

## Mussel Restoration Project for the Marlborough Sounds – January 2022

### Two-years of monitoring results for initial mussel restoration

Two years after restoring our first 4 tonnes of mussels to five sites in Pelorus Sound, four of the five are still going strong with over 80% surviving. Unfortunately, at the fifth site at Grant Bay, almost all of the mussels have died, appearing to be mostly consumed by crowds of eleven-armed starfish.

This initial mussel restoration has confirmed mussels can survive and grow well in most areas of Pelorus, at 5-7 m depth in which they were found historically, even when placed down on the muddy seafloor. However, the presence of starfish predators is the major factor reducing the longer-term persistence of mussels on the seafloor. Areas restored with mussels further south in Pelorus, tended to have lower mussel predation from starfish, possibly due to the muddier conditions. This may help to explain why historically the inner Pelorus, especially Kenepuru Sound, had the largest wild mussel populations.

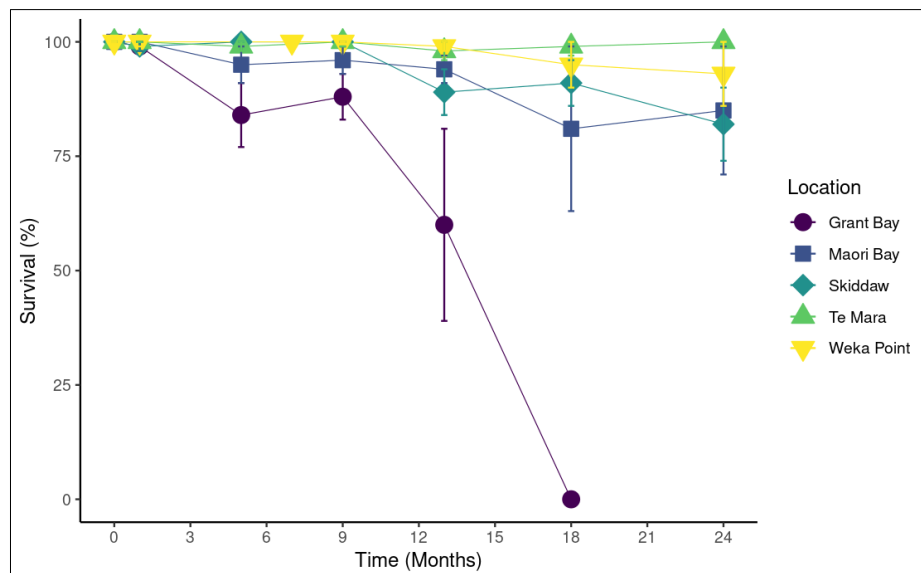


Figure 1: Mussel survival after two years on the seabed at five locations.

As always, if you have any questions or comments on this project, please feel free to reach out to Emilee Benjamin via email at [egol669@aucklanduni.ac.nz](mailto:egol669@aucklanduni.ac.nz).



Figure 2: Top left: A starfish eating a mussel at Grant Bay at the 12-month sampling. Top right: The dead mussel shells left in the plot at Grant Bay, while starfish are looking for any remaining survivors to eat at the 18-month sampling. Bottom left: Mussel plots at Maori Bay, showing good mussel survival along with the organisms that live in the mussel plot, including sea cucumbers, and cushion starfish. Bottom right: Beautiful red algae on the mussel plots at Skiddaw.