

Abalone Industry Reinvestment Fund (AIRF)

Understanding Centrostephanus: Age Growth and Size of Maturity

Lead Agency: Institute of Marine and Antarctic Studies

Funding: \$37,581

Start Date: 1 May 2021 End Date: 30 November 2023

Status: COMPLETED

Aims and Objectives:

The overall aim of this project is to produce accurate biological and population data for *Centrostephanus* in Tasmania.

The specific objectives of this project are:

1. Determine size of maturity of *Centrostephanus*
2. Update *Centrostephanus* age and growth models utilising new growth techniques for smaller individuals.

Final Report:

Click here for the published [Final Report](#).

NON-TECHNICAL SUMMARY

- This report examines the size and age structure, and determines the size at maturity, of Longspined Sea Urchin, *Centrostephanus rodgersii*, populations in Tasmania.
- The mean size and age of detectable Longspined Sea Urchins in Tasmania urchins was 90.8 mm and 15.3 years. Impacts of the commercial urchin fishery on the size structure of urchin populations is evident in regions of high harvest, such as St Helens and Maria.
- Size at maturity for Longspined Sea Urchin, was determined histologically, with size at 50% maturity determined to be 56.3 mm for females, and 49.4 mm for males.

- It is estimated that there is four years of growth for females, and five years for males, between size at 50% maturity and the minimum viable harvest size of 85 mm.
- A reduction in the viable harvest size to 75 mm will result in the age of harvest being reduced by 2 years.
- Growth bands on genital plates are unable to be used to estimate age of Longspined Sea Urchins in Tasmania. Further investigation into growth rates is recommended, particularly for urchins < 60 mm where data is limited.