

SEAFOOD

NEW ZEALAND

February 2022 | Volume 30 | No. 01 | Issue 272

**Crayfish, conservation, and
community connections:
Local co-op holds event in
the South Island**

**Deepwater Group furthers
orange roughy research**



SUPPORTING YOU TO **STAY ON COURSE**

A strong, resilient, viable commercial seafood sector is in all our interests. It provides you with a living. It feeds New Zealanders. And it ensures that our coastal communities can thrive.

But being a member of our seafood community isn't always easy. We need to have each other's backs. FirstMate is an organisation to support our seafood whānau. We want you and everyone around you to have not only what they need to survive, but thrive.

FirstMate offers a friendly ear to talk about anything on your mind or causing you difficulty. Things like:

- › Building personal and business resilience
- › How to navigate regulations
- › Any issues you are having mentally and/or physically
- › How you can make all your hard work pay off financially.

For support or advice call

0800 ADRIFT

0800 237438

www.firstmate.org.nz



**first
mate**
SUPPORTING OUR
SEAFOOD WHĀNAU



Regulars

- 04 From The Chief Executive
- 18 Faces of the Federation: Celebrating Ray Yearbury
- 36 MPI: Seafood sector shows continued resilience heading into the new year
- 40 Best Fish 'N' Chips: Great kai and giving back to the community – Catch & Co, New Plymouth
- 42 Recipe: Thai style baked whole fish



Features

- 20 **Cover Feature:** Crayfish, conservation and community connections
- 07 Feature: Of ships and sails and sealing wax
- 11 Feature: The last word on fisheries research
- 28 Feature: Sustainability at the heart of pāua shell business



- 06 News: Pioneering MPI scientist retires
- 14 Pāua industry Council: 2022: Facing up to the cost of inaction
- 16 New Zealand Rock Lobster: Reform needs to build on strong fundamentals
- 32 News: News: The best fish 'n' chips in Aotearoa & Australia
- 33 News: Deepwater Group furthers orange roughy research
- 37 News: News: Deepsea scientist awarded for mentoring women in science
- 38 News: Wellington Trawling Co. celebrates centenary with mural
- 43 Opinion: Living in a shared fishery

EDITORIALS

Published by Seafood New Zealand Ltd.

Postal Address:

PO Box 297
Wellington 6140
New Zealand

Physical Address:

Level 12, 7WQ
7 Waterloo Quay, Pipitea
Wellington 6011
Phone: +64 (0)4 385 4005
www.seafood.co.nz



Editorial enquiries:

Email: editor@seafood.org.nz

Advertising enquiries:

Karen Olver
Phone: +64 (0)4 802 1513
advertising@seafood.org.nz

Subscriptions:

Seafood New Zealand is published for the New Zealand seafood industry. It is also available on subscription in New Zealand and overseas. Subscription rates are available on request. Seafood New Zealand is produced bi-monthly (six issues per annum).

Your Say:

Contributions of a nature relevant to the seafood industry are welcomed and industry participants are encouraged to contribute. Letters to the Editor should be signed and carry the writers' full names and addresses.

General:

The reproduction of articles and materials published in Seafood New Zealand, in whole or in part, is permitted provided the source and author(s), as applicable, are acknowledged.

editor@seafood.org.nz

However, all photographic material is copyright and written permission is required to reproduce it in any shape or form. Articles and information printed in Seafood New Zealand do not necessarily reflect the opinions or formal position of Seafood New Zealand Ltd unless otherwise indicated.

All material published in Seafood New Zealand is done so with all due care as regards accuracy and factual content. The publishers and editorial staff, however, cannot accept responsibility for any inadvertent errors and omissions that may occur.

ISSN 1172-4633 (Print)

ISSN 2538-0834 (Online)



From the Chief Executive

A belated happy new year to you all.

This year marks the 30th anniversary of our Seafood New Zealand magazine, and I'd like to thank the many of you who have contributed to three decades of our publication, be it through being interviewed, suggesting story ideas, or even just reading regularly.

I would like to extend another thank you to those of you, which are most of you, who have been working over the traditional summer break.

While the job of supplying New Zealand and the world with sustainable and healthy seafood may sometimes seem like a thankless task, we appreciate the hard work and commitment you put into it daily.

In Wellington, almost every effort we make to get out to see you in your home ports seems to be thwarted by the pandemic, but we will continue trying.

Yes, 2021 was challenging for many of you. Seafood New Zealand continues to tell your stories via every avenue we have. Initiatives such as the Port Chalmers "Meet the Fishers' Day" are invaluable in garnering public support for what we do – catch fresh kaimoana for Kiwis.

In 2022, we will continue to engage with government on many of the proposed regulatory reforms—cameras on vessels, landings and discards, a new RMA, to name a few.

With the added unknown of Omicron, it is likely that this year will again test the reliance of our people. But it's our people that are our greatest asset; hardworking, resourceful, and committed to providing great food to New Zealand and the world.

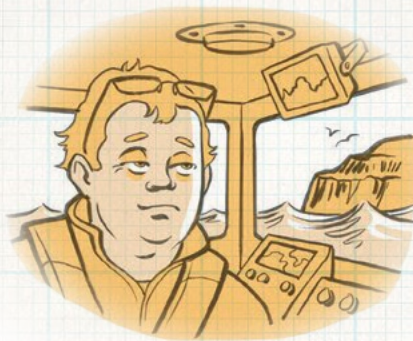
We will also continue to advocate for you on the political front, as do your other representative groups. While decisions like snapper on the North Island west coast (SNA8) were disappointing, government support has been crucial in accessing the labour we need to keep many of our vessels at sea. We note the recent appointment of Tood Muller as the new Opposition spokesman for Oceans and Fisheries and met with him prior to Christmas. New Zealand commercial fishing is underpinned by solid legislation that has served us well.

Pragmatism, fairness, and acting in the spirit of the Fisheries Act, the Treaty of Waitangi Fisheries Settlement, and the Quota Management System is really all we ask.

