

## Can novel seismic survey sources mitigate potential impacts to fisheries

Seismic surveys are conducted throughout much of the world's oceans to find and monitor oil and gas deposits below the seafloor. Surveys are frequently conducted in the coastal waters that are also crucial to a range of fisheries. Recent research has shown that the low frequency, impulsive signals produced by seismic surveys have the potential to have negative impacts on marine invertebrates, some of which are the target of valuable fisheries.

Oil and gas remain a primary energy source and will likely continue to do so for the foreseeable future. As such, efforts to locate marine subseafloor deposits are likely to continue. With the finding of harm to a range of marine taxa, including zooplankton, crabs, lobsters and cephalopods, technologies alternative to the traditional seismic air gun are being considered for future seismic survey operations.

The focus of this project is to evaluate the impact of several novel sound sources on two of Tasmania's key fishery species: the Southern Rock Lobster (*Jasus edwardsii*) and the Commercial scallop (*Pecten fumatus*). The PhD candidate will use a range of laboratory-based techniques to evaluate the physiological, behavioural, biochemical and morphological impacts of these alternative seismic sources on these fishery species to determine whether they represent a reduced risk to individuals and the fishery as a whole. There are a predetermined set of parameters which the PhD student will assist in measuring as well as the opportunity to develop their own novel lines of investigation. The PhD candidate will be actively involved in animal care and maintenance over the course of the project. The PhD candidate may be involved in the field-based research, which is currently planned for the end of 2021, depending on the timeline of the project.

This project will support a PhD candidate based at the Taroona IMAS campus and is funded by the Australian Government via the Fisheries Research and Development Corporation and Beach Energy.

### Eligibility

The project is open to domestic (Australia and New Zealand) and international applicants who are already in Australia (onshore) at the time of submitting their application.

**Due to current Australian COVID-19 travel restrictions the University cannot accept applications from International applicants who are currently overseas.**

Applicants should review the PhD [minimum entry requirements](#).

Applicants from the following disciplines are encouraged to apply:

Marine biology, physiology, biochemistry, aquaculture, zoology

### Selection criteria

The project/scholarship is competitively assessed and awarded. Selection is based on academic merit and suitability to the project as determined by the College.

Additional selection criteria specific to this project/scholarship (if applicable):

Familiarity with animal care and/or laboratory work will be beneficial