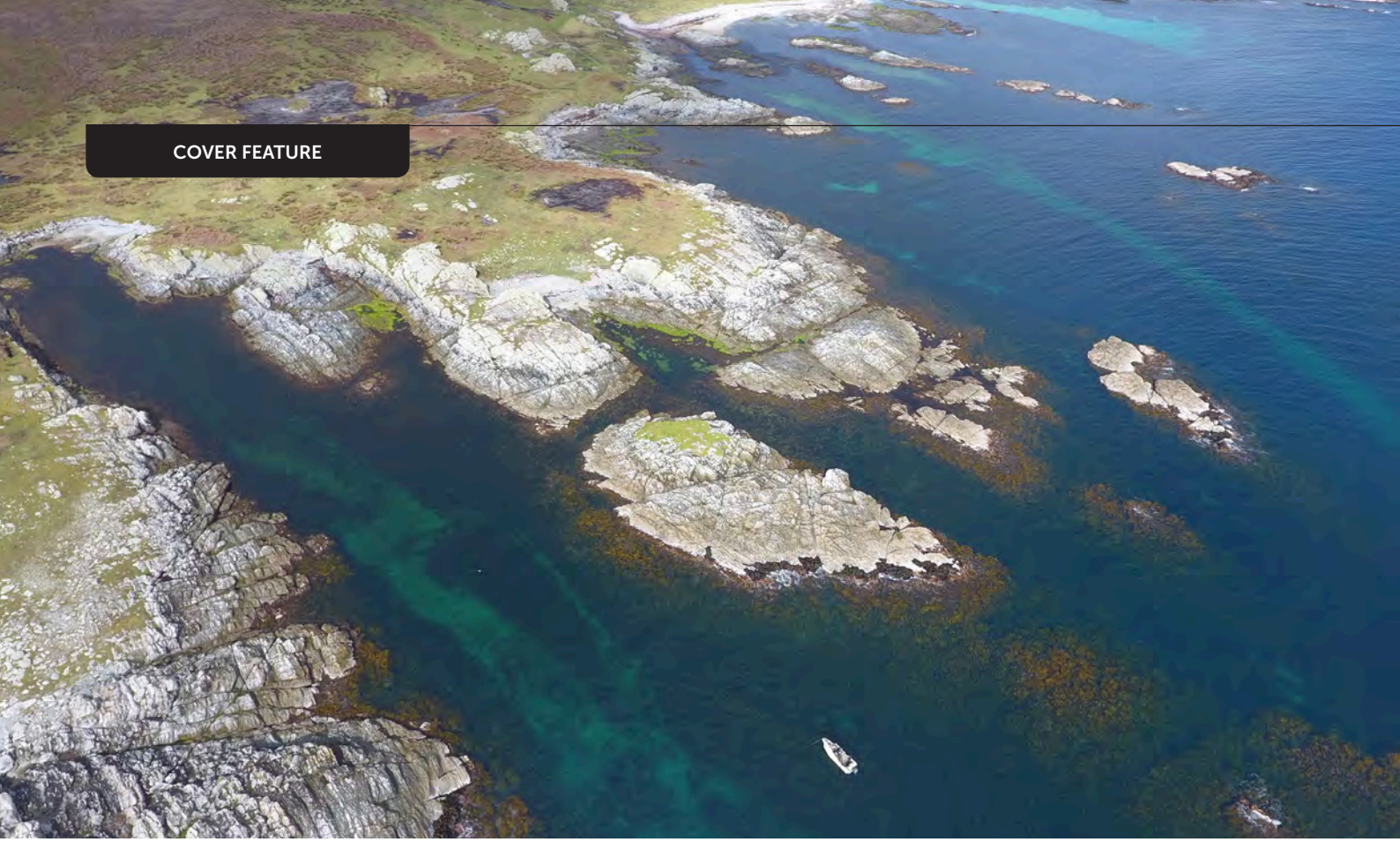

Receiver site at Waitangi West, Chatham Islands. Picture: Tim McLeod

Paua on the move

Matt Atkinson

Methods to improve the significant differences paua can grow at are being investigated in a new translocation project.

Led by the Paua Industry Council (PIC), the research has been given three years' funding by Seafood Innovations Limited (SIL).

PIC scientist Dr Tom McCowan said the project would test two central ideas – move pāua from stunted areas to locally depleted areas where they don't have a good spawning biomass anymore and move slow-growing paua to faster-growing areas to get them over the minimum legal size.

Paua growth could be highly variable, McCowan said.

"I put it down to habitat and food availability. Different habitats promote the supply of drift seaweed and water temperature is associated too - as a rule the further south you go the faster they grow."

The Ministry for Primary Industries manages commercial paua fisheries using two mechanisms - the total allowable commercial catch (TACC) and a minimum legal size (MLS) set at 125mm, which applies to the entire country.