Dr Jeremy Helson
Chief Executive

Too tired to fish

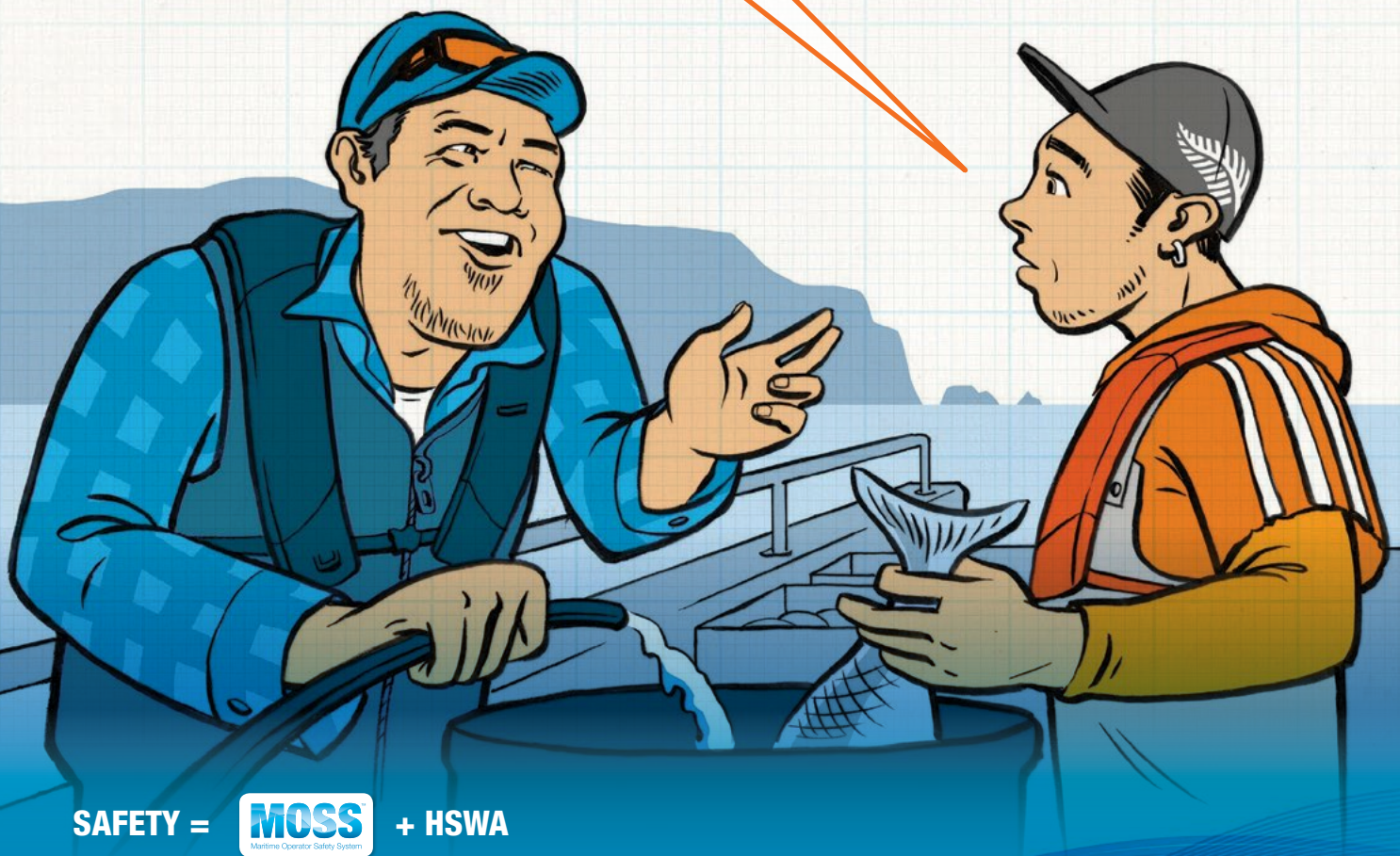
#1



JANGLE JIM ALWAYS MADE SURE THAT HIS CREW GOT SLEEP, BUT NO NOT HIM. AFTER ONE REALLY ROUGH TRIP, JANGLE SENT THE CREW TO GET SOME SLEEP AND KEPT WATCH.

BUT HE HAD AN AUTO PILOT, RIGHT?

THEY'RE NOT ALWAYS RELIABLE IN FLOOD TIDES. NEITHER ARE TIRED SKIPPERS. BUT ROCKS ARE. AND SO WAS THE AWFUL JANGLE SOUND WHEN HE SMASHED INTO THEM. THEY COULDN'T FISH FOR WEEKS.



SAFETY =  + HSWA

For tips on safe fishing go to
www.maritimenz.govt.nz/fatigue

Safe crews fish more

Nō te rere moana Aotearoa
 **MARITIME**
NEWZEALAND

Pioneering MPI scientist retires

John Annala has had an extraordinary career.

Growing up in Maine, USA, and graduating with a BSc in Biology in 1968, he went on to do a PhD in Zoology before leaving for New Zealand, where he became one of the pioneers of the Quota Management System (QMS).

Annala's contribution to New Zealand fisheries is significant, and his involvement in the process of setting up an Individual Transferable Quota (ITQ) system in this country have been invaluable in the advice he has given to other fisheries jurisdictions.

Annala was New Zealand's chief scientific officer for the Ministry of Primary Industries from 1995 until 2004 before returning to Maine to take up the position of chief scientific officer at the Gulf of Maine Research Institute.

Annala's time at the Gulf of Maine Research Institute should also be a lesson to New Zealand in the importance of education in the fisheries space.

The New Zealand seafood industry would like to record its deepest thanks to John for his long and significant contribution to the development and maintenance of the Quota Management System and the scientific processes that underpin fisheries resource management.

A feature on John Annala will appear in a feature edition of the Seafood New Zealand Magazine – the challenges, the triumphs, and the missing pieces that could improve New Zealand's fisheries management and the public perceptions of the industry.



John Annala at his Paraparaumu eco sanctuary

Of ships and sails and sealing wax

Lesley Hamilton

Sean Garwood is a skipper who swapped sailing the seas for creating breathtaking works of art. Lesley Hamilton visits his home on the South Island to find out more.

Gumnut Cottage is set idyllically amongst a huge garden with magnificent trees in the Nelson suburb of Atawhai.

Former deepsea skipper and now acclaimed maritime artist, Sean Garwood, lives there with his wife Ligiana. There is a rabbit that lives inside at night and outside on fine days. There is also an alpaca but, disappointingly I see no sign of rabbit, alpaca, or Ligiana.

I am enthusiastically yapped at by Gigi the Bichon who, once she has decided I am no threat, attempts, with much success, to dominate the interview and my attention.

Garwood is genuinely nostalgic for his years as a deepsea fisherman.

"I am just really happy that I went to sea and met and worked with some absolutely wonderful people," says Garwood.

"Sure, there were times that were not so good, but you really remember those good times. There's never a day goes by that I do not think about fishing. It was nice to be a part of the pioneering years in the orange roughy and hoki fisheries."

Garwood began his fishing career in 1978. During that time, he sailed on a total of 27 vessels.

The love for the sea, in both a fishing and art context, started young.

"I grew up in Fremantle in Western Australia. It's sort of like Lyttleton, very much an international seaport. Dad was on the pilot boats and tugs. I was just five years old when I started to go to work with him. I had a wonderful childhood. It was a boy's dream."

Garwood's father was also a painter.

"Dad painted a lot of historical Australian buildings and quickly built a reputation. He got to the stage where he was having sell-out exhibitions across Australia," Garwood says.

"However, he was also a very accomplished marine artist with commissions from major shipping companies. He has one of his paintings hanging in the Australian War Museum and was also invited to show his work at the famous Mystic



Garwood in his studio

Maritime Art Gallery in Connecticut.

"As a result of dad's success, he was able to give up the pilot boats and tugs and concentrate on painting full time. I would watch dad paint, as a kid does.

"I was coming up to 16 and school was not doing it for me. Drawing ships in Fremantle Harbour and working on an Italian cray boat was far more appealing. I also did a lot of sailing in Perth. So, going to sea came first, but I kept on drawing."

Just before the Garwood family moved to New Zealand in 1979, three trawlers arrived in Fremantle, the *Tangawai*, *Ikiwai* and the *Galatea*. They had arrived from Holland as deck cargo on a heavy lift vessel.

"I was standing on the wharf for hours watching these 'super trawlers' being unloaded. I subsequently met the three skippers that were to deliver these vessels to Timaru - Brian

Hardcastle, Johnny Gay, and Brian Kenton.

"I'm sure they felt sorry for me, alone on the wharf, and kindly asked me to get in touch with them when we arrived in Nelson. Ironically, I ended up working with all three of them," says Garwood.



The Immigrants

Determined to pursue a career at sea, the 16-year-old also wrote a letter to Peter Talley.

"And I still have his response. All handwritten and so courteous telling me when I came to

New Zealand to please contact him and he would see what he could do about a job."

Garwood used the contacts he had made and started with Skeggs in Nelson aboard the *Waiholo*. Many vessels followed including, *Waipori*, *Seafire*, *Otago Challenge*, and the *Otago Galliard*.

He fished for Brian Kenton in Timaru on the *Galatea* and then went to Australia and fished the Gulf of Carpentaria. Back in New Zealand, he did a stint on the *Banshu Maru* and then in 1984 was back with Skeggs as mate on the *Cordella* including the delivery voyage from Hull in the UK.

Garwood also carried out exploratory fishing in South Africa for orange roughy while involved with the newly established Austral Fisheries and setting up their first vessel *Austral Leader* in South Africa. Back in New Zealand he began his involvement with the Norwegians fishing orange roughy on the Challenger Plateau and in Australian waters

on the vessel *John Longva* and other Norwegian vessels.

