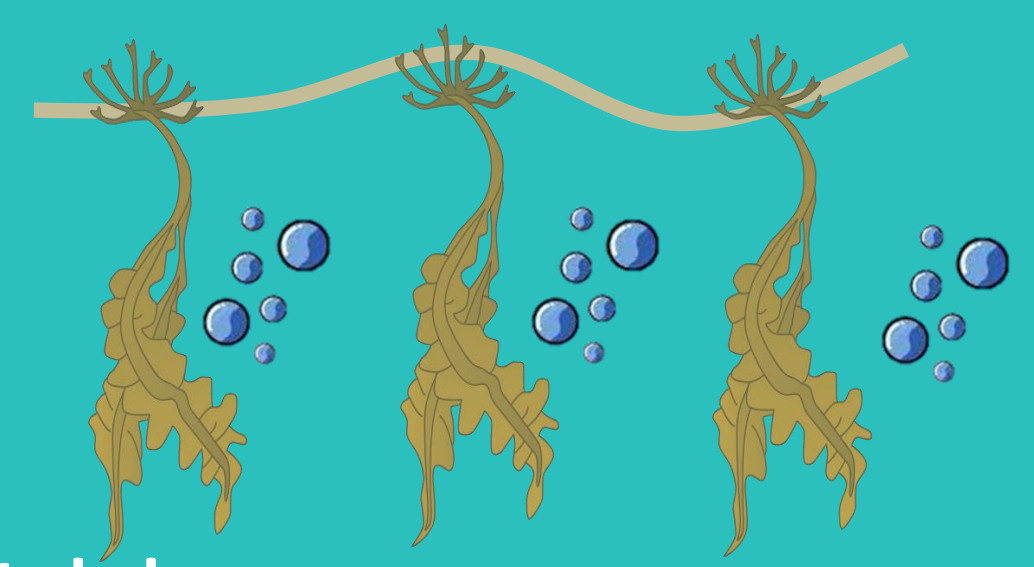
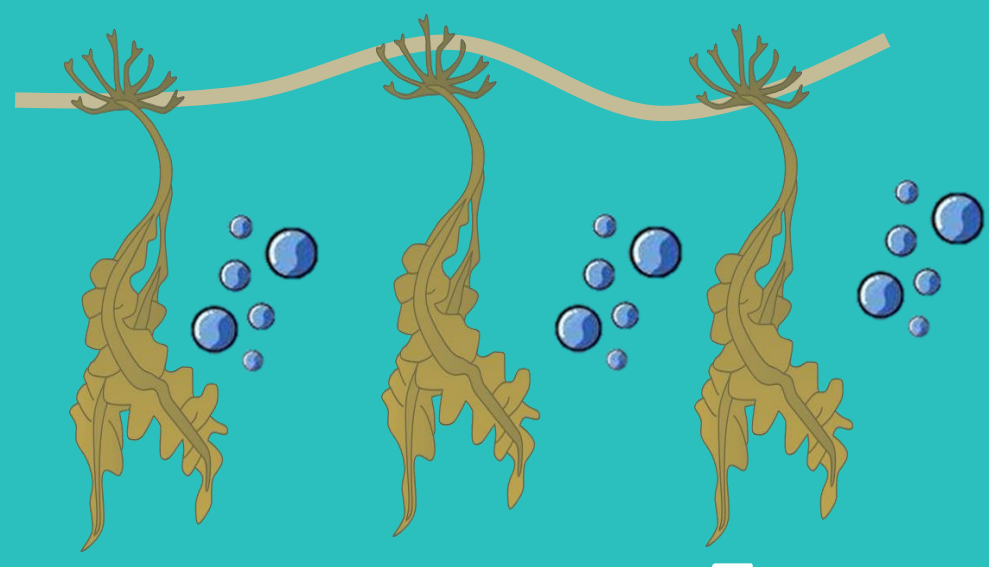




Kelp on Twool

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About the Project

This project investigates sustainable substrates to farmed seaweed on to replace the use of synthetic twine and ropes currently used by industry. In this work, woollen twine and woollen braid was supplied by Twool that was produced from Whiteface Dartmoor Sheep's wool

