Marine Farming Association - March Monthly Update - for Industry Advisory Group

Excellent Initial Mussel Survival

From the data collected in February we estimated that our transplanted mussels had consistently very high initial survival, regardless of the site they were deployed in (Figure 1). The results suggest that the mussel translocating methods worked great, with much better initial mussel survival than recorded for other restoration that has occurred in the Hauraki Gulf.

Estimated Percent of Mussels Alive 1-month Post Deployment					
	Maori Bay	Skiddaw	Te Mara	Grant Bay	Weka Point
T1	100.0%	100.0%	99.3%	100.0%	100.0%
T2	100.0%	98.7%	100.0%	99.1%	98.9%
T3	100.0%	99.4%	99.2%	97.4%	100.0%

Figure 1: Table showing the estimated survival of each treatment plot at each site.

Managing Starfish Threat

The 11-arm starfish are voracious predators that are a threat to the newly restored mussel beds (Figure 2), but we can protect the mussels by removing the starfish (Figure 3). Continuing reinvasion of the beds by the starfish seems to occur, so we will measure and remove the starfish at every sampling interval. This will help us understand predation patterns and look at the affect they may have on mussel survival.

Figure 2: A photo of the 11-arm starfish predation on a treatment plot of restored mussels at Maori Bay.

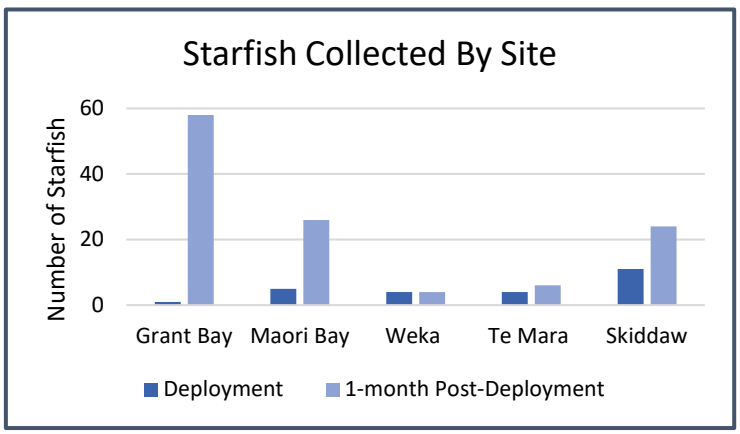


Figure 3: A graph showing the numbers of 11-arm starfish collected per site.

Understanding Movement

One interesting aspect of our study is to understand how the newly restored mussels move post-deployment. So far, we found that the transplanted mussels stay put and organise themselves into a coherent mussel bed all by themselves, allowing us to measure their spread (Figure 4). We are also interested to understand how different sediment types will affect this behaviour (Figure 5).

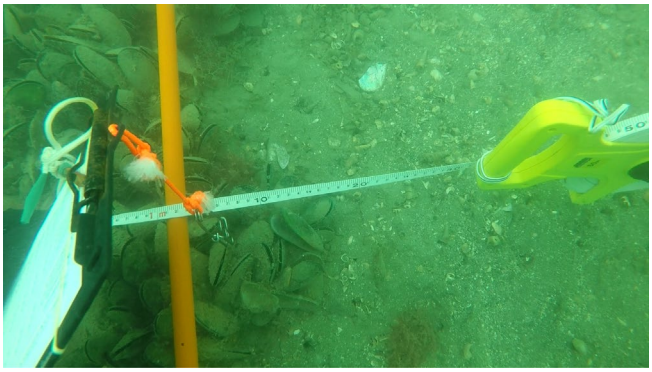


Figure 4: A photo showing the measurements that were taken of the mussel bed spread from the margins of each treatment plot.

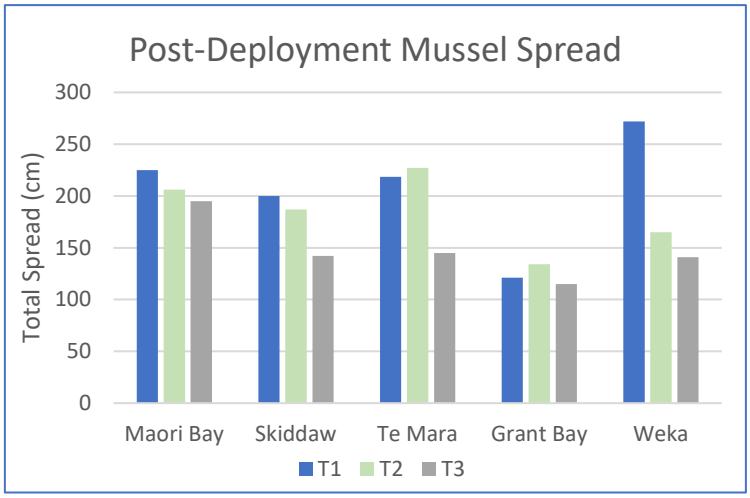


Figure 5: A graph showing the amount of mussel spread 1-month after deployment at each treatment plot per site.