"Life became quite nomadic, but it was time to settle down in Nelson with Sealord on the *Aoraki* and the *Rehua* and finally the new-build *Aorere*."

All this time, Garwood was drawing and turning hand-drawn charts into artwork.

"I guess they looked like some abstract rubbish. You have to remember that in those days we only had satnav, before GPS came in. I used beautiful fine draughtsman's paper and very fine pens. All the depths were recorded and finally the contour lines. The charts became 3D in a way.

"I must have been a bloody nerd because most of the crew were down the pub and I would be at home finishing the charts. There are hundreds of these charts all archived.

"Funny, I was still using some of these charts on the *Aorere*," Garwood says.

In 2004, he discussed with Ligliana the idea of becoming a full-time artist.

"Actually, thinking back it was a huge gamble considering we had two young daughters, but we backed ourselves and got on with it."

Garwood started off with painting still life subjects, nostalgia, and country sport.

"This taught me valuable lessons with the classic medium of oils. Painting is a process which evolves over many years," he says.

In 2015 Garwood submitted a proposal to Antarctica New Zealand to visit the historic huts of Shackleton and Scott.

"My proposal included sketching and photographing the huts with the aim to stage an exhibition in 2017."

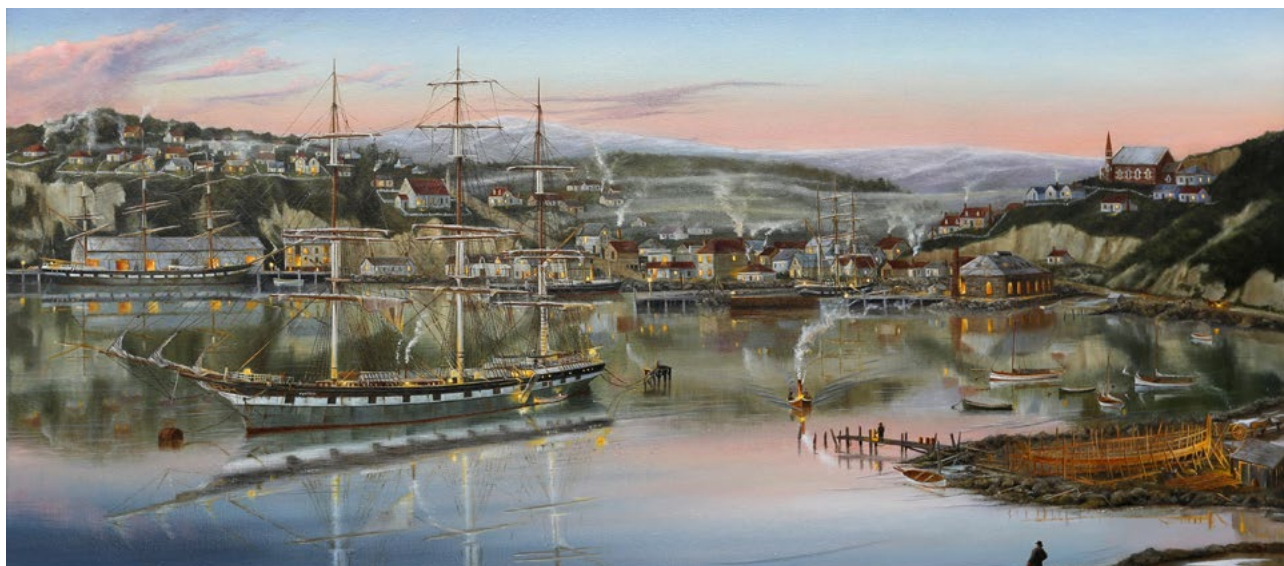
Garwood says the Antarctica trip was life changing.

"It was three o'clock in the morning, and broad daylight, and I was alone in Shackleton's hut drawing and taking photographs. I then took a moment to reflect. These humble wooden buildings are a treasure trove of early

SEA INTO THE FUTURE

SEAFOOD NZ CONFERENCE | 18-19 AUGUST 2022

RUTHERFORD HOTEL, 27 NILE STREET, NELSON



Dunedin at Port Chalmers

Antarctic exploration. Symbolic of the arduous journeys of the Shackleton and Scott expeditions. They are also the birthplace of Antarctic science. It was a privilege and a very humbling experience.

"They call it 'the white silence'. It is so quiet it is deafening almost. The wind came and was funnelling down the kitchen range chimney, it was quite haunting but very spiritual. You could feel the presence of Shackleton and his men. It was so powerful because inside the hut the artifacts are so well-preserved due to the air being so dry. For example, there is still jam on a piece of bread that is 110 years old but looks like you could pick it up and eat it.

"Everything looks like you could move in tomorrow and continue living," says Garwood.

That experience gave him enough material to spend two years, fully committed, in his

Studio painting his Antarctic series and a subsequent exhibition in Christchurch. New Zealand Post later featured the paintings on postage stamps.

Then his agent suggested he change his focus to marine painting.



Gumnut Cottage

"So, in 2017 I started planning for an exhibition in 2020. The research involved has been extraordinary. I have met such generous people who have loaned me rare books, shared their memories and advised me on technical issues for some vessels. If it wasn't for them and the inspiration they gave me to paint each vessel, it would have been very difficult.

"The exhibition represents the most comprehensive visual survey of New Zealand's rich and diverse maritime history ever assembled in a solo exhibition," he says.

Garwood is disappointed in the lack of recognition given to mariners in New Zealand.

"For a country that so dependent on shipping from colonisation to trade, there is very little in way of raising the public awareness of our maritime success."

I asked Garwood about his techniques for painting the ocean, as marine painting is considered the most difficult genre to master.

"A lot of successful maritime artists in the 1800s and 1900s have, as they say, 'served before the mast'. They have a knowledge of rigging and could paint by instinct, and for me that is probably similar.

"One of the most important aspects of marine painting is the connection between the vessel and the water. You see some examples, and I am not being disrespectful, where it looks like the vessel has been cut and pasted onto the ocean – there is no synergy between them. When you have that experience at sea, the interaction between the vessel and the ocean comes out in the painting naturally."

There are very few practising marine artists left in the world today in comparison to landscape artists.

"You have to be technically correct when painting a ship, but not so technical that you lose the poetry of the painting," Garwood says.

Marine paintings have been prized possessions of

FEATURE

statesman and ship owners, captains, and kings. John F Kennedy, Franklin D Roosevelt, J.P Morgan and all the monarchs of Europe owned extensive private collections.

"There is a saying that you must know the ocean to paint the ocean. To experience the ferocious great Southern Ocean in all her glory will always remain in my memory. One could never properly interpret these scenes from books or photographs. You must feel the ocean beneath your feet and watch how a vessel reacts to her ever-changing moods."

Garwood says it is not surprising that classic marine paintings are becoming extremely rare.

"There are a number of reasons, including the time involved in creating these works. Ship's rigging can be extremely complex, especially square-rigged sailing ships. It requires careful planning and draftsmanship, that few have the required patience, knowledge, and ultimately the dedication for," says Garwood.

"Yes, my days of going to sea may have passed. However, I am extremely grateful that I now have the opportunity to craft paintings that reflect my time at sea and document our rich and diverse maritime history. I feel that my painting career is paying back now to a part of my life that I was extremely fortunate to have and never took for granted," Garwood says.

Sean Garwood's exhibition 'A Painted Voyage' was held at the Jonathan Grant Gallery in Auckland: jgg.co.nz



Sean Garwood at Gumnut Cottage with Gigi

OCEANLAW NEW ZEALAND

The only law firm in the South Pacific dedicated to the sea



New Zealand's specialist fisheries and maritime law practice delivering results to the country's seafood industry since 1998.

Our practice is one of the country's pre-eminent advisers in this specialist field.