The sector sets higher voluntary limits for specific areas of coastline and management areas. For example, PAU5B's (Stewart Island) MLS is 138mm.

Before the project could be given the go-ahead, PIC needed to apply for a special permit from MPI.

"You're handling undersized paua and moving them, and you're using scuba in some instances, which is legal on the Chathams, but if we were to do it on the mainland we needed a permit."

The special permit was granted and work began PAU4 (Chatham Islands) in early 2017.

McCowan and a group of local commercial divers completed the first translocation in the area in 2013.

"We did a small-scale trial in Marlborough where we moved only three hundred paua and found out it worked pretty well," he said.

The successful move has seen McCowan shift his attention to the isolated Chatham Islands – the country's most productive paua fishery, where the TACC is 326 tonnes.

Again, McCowan and a team of local divers collected paua. This time they relocated a tonne, all between 80-110mm, to Waitangi West, near the island's main centre.

Picking the site was relatively easy, McCowan said.

"Basically, talking to the divers. They told me 'there is heaps of paua here, but they don't grow and this is a really good area, but there is none left'," he said.

"Some paua were tagged at both sites to be measured later on to see the differences in growth rates."

The paua industry is serious about investing in science to protect the future sustainability of the sector.

Along with the translocation project, PIC is working with NIWA on a novel idea to increase biomass using concrete blocks that imitate juvenile habitat and have funding from MPI to investigate the loss of adult biomass along the Kaikoura coastline after 2016's earthquake.

PIC chief executive Jeremy Cooper said the problem was that not a lot is known about paua.

"Their mode of life, what triggers spawning - there is no scientist that can tell us what that is. What percentage of spawning actually survives, that sort of stuff, there's a big knowledge hole there," Cooper said.

"So for us investing money and increasing the size of the fishery by better understanding of what the issues are, to try either remedy them or

leapfrog those bottlenecks is what we are all about."

The "knowledge hole" has become more problematic over the past decade as climate change, ocean acidification and sedimentation run-off from forestry have all have compounded difficulties in the fishery.

"It's all stuff that is wiping out paua beds and the stuff they eat, the Macrocystis seaweed. All of those are what's going against paua."

As the translocation project has progressed, stakeholder engagement has been crucial, with paua being an important resource to all stakeholders – recreational, commercial and iwi.

It was "hugely important" to work with all groups, particularly when everyone stood to benefit, Cooper said.

"We are dealing with a public resource so you can't just go blatantly like a farmer would and go rolling in and cut the gorse down and plant ryegrass," he said.

"You can't do that in the public environment or you just get crucified. So we have very good relationships because all of what we are doing is absolutely sensible stuff.

"We are not trying to be stupid and you've also got to remember that whatever we do that is of benefit to the fishery, then everyone benefits."

With only 600 people on the island chain 800 kilometres east of Christchurch, the Chathams are uniquely positioned to be the testing ground for the project.

McCowan said it was where most progress has been made so far.

"Probably the biggest reason, I suppose, is stakeholder-wide enthusiasm," he said.

"Stakeholder discussions are a lot more streamlined on the Chathams - fewer people, fewer groups."

Iwi and imi (the collective name used for the group of Moriori whose ancestors were the first to inhabit the Chathams) have a commercial and customary interest in paua – with customary take being more accessible on the islands, he said.

On the mainland, the project is moving at a slower pace as rigorous stakeholder engagement is needed before moving to larger-scale relocations.

McCowan said the need to balance the research's objectives with the rights and interests of local iwi could be a complex issue.

"It's tricky in a customary context because you're talking about moving smaller fish which are still accessible to customary but not commercial or recreational," he said.

"So different groups have different opinions on whether that's a good or bad thing accessing those fish.

While discussions continue with different stakeholders, the plan forward for the already completed translocation work is formed, to "go back within a year and do more surveys to see if they have moved, or hung around and grown".

"The idea is we take that information to iwi and have those discussions about moving them."

McCowan said finding different candidate locations in each QMA was another important step for the project as it would limit the depletion of important spawning areas.

With many working parts the project is still very much in its infancy, however McCowan has a final goal in mind.

"It would be nice to see that the paua being moved are staying there and to act as an increased localised spawning population. In some areas to see those fish grow into the fishery and increase the productivity.

"But ultimately, it would be to do at a scale where you detected increased recruitment in the area you are moving them into. So that by moving paua from one area to another you are increasing the number of juveniles that are coming through.

"That would give you a signal that it has really helped lift productivity through the whole life cycle, as opposed to putting them somewhere new and then just taking them out again.

"If we show that this is good we can click into an annual process; where it is ongoing without perhaps the need to have all the scientific method around.

"If we can prove it now it can be part of an annual management strategy."

Big paua at receiver site and smaller relocated paua. Picture: Tim McLeod

Some of the Chatham Islands moving team: Nick Cameron (left), Val Croon, and Rob Seymour. Picture: Tim McLeod