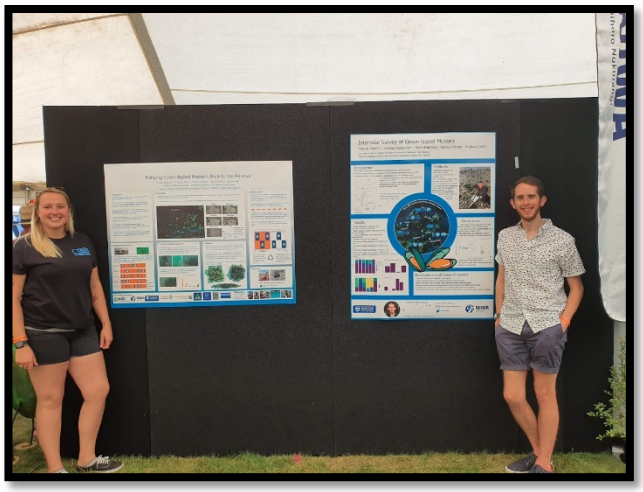
Havelock Mussel Festival

This past month was the Havelock Mussel Festival. It was a great way to spread the word about our project as there was a large amount of public interest and positive feedback on the project. Below is a photo of the event and the poster that I presented there.

Unfortunately, in this current climate I am not sure when the next time we will check on the mussels, but my aim is for the end of April once we are hopefully all in the clear! I hope you guys all stay safe and as always, if you have any comments or feedback on this month's progress, please feel free to reach out via email at egol669@aucklanduni.ac.nz or follow the project on my twitter @EmileeBenjamin_.

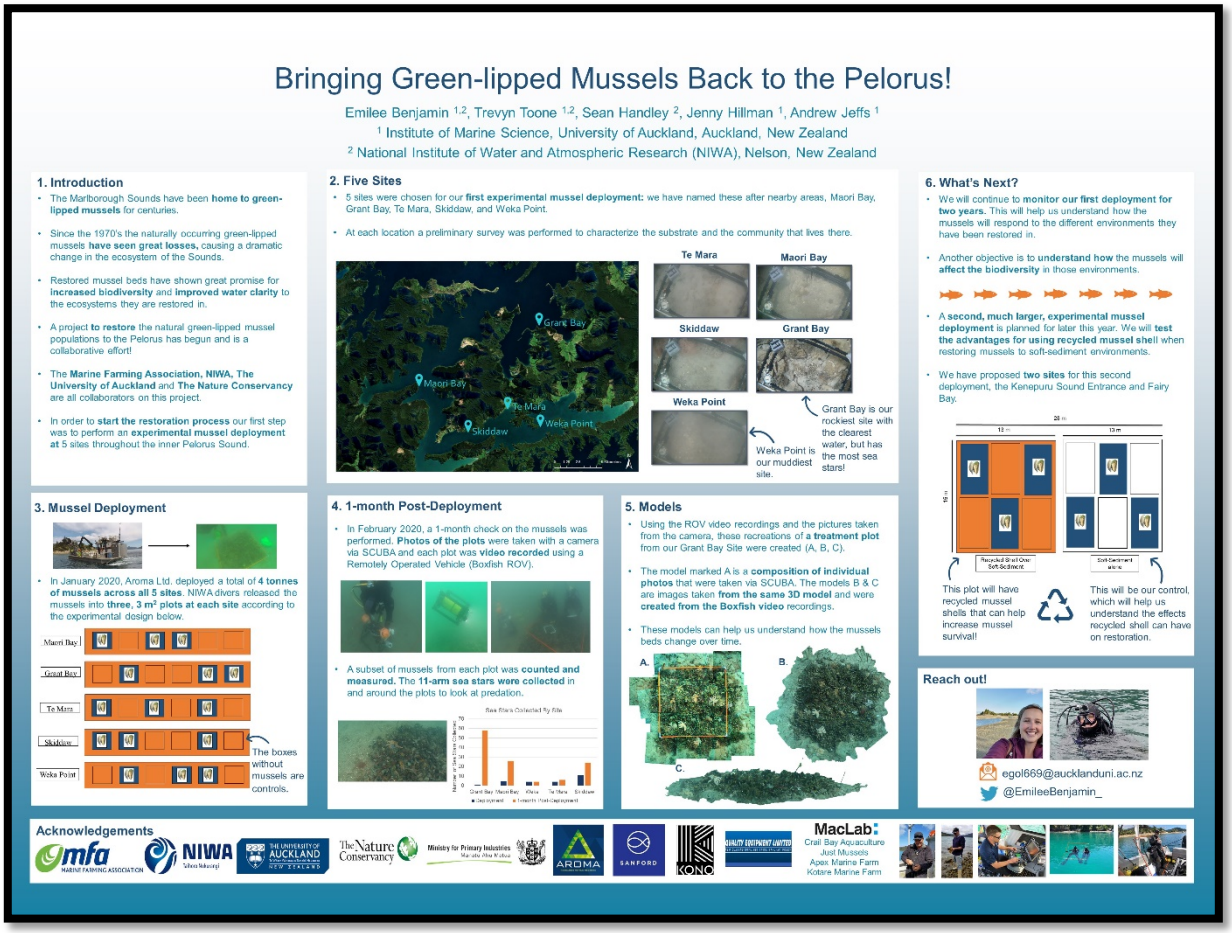
Thank you for all your help and your time with this project. 😊 Emilee Benjamin

Photos from March 2020



Emilee and Trevyn presenting their posters at the Havelock Mussel Festival.

Emilee presenting her work online for the Shellfish Restoration Conference.



Emilee's poster for the Havelock Mussel Festival.