We look forward to serving you in the future.



Mike Sullivan
Partner
021 274 3590
mike@oceanlaw.co.nz



Justine Inns
Partner
027 2275 324
justine@oceanlaw.co.nz



Hamish Fletcher
Partner
027 220 5122
hamish@oceanlaw.co.nz



Karyn van Wijngaarden
Partner
021 323 884
karyn@oceanlaw.co.nz



Hayley Campbell
Senior Solicitor
027 533 1350
hayley@oceanlaw.co.nz



Kim Proctor-Western
Special Counsel
027 4800 690
kim@oceanlaw.co.nz

Montgomery House, 2nd Floor, 190 Trafalgar Street, Nelson 7010. Freephone 0800 Oceanlaw. www.oceanlaw.co.nz

The last word on fisheries research

Larry Paul's bibliography, *Research on New Zealand's marine fish and fisheries: a guide to the literature, 1769 to 2015*, covers everything written about fishing in New Zealand. Lesley Hamilton reports.

There are six rabbits grazing on the manicured lawn at the homestead called 'Pukekohe' between Waikanae and Paraparaumu in the southern North Island.

Former NIWA Fisheries scientist Larry Paul looks unconcerned.

"They keep the grass down," he says.

"I invited the neighbour to shoot them, but he said he had enough rabbits of his own to deal with."

We are here to talk about a comprehensive bibliography of almost everything scientific written about fishing in New Zealand's history, its completion commissioned by the Ministry for Primary Industries (MPI).

"MPI thought my early draft sounded useful," says Paul.

It is almost 800 pages, and references papers, reports, books, theses, parliamentary papers, and other studies from 1769, when Captain Cook's Endeavour crew and naturalists recorded Maori fishing methods and fishing gear.

Paul writes fiction on the side, but decided long ago that a scientific career was more sensible.

To understand the Paul passion for fisheries is to understand the family's long history in fisheries.

Townsend & Paul Ltd was co-founded by Larry's grandfather in 1887 as a general produce wholesaler, adding a fish market in the early 1900s. After WWII the minesweeper Maimai was purchased, contributing a good proportion of Wellington's fish landings until the early 1960s.

Paul has kept a card index on fish and fisheries research since the 1960s and has continued it up to 2015, cross referenced by species to 2000 and by subject to the end.

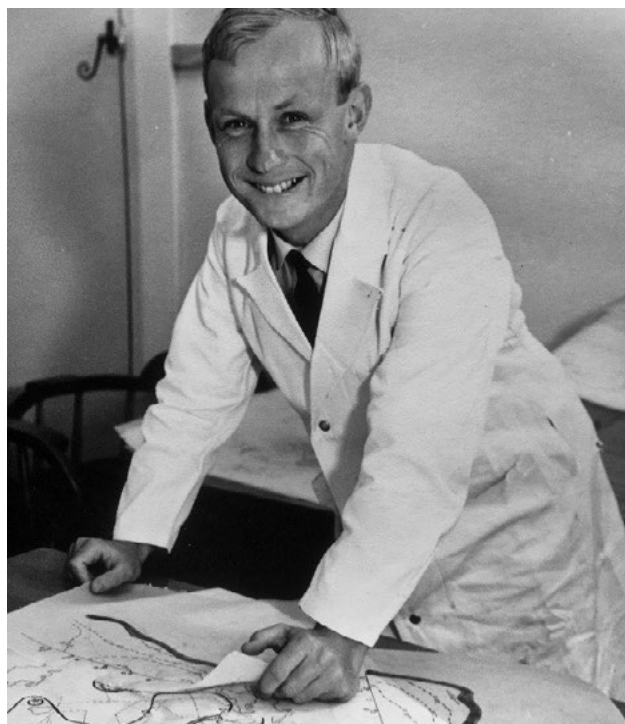
"I had it typed up to 1968, then again in 1990. People found it handy because you could look up a species and immediately find out who had written something about it."

Paul is still not certain this will be the last in a lifetime of scientific publications he has contributed.

But, he says, "I am 81. And I'm starting to forget things."

The rabbits on the lawn have multiplied in the hour we have been talking.

"Saves me getting the ride-on mower out," he observes.



A young Larry Paul

The property is idyllic. Originally 18 acres and established in 1939 by Briton Smith of hardware wholesaler and retailer Smith & Smith, it was built as a weekend retreat. The family, with a full-time gardener, planted an arboretum, which Paul admits he cannot keep up with, even now at 3 acres, especially since the death of his wife, Logan, to cancer two years ago.

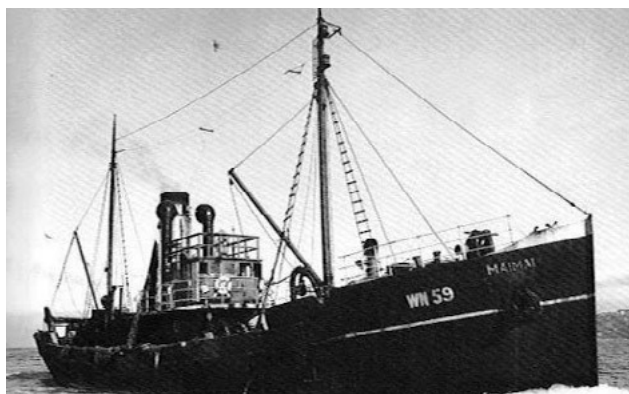
"She was our main gardener. But it's still a pleasant wild garden – lawns, trees, and native bush."

"Logan was an accomplished and published entomologist, and an amateur botanist. We were both naturalists and conservationists. When I retired from National Institute of Water and Atmospheric Research (NIWA) in 2005, this seemed ideal for us.

"Being a nosy type of bloke, I like to understand the history of things. So, I tracked down the Smith family who generously told us much of the history of the property and house.

An example of Paul's talents, beyond the scientific, are obvious in the unexpected prose at the beginning of the paper.

It goes some way to explain why this painstaking work was important.



The Townsend and Paul mine sweeper *Maimai*

Travellers in a new area pause and build cairns to mark their progress, and to show the way to the others who will follow. And who will progress further, adding their stones to the cairns and building more. Scientists and others who study fishes pause from time to time to write papers to record their findings and to set out the information that subsequent workers will build on. This bibliography can perhaps be regarded as such a cairn, a record of progress to date in New Zealand ichthyological and fisheries research, basic and applied, and a guide to some promising paths ahead.

"I put it in there on a whim," he says, "and I was sure they would take it out but apparently someone quite liked it."

More simply, he explains that over his career he found people were reinventing the wheel, or they didn't know that research had already been done on a subject.

And those studies go back a very long time.

"In 1769, Captain James Cook and the officers and crew of the *Endeavour* were the first to be acquainted with New Zealand's marine fish. They caught and often traded with Maori for fresh and dried fish. They recorded Maori fishing activities and fishing gear."

He writes that fish were important for three reasons.

"They were a point of contact between Maori and the early settlers, they provided fresh food for crews weary of shipboard fare, and they were collected by the early naturalists and scientists accompanying the explorers to increase knowledge of the marine life of the South Pacific."

Joseph Banks, the natural historian who accompanied Cook on the *Endeavour*, wrote of the variety and excellence of New Zealand fishes, contrasting them with the scarcity of land animals. An abundance could be found in "every creek and corner"; they were served aboard and judged "not only wholesome but at least as well tasted as our fish in Europe".

Fish species names, an incredibly convoluted, complicated, and confounding subject is also dealt with in a comprehensive and, thankfully, comprehensible manner. All scientific and 'common' names which have been published are included, each given a code number and locatable via the indexes.

Paul explains how complicated fish names actually are.

"There are official names, defined in fisheries law, general names, which are used in other printed material like books, and there are colloquial names. Then there are some countries that have standard names, which have been agreed on by taxonomists and those names sometimes, but not always, become official names."

