*Extension Justification*

The Covid-19 pandemic significantly impacted access to the Padilla Bay NERR reserve and in-person field studies. This delayed the originally proposed field work by 6-9 months, resulting in the loss of fall 2020 and winter 2021 sampling deployments. With field activities delayed, Elmstrom did not have a full dataset to work with until the fall of 2021. This caused Elmstrom to shift to the project scope and pushed the ecosystem modeling and statistical analysis behind significantly. To meet the original proposed milestone of a publication for ready for submission, we request more time for statistical analyses, figure creation, and writing. The preparation of a publication for peer review is a large task. Writing-related activities will likely span across the full extension period (the academic 2022-2023 year). Given that seasonality was a large piece of the original proposal, additional fall and winter fieldwork will also be considered upon completion of the preliminary analysis. If additional fieldwork is deemed necessary, this will also be completed during fall or winter of the extension period.

There have also been significant social distancing-related setbacks due to Covid-19 health precautions. Certain education and outreach activities have been canceled or moved online due to COVID-19. For example, both the Salish Sea Stewards volunteer training program and classes offered through the Coastal Training program remained virtual until this February. While it is important to note that Elmstrom participated in virtual trainings, she has yet to engage person. Padilla Bay’s Breazeal Interpretive Center also remained closed until late August 2021, altering Elmstrom’s progress to create an in-person project-based learning activity. Although this was proposed to be completed in August 2022, the setbacks to the field and subsequent data analysis have also caused the timing of these activities to shift. If an extension is granted, Elmstrom will work with the education sector to create a project-based activity during the academic 2022-2023 year.

*Remaining activities*

The remaining activities are as follows:

* Complete ecosystem metabolism models
* Additional fieldwork (if deemed necessary)
* Finalize statistical analysis for publication
* Submission of publication for peer review
* Creation of a project-based learning activity

 Amount of funding remaining to support the remaining activities

$44,486

 Projected timetable for completing the activities within the extended period

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | 2022 Remaining | | 2022-2023 Extension period | | | |
| *Research Activities:* | Spring | Summer | Fall | Winter | Spring | Summer |
| Ecosystem metabolism models | X | X | X | X |  |  |
| Statistical analyses | X | X | X | X |  |  |
| Fall/winter field work |  |  | ? | ? |  |  |
| Manuscript writing |  |  | X | X | X | X |
| Publication submission |  |  |  |  |  | X |
| Padilla Bay research meetings | X |  | X |  | X |  |
| *Education components:* |  |  |  |  |  |  |
| Project-based learning activity |  |  | X | X | X | X |