The Salish Seas

Student Training as Research Scientists January-December 2022



Forage Fish Edition







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SUMMARY

The focus of this program was to get students involved in forage fish field forage fish so they could both explore marine science careers and learn more about the entire marine ecosystem, including the importance of forage fish.

The area of research used for this project was spawning trends at March's Point (Anacortes, WA), with a focus on surf smelt spawning presence along the high tide line of the beach.

The project featured one student - Julia Schielke. Based on Julia's background research and interest, she investigated whether surf smelt prefer overhead shaded beach or non-shaded beach areas to spawn.



Picture 1. Collecting beach samples



Picture 2. Processing the samples

Pete Hasse was instrumental to get the project rolling trained Trevor on the protocols.

Julia would collect monthly beach sediment samples from shaded vs non shaded beach portions to be strained out for potential forage fish eggs/fry. Looking under a microscope after straining out the rocky and larger grained sand, Julia would look for eggs and fry and categorize the findings as none, few (<~10) and lots (>10), organized as a 0, 1, 2 scale.

Trevor and Julia met virtually every few months to learn about data input and analysis, graph the presence of eggs and fry per month per beach, and review her end of year presentation.

Conclusion

Julia found that egg presence was higher in shaded versus non shaded beach portions, though this was not the case for fish fry (very few fish fry were seen in any beach in general).

Julia presented her findings at the end of the year's STARS symposium. Though Julia focused on shade vs non shaded beach portion for spawning frequency, there are other options worth exploring, such as beach pebble size or height of each beach.

LINK TO PRESENTATION HERE (Forage Fish begins at 44:40)

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RECOMMENDATIONS

- Greatest issue was coordinating meetup time with the student, where only available times coincided with high tides, making field work difficult at times. Would be best to have set dates ready to go based on tides and student/teacher availability
- Field sessions were fairly quick and efficient with just one student may be difficult to share supplies and one microscope with 3 or 4+ students

STUDENT FEEDBACK

- During presentations, Julia was hoping students could relay age and/or grade to avoid discouragement from those who may be older presenting more advanced presentations
- Would be helpful for more background info on forage fish in general and the purpose of the study just understand the importance of it in the grand scheme of things.
- Would have also been helpful to better understand Pete's organization and how this project ties in with it. There was a base understanding of working with the Skagit Citizen Forage Fish Survey, but could use more info in how this project ties in with them.