As if that wasn't befuddling enough, there are also transferred names.

"Transferred names have been brought to New Zealand from other countries and given to fish of similar appearance. Many of our fish were given British names, like monkfish, lemon sole, and ling. Some Maori names for fish also originated elsewhere in Polynesia, such as hapuu, from Hawaii became hapuku in New Zealand," says Paul.

Then there are fish product names. Species that were renamed because the actual name was deemed unattractive to the consumer, such as lemonfish and butterfish. Remarkably, orange roughy was one such species.

"The Fishing Industry Board was adamant no one would buy a fish of that name, so they tried to sell it as deepsea perch. There was domestic and international opposition to that, on the grounds that there were too many other species called deepsea perch. Orange roughy was here to stay."

Speaking of orange roughy, a younger Larry Paul was one of the first to try to age orange roughy.

"It was 1979, and we were on the Chatham Rise on the German trawler *Wesermunde*. There were only four New Zealand scientists on board, and we came across a Russian fleet of about 10 big stern trawlers. They were working a very small strip of sea floor along the edge of the ledge and they were lining up and doing a loop. One would come along and drop its net and pull it up, go round as it processed the fish and another would come through. We just joined in and were catching five or ten tonnes of orange roughy at a time. There were about 40 crew, half German and half Portuguese. We would often be pulling up another load before the Portuguese in the factory below could finish filleting the last one."

And the aging of roughy?

"We had a quick look at otoliths under a microscope. We



An aerial view of the arboretum at 'Pukekohe'



Larry Paul on the lawn at 'Pukekohe'

saw so many rings that we said, 'these are going to be very old fish' and we left it to others to work out actually how old."

This latest publication of Paul's is the first time a list of university theses on fish and fisheries has been put together. Paul says he has dragged them out of all sorts of hidey holes.

"And then when Te Papa reviewed this publication, they suggested I put in all the articles they had written for the Seafood New Zealand magazine, informative and often original accounts of different species. I included those as well," says Paul.

If you want to look up a biological or fisheries topic, there is a 50-page subject index, and the breadth of information is impressive.

"For example, if you look up how to age species of fish, all the studies on different species are listed. There are references to archaeology, aquaculture, previous bibliographies, biochemistry of fish, economics of fisheries, property resources and rights, bycatches in individual deepwater fisheries interactions with marine mammals and seabirds listed by bycatch type and fishery, commercial catch and landings data, conservation, diseases of fish, ecosystems, export markets, fisheries management, and regional fisheries. And so on."

Paul is reluctant to poke his nose into current fisheries issues, although I ask anyway.

"I have been out of the hurly-burly of meetings and discussions for 16 years, but some issues never go away," he says.

"There were cries of overfishing, the damaging effect of trawls, and antagonism between big and small fishers, and commercial versus recreational fishers, back in the early 1900s when trawling first started.

"The bycatch issue is always going to be a problem, whether it's fish, seabirds, or mammals. And it's likely to

remain even as progress is made, given the global shift to environmental awareness."

Paul agrees it is probably also time to have another look at the Quota Management System.

"Can it be adequately tweaked further, or is there a better system? I don't know. There are a fair number of documents listed in my bibliography which have looked at this. Over-simplifying, most seem to say it's the best of a bad series of options. It solves some issues but creates others."

He asks what is ecosystem management, exactly?

"In some ways, it seems contrary to the other goal of selectively fishing for high-value target species. These are generally high-level predators, and over-fishing - or even heavily-fishing these - can have cascading effects through an ecosystem. But would keeping an ecosystem balanced require trying to utilise unpopular species, those that are now unwanted bycatch?

"Which is where balancing quotas for different species within a region also becomes tricky. As the population or stock of each species fluctuates, how can we remove the 'correct' quantities of each, given that they have different 'recovery' potential? It's a tough scientific question.

"I consider myself fortunate, having lucked, really, into an interesting career in fisheries science. It is now the fisheries managers, in government and the industry, who must continue to do the hard yards. And have the courage to not just choose the easy path."

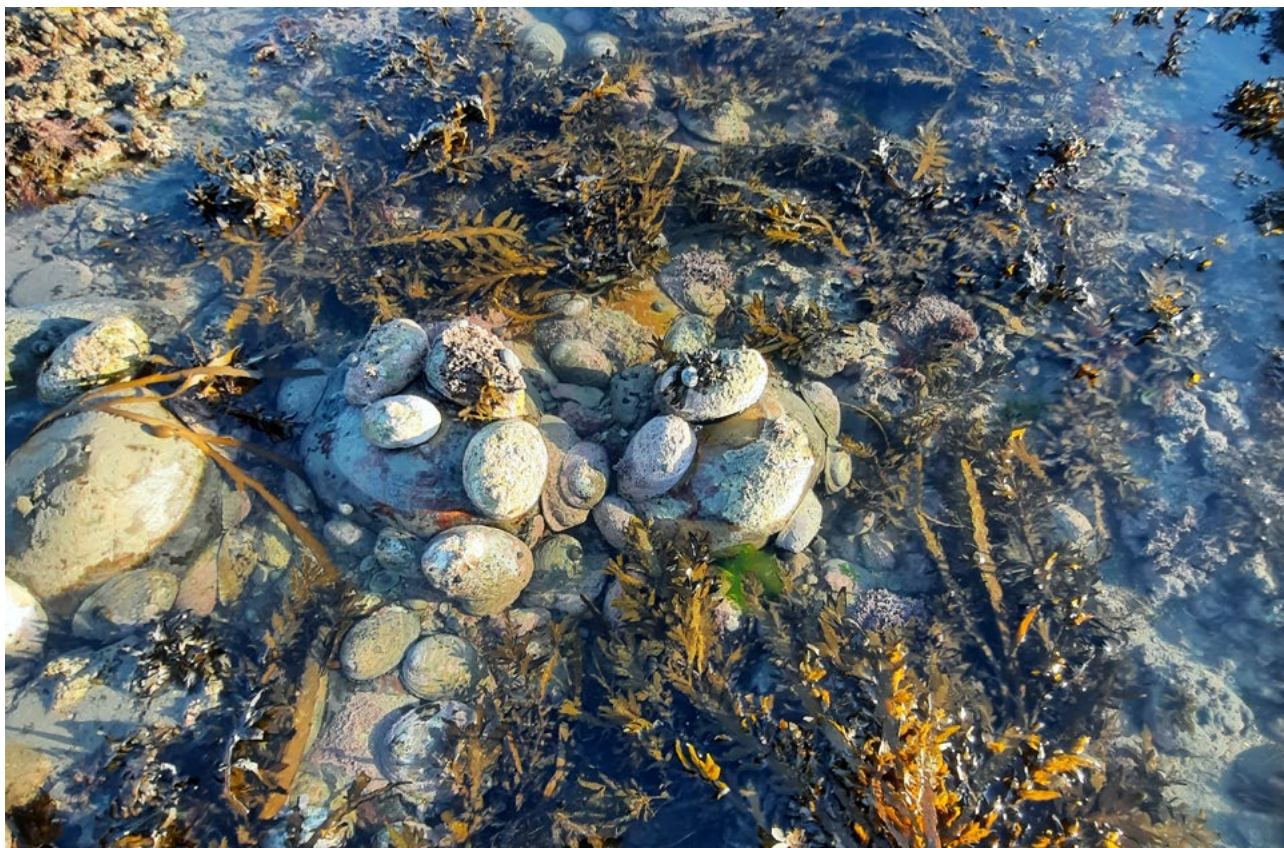
We wander out onto the lawn to take some photographs.

The rabbits barely notice.



