

THE BLUE ECONOMY COOPERATIVE RESEARCH CENTRE PATH TO SUSTAINABLE INTEGRATED SYSTEMS FOR OFFSHORE AQUACULTURE 3: BUILDING BLOCKS FOR MULTISPECIES SYSTEMS

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Australia and New Zealand have two of the world's largest Exclusive Economic Zones, they offer extensive offshore access with unrealised potential for aquaculture (Gentry et al., 2017) and renewable energy. To be able to tap into this potential, the Blue Economy Cooperative Research Centre (BECRC) was established and will operate until the end of this decade. The BECRC brings together over 40 partners from 10 countries. The overarching aim of the BECRC is to support research that develops new seafood and renewable energy systems that move production offshore safely, economically and sustainably. Within the BECRC, there are five interconnected Research Programs that have been developed in collaboration with industry and other partners (BECRC, 2023). The 'Seafood and Marine Products' program supports the development of offshore aquaculture systems that provide viable and sustainable growth opportunities. This presentation will overview existing R&D and address the need for R&D building blocks and pathways to achieving sustainable offshore aquaculture based around "multispecies systems" - multiple aquaculture species grown in the same geographical area.

The initial step will be to scope out and prioritise established and emerging aquaculture species suitable for novel offshore and potential production systems and in relation to prevalent abiotic factors in the different geographic regions available to the BECRC. By taking a collaborative approach, an initial scoping project will hold a series of workshops to rank and prioritise identified species and systems. This process will also identify gaps in knowledge for R&D as well as understand practical limitations to deployment and achieving success. The scope will span from temperate to tropical aquaculture, and consider a wide range of taxa including microorganisms, seaweeds, shellfish, and finfish. It will also determine the most appropriate aquaculture systems, whether monoculture, multispecies or integrated marine trophic aquaculture (IMTA). The aim is to create recommendations for decision-making and prioritisation of future BECRC R&D projects.

BECRC: Blue Economy Cooperative Research Centre. 2023. *Seafood and Marine Products* [Online].
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