# From shell to shelter: juvenile and small reef fish move into restored plots

Small reef fish love mussels almost as much as we do, but for a different reason, mussel habitats make great shelter. And not just live mussels, shell material alone can build important habitat. PhD student Altan Ní Mhurchú has been leading a study to understand how shell material, a by-product from mussel processing, can be used to build habitat for juvenile and small reef fish, such as triplefin.

After one year on the seafloor, Altan found that fish abundance was five times higher on plots with mussels and shell, and twice as high on plots with shells alone, compared to adjacent muddy seabed, regardless of shell height. Across the habitats there were jack mackerel, spotties, leatherjackets, and three types of triplefin fish (Figure 1). This study adds to our growing body of scientific literature showing the importance of shell in the marine environment and the use of shell by-products as a practical and scalable tool for seabed restoration.

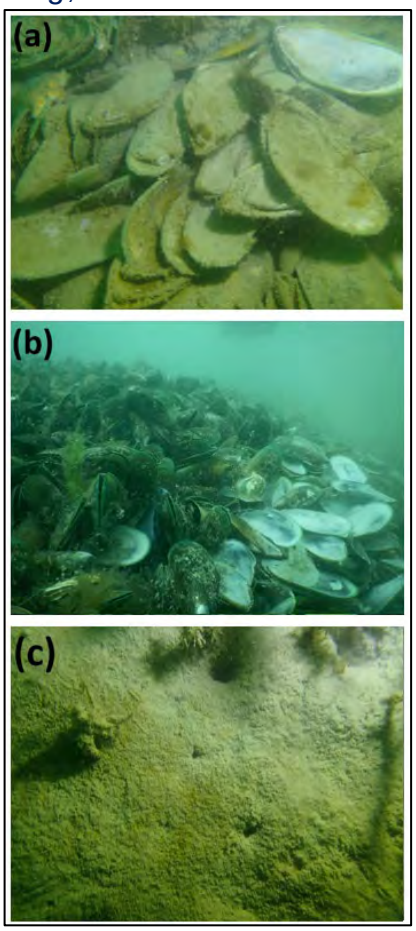


*Figure 1*

**Figure 1.** The three habitat types tested (a) shell alone, (b) live mussels on top of shells, and (c) adjacent muddy seafloor. To sample the larval and small reef fish community, Altan used standard monitoring units for the recruitment of fish (SMURFs)

**Figure 2.** Fish species observed across the study.

**Figure 3.** An illustration of the standard monitoring units for the recruitment of fish (SMURFs) *a common method for detecting early fish recruitment into new habitats.*

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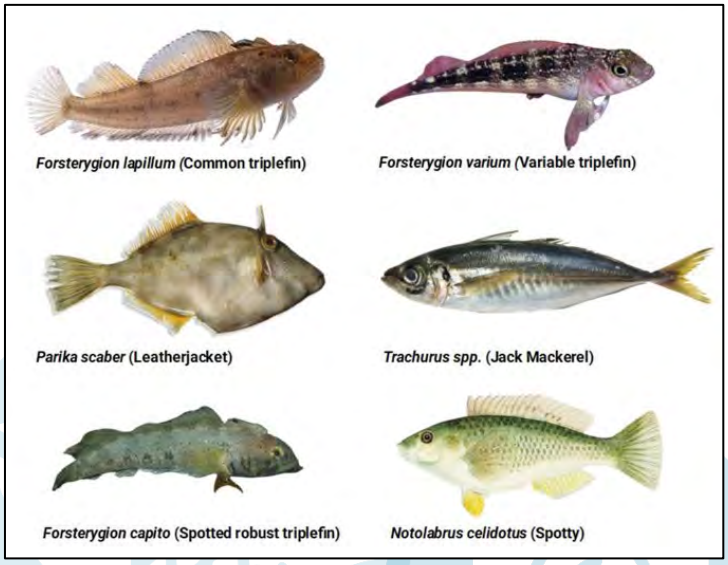


*Figure 2*

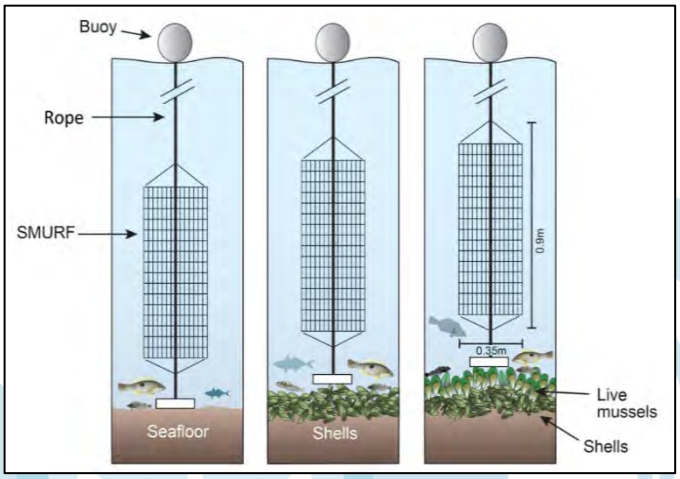


*Figure 3*