The bibliography has captured never-before compiled research on fisheries

2022: Facing up to the cost of inaction



The pleasant days of summer always draw large crowds to New Zealand's beaches, and many people are keen to get a good feed of seafood. We're fortunate that our fisheries are mainly in good shape and accessible to all, but this also has its downsides, as we've seen this summer. All around the coast local communities are expressing concerns about localised depletion of inshore fish and, particularly, shellfish from a range of pressures including high levels of recreational fishing. While this is nothing new, the favoured management response has shifted and we are now experiencing more and more calls for the use of rāhui (temporary closures implemented under the Fisheries Act) to protect local fisheries from over-exploitation.

For example, in November 2021 the Minister for Oceans and Fisheries approved a two-year rāhui encircling Waiheke Island for scallops, rock lobster, mussels and pāua. The rāhui was requested by Ngāti Pāoa, who stated in their application that the "the current harvesting onslaught during the Christmas, New Year's peak season has been devastating and continues as we observe more visitors coming from Auckland".

Ngāti Pāoa are particularly concerned that scallop beds have been destroyed by recreational dredging, anchoring and overharvesting and that pāua are being harvested undersize (by recreational fishers – there is no commercial pāua fishery at Waiheke) and are no longer able to reproduce.

In late 2021 a local community group – the Protect Rock Pools Committee – applied for a rāhui for species such as periwinkles, whelks, limpets, chitons, starfish, and small crabs along the coastal strip between Cape Rodney-Okakari Point Marine Reserve and Tawharanui Marine Reserve. The applicants are concerned that the current level of recreational shellfish harvest of rock pool species is unsustainable due to a combination of the high number of recreational fishers and the high combined daily bag limit of 50 shellfish per person. The application is still being considered.

In January 2022, newspapers are reporting that "members of Taranaki's coastal community fear the region's pāua beds are being stripped bare by hundreds of visitors, many from outside the area, including Auckland"

(again, pāua are not commercially harvested in Taranaki). Locals are considering calling for a rāhui. And so it goes on.

In all these examples, local communities are clearly concerned about excessive recreational fishing pressure and the impact this has on kaimoana and coastal ecosystems. The pāua industry has a lot of sympathy with those concerns. But is a rāhui the best management response? In our experience, it is not.

Under the Fisheries Act, rāhui have a specific purpose – that is, to recognise and make provision for the use and management practices of tangata whenua in the exercise of non-commercial fishing rights. Rāhui, used appropriately, are a valuable way of providing for customary fishing – but they are not a general tool to increase localised fisheries abundance or protect rock pools, and they are definitely not a substitute for effective management of recreational fishing.

In the pāua industry, we have learnt a few things from our experience of rāhui in South Island pāua fisheries. The first is that a two-year temporary closure seldom achieves any improvements in the fishery – mainly because the complex, multiple pressures along popular coastlines (including habitat degradation and land-based impacts such as sedimentation) cannot be fixed by simplistic temporary fisheries closures. That’s why temporary closures are often renewed time after time. Wakatu Quay at Kaikōura has been closed under a rolling ‘temporary closure’ since 2002. Umupuia Beach near Clevedon was closed to cockle harvesting for two years in 2008 – and it’s still closed 14 years later.

The second thing we’ve learnt is that if recreational fishing pressure is part of the problem, then a temporary closure can’t possibly solve it. As soon as the closure is lifted, that pressure will come straight back and any temporary improvements in the size or availability of fish will be immediately negated. In the meantime, recreational fishing effort simply shifts elsewhere, causing problems of localised depletion in someone else’s backyard and hindering the ability of other nearby

hapū or iwi to exercise their customary non-commercial fishing rights.

In our view, the proliferation of requests for temporary closures implemented under the Fisheries Act is a direct consequence of the failure of Fisheries New Zealand to manage recreational fishing pressure effectively. Temporary closures are not only ineffective at managing the effects of recreational fishing, they are also unnecessary if recreational fishing is managed in a way that is sustainable at a local scale. Yes, we know this is not straight-forward. It requires the collection of accurate information on recreational fishing. It also requires reductions in daily bag limits. For shellfish populations, it requires careful fine-scale management, including the use of differing size limits and seasonal restrictions. All of these types of measures are intensive and expensive to implement and will inevitably be politicised by recreational fishing lobbyists.

But what’s the alternative? Implementing a series of ad hoc temporary (but perpetually renewable) closures around our coast and displacing fishing effort, while never addressing the underlying cause of the problem? That won’t achieve the Fisheries Act’s purpose of providing for utilisation and ensuring sustainability. It also won’t allow the Crown to meet its obligations under the Fisheries Settlement. In our view, iwi and hapū with customary fishing interests should be as concerned as we are about the misappropriation of customary tools by groups with agendas that are unrelated to providing for the use and management practices of tangata whenua. It devalues the Crown’s obligations under the Settlement and detracts from the urgent need to develop and implement real measures to control recreational fishing pressure for the benefit of all fisheries users.

We hope that 2022 will be the year in which the Government finally starts taking the effective management of recreational fishing seriously. But – unusually for pāua divers – we’re not holding our breath.

MARINE ENGINEERING



STARK
BROS LTD LYTTELTON NEW ZEALAND

SHIP REPAIRS
BOAT BUILDING
DRY DOCKING
ENGINE REPAIRS

“Proven Abilities” Worldwide

Stark Bros is fully conversant with all aspects of the ship repair industry, from afloat maintenance to full dry docking and survey work, and the skills associated with a strong boatbuilding foundation. With the combination of specialist personnel, facilities, equipment, knowledge and experience of ships and the marine industry, Stark Bros Ltd is able to provide a high level of service and expertise at competitive prices.

Ph: +64 3 328 8550
P.O. Box 144, Lyttelton, New Zealand
www.starkbros.co.nz

Reform needs to build on strong fundamentals

Mark Edwards, New Zealand Rock Lobster Industry Council

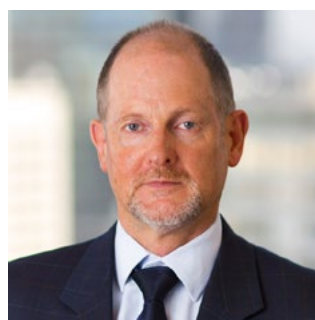
We have an increasingly complex inshore fisheries management environment with compounding pressure to address legacy issues, new regulatory initiatives, and environmental change which affect fisheries resources and the ecosystems they rely on. The industry SREs are collaboratively engaging on range of legislative and regulatory reform using the Commercial Fisheries Forum. The agenda for any one of the monthly meetings often exceeds 40 items.

At a regional level, it is daunting for commercial rock lobster operators in some areas where they face many separate initiatives that impact on access or restrict fishing as well as their core interest in the task of monitoring and adjusting fishing to maintain healthy levels of the resource. All this is going on with the prospect of resurgence of COVID to interfere with the operation of business, the ability to get our product into export markets, and other impacts on family life.

To take just one region as an example of those compounding pressures, the CRA 2 fishery extends from Te Arai to East Cape. A full stock assessment is scheduled for later in 2022 with subsequent review of TAC and TACC. That assessment will rely heavily on the extensive collection of data that is undertaken voluntarily by the operators. Following the very conservative reductions in catch made for 1 April 2018, the stock has rebounded with substantial increase in catch rates and much shorter periods fished as operators have attempted to maximise return from reduced holdings. There are reasonable expectations of re-instatement of lost fishing entitlements.

But while the fishery has been rebuilding, operators in the area have been struggling with other initiatives that have, or threaten to, impact on their access, and the health of the fishery, including customary regulations, “Revitalising the Gulf” proposals and the many Marine and Coastal Area (Takutai Moana) Act applications.

The industry recognises the need to provide for non-commercial customary Maori interests. However, the implementation of a large mataitai in eastern BOP is on hold as it is acknowledged some elements of the decision need further consideration. The displacement of catch from such a large closure was not taken into account in the advice and an assumption that operators could transfer their catch and effort to other areas did not allow that the



Mark Edwards

establish customary tools. It cannot have been intended that only the first applications have a chance of success. The operators in the area want to formulate arrangements to allow commercial fishing, sensitive to the needs of the hāpu.

