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Innovative artificial reef study exposes vulnerability of kelp

Innovative IMAS research has used kelp transplanted to artificial reefs to help explain why kelp ecosystems are being degraded around the world.

Published in the journal PLOS ONE, the study found that adult kelp create favourable conditions for juvenile kelp by ‘engineering’ the environment to reduce water flow, sedimentation and light penetration.

However, when kelp forests become patchy or less dense due to the effects of human-caused stressors they are less able to modify their immediate environment, negatively affecting juvenile kelp and leaving kelp forests vulnerable to further degradation.

The researchers built an array of artificial reefs off Tasmania’s East Coast, where kelp forests have been impacted by climate change and invasive sea urchins, to test how adult kelp at different densities and patch sizes modified their physical environment and influenced juveniles.

Lead author Dr Cayne Layton said the study found the ability of the most widespread and abundant kelp in Australia,