Babel Island Take-All Research Support

Lead Agency: Institute of Marine and Antarctic Studies
Funding: $10,132
Start Date: 1 October 2020 End Date: 31 July 2022
Status: COMPLETED

Aims and Objectives:

The project will deliver
1) fine scale spatial maps of the diver activity and overlap with abalone fishing
2) size/age structure of the population removed
3) accurate estimate of no. of urchins removed and analysis of CPUE data

Final Report:

Divers from the Tasmanian Commercial Divers Association (TCDA) were granted funding to conduct a 'Take-All' harvest of Longspined Sea Urchin from Babel Island (north-eastern Tasmania).

A total of 3,444 kg of Longspined Sea Urchin, estimated to be 7,996 individuals, was harvested between 9th-11th April 2021. Catch was stored in the live-well of an Abalone motherboat before the transfer to a Sea Urchin processing facility. GPS and depth data loggers estimated that the divers covered 19.8 hectares of reef along the northern and eastern coastlines of Babel, Cat and Storehouse Islands, as well as a location on the southwest of Cat Island. Total combined dive time was 2072 mins (34 hrs, 32 mins).

The structure of the population was heavily skewed to larger and older individuals, with few juveniles present, indicating low recruitment to the region and/or low survival of juveniles in recent years. Resultantly, the Babel Island take-all harvest is likely to have a long-lasting positive impact on reef health and Abalone production.

The catch on arrival to the processing facility was in poor condition, particularly from the first two days of harvest, where many urchins were deceased. Weight loss in urchins, largely coelomic flid and spine loss, was estimated to be as high as 32%. Poor weather conditions, particularly strong winds averaging 37 – 69 kg/hr (and gusting to 85 kg/hr) is likely to have negativity impacted urchins health, resulting in stress and death, independently of holding conditions within the live-well.

The following recommendations are made:

1. Revisit key harvest areas to monitor for kelp recovery and/or emergence of juvenile urchins.
2. Model larval recruitment to Babel Island over the last three decades to describe the skewed population structure to larger, older, individuals and the near absence of small urchins.
3. Avoid commercial harvest of urchins during periods of high wind if motherboat operations are to be trialled again.
4. Consider alterations to future motherboard harvesting practices to enhance urchin survival and roe quality; shorter dives, smaller catches, transfer to smaller tubs and more frequent transfers to the motherboat.