The area of the “Revitalising the Gulf” initiative is within CRA 2 and includes 18 new marine protected areas with no apparent consideration of the substantial additional displacement of recreational and commercial fishing pressure. The closures will force increasing fishing effort into remaining areas, with adverse effects on their sustainability, and deplete local abundance. This will increase tensions between the commercial and recreational sectors and exacerbate the dissatisfaction that coastal hāpu have, potentially driving them to consider tools under the customary regulations which would cause yet more pressure and displacement.

The “Revitalising the Gulf” proposals which seek to improve abundance, and the review of the CRA 2 fishery, require information on catch. Industry provides comprehensive, trip level, information on commercial catch, at a fine spatial scale. Unfortunately, the estimates of rock lobster recreational catch from the five yearly National Panel Surveys, and the creel survey implemented after the 2018 TAC reduction, have very high levels of uncertainty. These estimates are QMA scale – there is no information to use to manage at a finer scale. And we have very limited information that could be used to adjust recreational fishing controls with any confidence of outcome. If the government is intent on managing at a sub-QMA scale, new approaches to assess recreational catch need to be evaluated and implemented.

There does need to be discussion of the outcomes

different stakeholders want in CRA 2, including the levels of abundance and the management target. That will not be achieved by piecemeal imposition of controls. Higher abundance means considering the trade-offs between yield and catch rate. The scale of management needs to be informed by information and science at that scale with consideration of the cost and practicality. A change process needs to be planned, equitable and transparent. The difficult allocative issues need to be grappled with, and adjustments need to recognise the rights and incentives for stewardship and investment, and the value of the commercial and non-commercial components of the Settlement.

A different example of legacy issues that combine with new pressures is the longstanding issue of lack of integration and coordination between legislation in the coastal marine space, and in particular between the Resource Management Act (RMA) and the Fisheries Act. Environmental groups want to see better management of coastal ecosystems, and hāpu want more involvement in management of areas of the coast that are culturally important to them. Although the Fisheries Act has the tools to manage fisheries resource use, and the ability to take into account the relevant rights and interests (including those associated with the Settlement with Māori) some entities have started using the resource management planning process to achieve fisheries management objectives. The Motiti Court of Appeal decision in 2019 provided a ruling that limited the extent that fisheries could be managed under the RMA, but could not address the remaining extent of ambiguity and overlap that exists between the statutes.

In Northland the result is a massive Environment Court proceeding with a three week-long hearing occurring last year. This proceeding involved more than 15 parties (each with multiple legal counsel) over 50 expert witnesses and many months of preparation, with costs across all of those parties that will run into many millions. There is every potential the legal process will escalate to higher

courts. This process has started in other regional planning processes and has the potential to be replicated. The time and resources spent on litigation would be far better spent addressing fisheries management issues through the Fisheries Act and better controlling other activities under the RMA, many land-based, that adversely affect coastal marine ecosystems.

This situation could be partially addressed by minor amendments to the RMA to prevent plans being used to duplicate fisheries management control that should be exercised under the Fisheries Act. There are other related issues that underly the tensions, for example the lack of good legislation to provide for marine biodiversity conservation, or good use of science and evidence to identify the actual threats. Addressing the risks needs to recognise fisheries rights and the Settlement, and address the implications for those rights where there is provision made for non-extractive interests.

Despite the views of critics, New Zealand still has in place the fundamentals of a world class fisheries management system, provision for indigenous rights and roles in that system that is not equalled anywhere, and fisheries management performance that is good, although there is room for evolution and improvement. But the issues outlined above, and many others, lead to an intimidating suite of pressures and uncertainty for operators and quota owners who are trying to earn a living for their families, provide employment, and generate export revenue for the country.

Reform to address some difficult legacy issues such as those related to allocation between sectors, provision for non-extractive use and the better integration of statute related to the use of marine living resources has languished over the last decade or more. The government and their agencies, and organisations that represent commercial, recreational and environmental sectors and Iwi, have a responsibility to work hard and collaboratively to resolve these issues to deliver on outcomes that meet the needs of all sectors.



Celebrating Ray Yearbury

Dallas Yearbury



My dad, Ray Yearbury, is a commercial fisherman, bottom longlining out of Whitianga on the vessel *Golden Bay* and is retiring after a successful career spanning almost 40 years.

Dad has no idea I am writing this article and is very modest. So, when he reads

it (and I'm sure he will read it), what else does a retired fisherman do? I will be in it up to my eyeballs.

To his colleagues and friends, dad appears a gruff, to-the-point, no nonsense, hard man who fishes every day he can - hence the name "everyday Ray." Don't get me wrong, he is all the above, but to me he is an honest, loyal, hard-working, and loving husband, father, and grandfather, who would do anything for those he cares about.

After 20 years contract shearing and farming, being no stranger to hard graft, dad bought his first vessel *Rakino*, and went bottom longlining for Fletcher Fishing. Then going on to purchase *the Rongo Marie* and ending his career owning the *Golden Bay*, and fishing for Moana. During his almost 40 years fishing, he has seen many highs and lows in the industry.

Along with self-employment comes challenges and successes. There have been challenges along the way and plenty of them. Some of the challenges have been weather, breakdowns, technology, staffing (at times), paperwork, time away from family, and juggling commitments. Back when dad started fishing, it was pretty cruisy. Now, regulations are constantly changing. The regulations and environment make fishing extremely challenging.

However, with challenge also comes success, and I would say that dad's longevity and still being in the fishing industry after almost 40 years is success in itself, along with his dependability, capability, constant catch rate, and landing quality product. As any business owner knows, a business is only as good as its staff. The current staff dad has are a great, capable team who work well together.

As we know behind every good man is a good woman, and mum, Karyn, has been with dad through the entire ride. Supporting dad over the years with everything from

staff induction and training, to boat meals and stores, the masses of never-ending paperwork and submissions, payroll and accounts, organising fishing meetings, supporting wider industry initiatives and - not to forget - first aid and Dad's patch up jobs. When he takes a chunk out of a finger or rips his leg open, I say "I think you should go to the doctor, that's quite deep". Dad replies with "no need, mum will sort it out!".

My brother, Kendall (Dad calls him Charlie), needs a medal. He has worked for Dad for over 30 years. Reliable and dependable, also reaping the rewards after working hard in the fishing industry. Kendall, and his wife Julie, are taking over the business going forward. Good luck guys!

So, in conclusion, at 75 years old you deserve your retirement dad. I have no doubt that going from the hours you work to being on shore, you are going to drive Mum mad! You will have to remember you are only the captain at sea - not at home - mum is the captain on shore. You will be able to enjoy more time floundering, duck shooting, and bowling now, but you do know you will be on maintenance and gear duty, and I know without a shred of doubt you will wait for the call up to be a "fill-in" for crew.





OpenSeas^{NZ}

The Source for New Zealand Seafood Information.

Seafood production and procurement can be a complicated business. Finding the facts behind the New Zealand seafood industry shouldn't be.

FIND OUT MORE AT [OPENSEAS.ORG.NZ](https://openseas.org.nz) >

Crayfish, conservation and community connections

The Port Chalmers Fishermen's Co-operative Society recently held a 'Meet the Fishers' event in Careys Bay, Dunedin. Janan Jedrzejewski went along to find out what industry professionals made of the day, in their own words.





Ant Smith holds up a crayfish for the young audience

Port Chalmers Fishermen's Co-operative Society

The event was spearheaded by Ant Smith, the president of the Port Chalmers Fishermen's Co-operative Society. Standing by a gigantic tank, he's surrounded by three excited young boys standing on crates and peering into the water. Smith aids their curiosity; fishing for crabs and, at one point, hauling out huge crayfish.

The reason for 'Meet the Fishers' is simple. It's about creating a connection.