The Problem



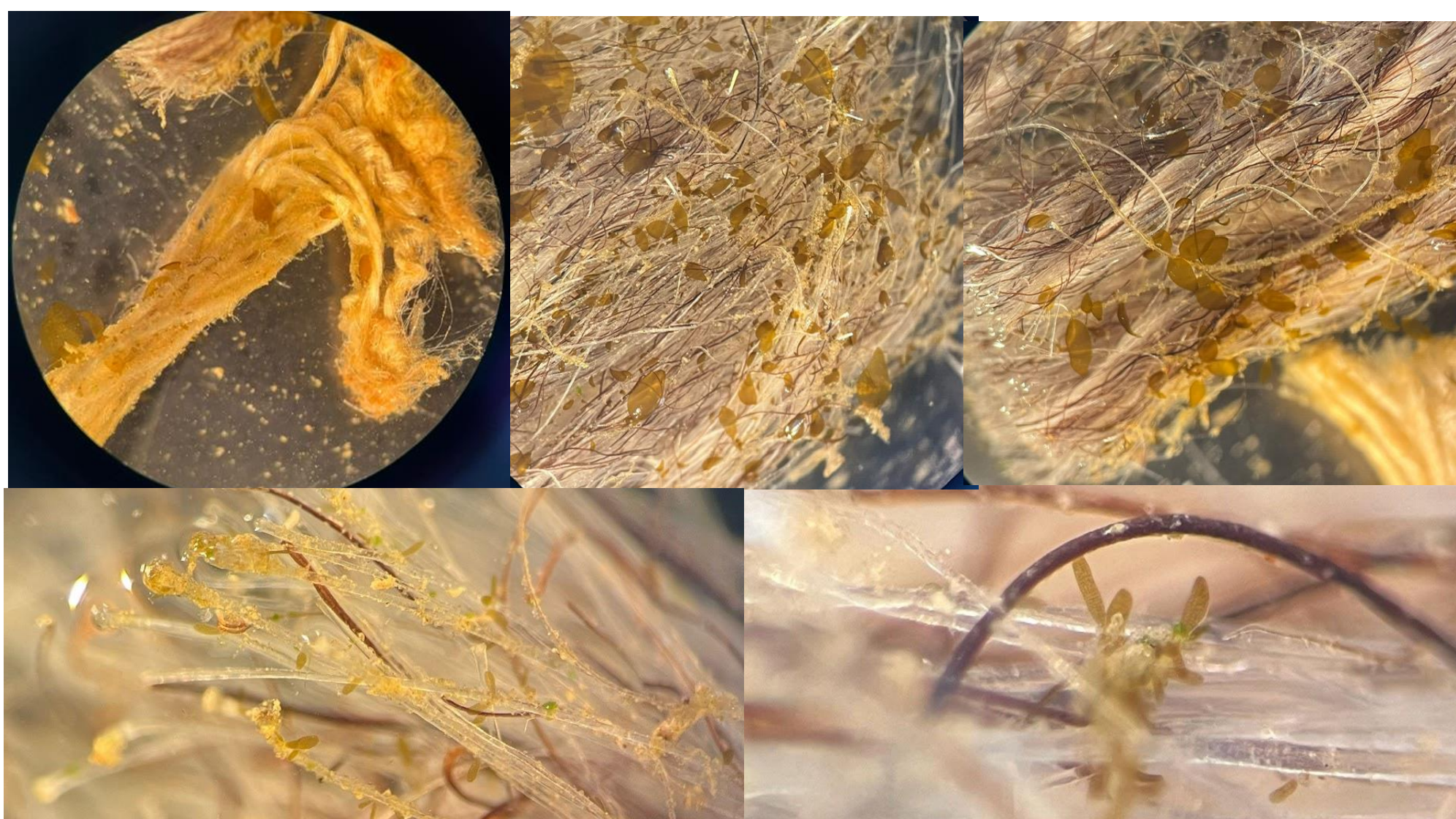
Synthetic twine and rope used in the marine and fishery industry is causing significant damage to marine organisms and habitats. The above images shows synthetic plastic twine that has washed up on shore entangled in seaweed.

In this study Sugar kelp (*Saccharina latissima*) was seeded onto 3 different woollen substrates from Twool. It was cultured in the hatchery at Queen's Marine Lab (QML) for 14 weeks under LED lights. Growth was confirmed at different stages under a light microscopy.

