

Abalone Industry Reinvestment Fund (AIRF)

Extensions to the aMSE Management Strategy Evaluation software to address specific Tasmanian needs

Lead Agency: Prof Malcolm Haddon

Funding: \$29,700.00

Start Date: 1 January 2024

End Date: 15 July 2024

Status: COMPLETED

Aims and Objectives:

1. Modify the Abalone MSE software, from FRDC 2019-118, to enable it to simulate the Tasmanian fishery at a very fine scale.
2. Enable aMSE to explicitly assign growth parameters and variability to populations to facilitate testing of LML/TAC trade-offs.
3. Incorporate capacity to assign different levels of recreational catch to specific populations, to account for background and hotspot recreational fishing areas.

Final Report:

The Approved Purpose is to develop extensions to the aMSE Management Strategy Evaluation software to address specific Tasmanian needs.

These needs related to determining the optimum Legal Minimum Length to be regulated for blocks 5 and 6 in the North-West of Tasmania. This required implementing the capacity to modify the productivity properties of individual populations within particular Spatial-Assessment-Units (SAU). The objective of this was to allow for fine details concerning aspects such as size-at-maturity, which is known in much greater detail in Blocks 5 and 6 than elsewhere, to be included when conditioning the MSE software to represent blocks 5 and 6.

This capacity has now been implemented within the aMSE software and documented in chapter 8 of the aMSE Guide, which can be found at: <https://haddonm.github.io/aMSEGuide/>

The improved capacity within aMSE will be applicable to elsewhere in the Tasmanian abalone fishery where sufficient biological data relating to the productivity characteristics are available.

Aspects of the changes, such as the capacity to simulate slot-size-limits, will be applicable anywhere in the fishery.