers needed the assistance to get from the dinghy to the main vessel at sea.

**Other.** (If you have specific expenses that aren't covered in the above categories. Tuition cannot be covered by this fund.)

To be able to use the moorage buoys at State Parks without having to spend \$15 per night one must have an Annual Moorage Pass. I purchased one for 2019 and 2020 for the purpose of this research. The cost of the pass is footage of the vessel times 5 (\$280 for the two passes). With these passes, I saved \$395 and the headache of rowing to shore each night to deposit cash in collection boxes. I do not have any pending expenses or grants to add to my expenses work-up.