Queen's Marine Labs, Portaferry, N. Ireland



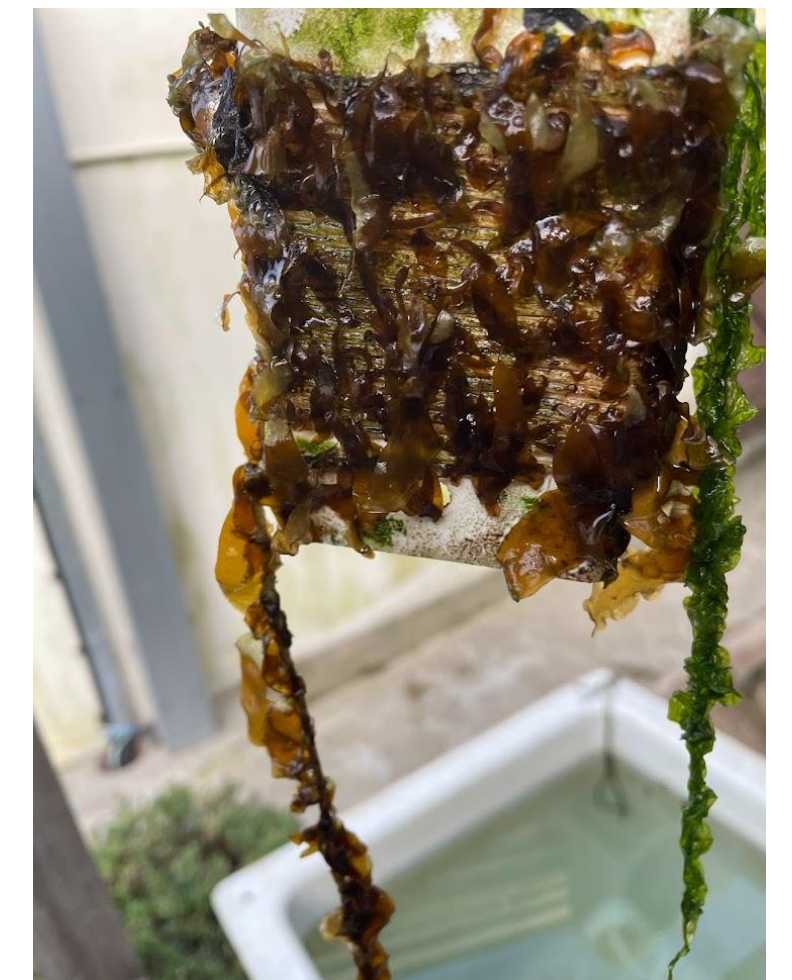
Microscopy Images of Kelp on Twool



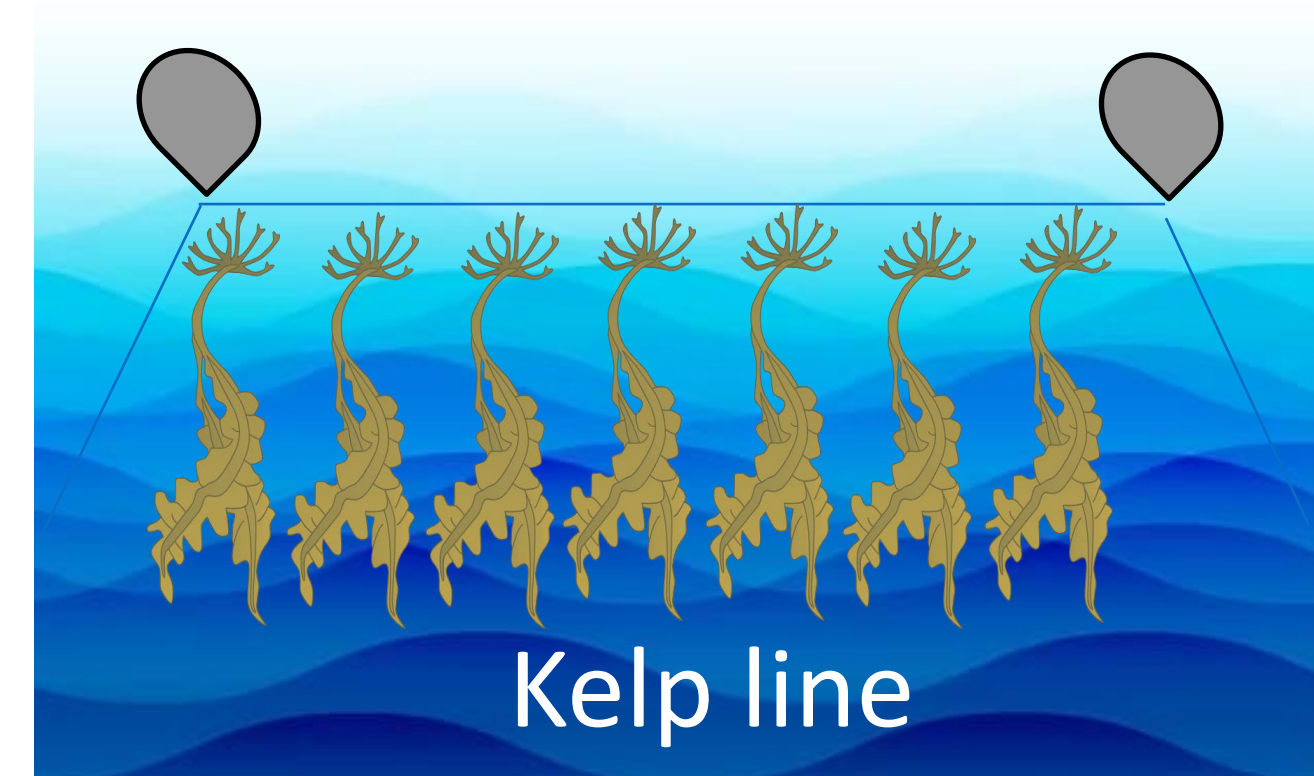
Seeders with baby kelp cultured on twool



Ready for Deployment



Kelp is farmed on horizontal longlines (rope) that are submerged just below the surface of the water. These ropes are secured with culture buoys which are attached to the structure ropes that are anchored to the seabed.



For the initial trials, the woollen twine and braid was spooled around a synthetic rope for deployment. However, further work will investigate the potential for replacing this with woollen ropes as well.



The kelp was deployed in Feb 2024 and is currently happily growing in Strangford Lough

Dr Manus Cunningham in images