"We decided that we needed to get out in our community bit more," Smith explains, "just [wanted] to get people down see what we do is what today was all about,"

"I've been disappointed over the years that we don't actually sell fish out of our port and interact with the community. I think it's a real shame we have that disconnect and that's mainly because we're out busy fishing.

"Now we've come home, it's easier to sell the fish, and we do give quite a bit of fish away. And we're always quite approachable in that way."

The turnout was an impressive 200 people – a great



Mitchell Roos cooking up a storm for 200 visitors

result for a two-hour meet-and-greet. The crowd was exactly what Smith had hoped for.

"[We wanted the crowd to be] the people that are interested where their fish come from. We wanted to talk and engage with them about how we fish and how we care for our environment, what we do and how we have evolved from being focused on extracting the fish - now we're more focused on the fish. Looking after it and looking after our futures.

"We're quite aware That's a public resource that we're using, that we're making our living out of."

Smith goes on to explain the function of the Co-op and its context within the industry.

"Before quotas came around, every fisherman could catch his fish and sell it to where he wanted. So, the co-op was the group of freshmen and they liaised with the companies about the prices and how it all worked.

"Nowadays, since the Quota Management system, the bigger companies hold probably all the power, it would be fair to say.

"I like the fact that we've matured as an industry. When quotas first came in, the big players managed to finance themselves and get most of the quota, then we went for a stage where we're beholden to the quouta owners. Now we've morphed 30 years later, quota owners are well aware that to protect and utilise their assets, they need the fishermen.

"So, we do have a whole lot more say in the industry which is good."

All in all, Smith thinks the day has been a great success.

"I thank the public of Dunedin for turning out on a slightly miserable day," he says.

"Everybody's got a smile on their face and enjoyed it. So, we're really happy with the outcome. That's great."

Harbour Fish

Harbour Fish, a seafood delivery business based in Dunedin and Queenstown, has been a big contributor to the initiative. Throngs of onlookers huddle around their filleting demonstration, asking questions and snapping up the free freshly-made fish sliders, hot off the BBQ.

Harbour Fish manager Aaron Cooper talks about where it all started.

"[My brother] is Damon, he's the fisherman and he started out fishing when he left school," Cooper says.

"Then I think I came home when I was about 27, from London where I was selling real estate. I had a great time, I traveled for a long time. I've lived in the UK and America and all around the place.

"I came home for a holiday and my brother said 'you want to run a fish shop?'"

While it might sound like some Godfather-style strong-arming into the family business, it's far from it. All joking aside, it's a story of dedication, focus, and hard work.

"We had a little fish shop on the main street of Port Chalmers that he'd bought, and I started running that. I had come home for a wedding and I ended up taking over the fish business.

"I just worked behind the counter and sold the fish, really. I had to learn how to fillet and ended up with about six staff in that little shop and then we got an opportunity to buy a factory, then another shop and then another shop and then another factory.

"So, we've got a factory just round at Sawyers Bay and one in Bluff. We've got a shop in the main street of town here, and then we've got one in Queenstown as well."

The business was established about 17 years ago, Cooper explains, and his brother still fishes on the two crayfish boats the operate out of the port; the Daisy Mae and the Lady Bridget.

"We've got another two boats that we've since bought as well, one of them is on the slip," Cooper points towards the harbour, "the Nimbus, that catches blue cod out of Bluff and there's a trawler called The Venture that trawls all the time.



The filleting demo pulled in significant interest



FirstMate navigator Glenn Robinson takes a call

"We probably have about 30 boats working for us now."

Cooper believes there is real career progression in the industry, "probably more than ever", he says.

"If you've got some knowledge, maybe you work on a boat as a youngster, go to university, then if you go into seafood, I think you could probably go a long way. I think there's a real opportunity.

"I think there's so many different directions you can go, from working on the water to being in factories to going into sales, overseas marketing. It's a very broad industry."

Indeed, with recent culinary and social trends, Cooper sees the industry thriving.

"There's a real push for organic, sustainable, locally harvested" he says.

"They all want fresh, local, homegrown. Well, seafood is all that. It's caught here. It's organic. It's not genetically modified. It's not drenched. Nothing happens it

Next to Cooper stands Mitchell Roos, delicately yet speedily slinging piping hot white fish fillets into soft pillowy buns, almost seamlessly landing into the hands of gleeful visitors.

Roos, Copper explains, has come back to work for Harbour Fish after doing a chef's course.

"I was born and raised on a farm in central Otago, Roxburgh, home of the Jimmy's Pie," Roos chimes in.

"I started off folding cardboard boxes in the factory on the pack line, and then from there I went to just work my way up. Grading fish, crayfish, and just whatever needs to be done. I've done a bit of fencing and landscaping."

Roos' return to the company sees him running logistics and then, eventually, becoming dispatch manager. Today,



Aaron Cooper and Mitchell Roos share a joke

however, he's clearly in his element, next to the hot plate and tending to his food prep.

"I went away and I did a year of farming, we have a family farm at home. I then decided to chase my passion, which is cooking. So here I am, doing whatever needs to be done."

Cooper adds that the event is all about telling the story about the fishermen and how "they are normal people".

"We get a terrible amount of bad press that people are putting out there and not a lot of it's true. This is about meeting the people that are true and real. And this is your livelihood. That's how they feed their families."

"And we're here to support them."

FirstMate

Kate Hesson, Executive Officer of the Otago Rock Lobster Industry Association is a trustee of the Seafood Sector Support Network Trust, otherwise known as "FirstMate".

"FirstMate was proud to sponsor the event to help support local fishers connect with other local fishers, plus people from the wider community," Hesson says.

"The general public do not often know who they are or see what they do. That lack of knowledge can contribute to the public misunderstanding the nature of how the fishers operate and what motivates them. That misunderstanding is one of the main causes of stress and pressure fishers have identified.

Hesson is among the many that counts the day as major win for the industry.

"There's a relaxed and positive atmosphere. It's great to see people of all ages coming to learn more about many aspects of the seafood sector while they tour vessels, handle live marine animals and eat some tasty kaimoana.

"It's great to have the involvement of fishers plus the University of Otago Marine Department and Harbour Fish,

a seafood processor and retailer, Talley's, and Fisheries New Zealand.

"Fishers and other players within the seafood sector see themselves as kaitiaki of the sea. It is a challenging but rewarding way of life for them - more than just a job. Often, the public do not see the full spectrum of the sector, that it involves many small business owners who, like many other New Zealanders, are working hard to care for their families and secure a future for them."

First Mate is a charitable trust that was established with the support of Fisheries New Zealand. The trustees, of which Hesson is one, come from different parts of the industry with a common purpose of supporting the health and wellbeing of people involved in it.

"After the success of this event, First Mate is keen to get alongside other events like it, throughout the motu (country)," Hesson says, adding that the day being well organised and supported by the local industry were factors 'central to this success'.

"It is important that people within the industry support and connect with each other. Fishing is a solitary activity and pressures can mount on you, especially when you think you are the only one suffering from them.

"You don't have to share everything but spending time with others who are going through similar challenges is good for you.

"When you aren't feeling good about life, it can be really difficult to reach out to people and socialise, let alone try to meaningfully connect with them. You might be feeling especially worried and unmotivated, all of which can make it feel much easier to turn inward and avoid social interactions.

"The catch is that social connection is actually a critical part of preventing and reducing symptoms of depression for many people. Additionally, people who have poor

quality relationships with family members also experience higher rates of depression.

"Relationships can be complex and challenges will always come up, especially when we're not feeling our best. But making a concerted effort to maintain, rebuild, or establish new social connections is an important part of dealing with life's pressures and creating a system of support for yourself."

First Mate is growing a network of 'navigators' who can help fishers, farmers and their whanau deal with the growing pressures they face. It is intended that this will cover topics such as business advice and mental health support and whatever else is needed.

One such navigator is owner-operator Glenn Robinson, who is standing aboard his vessel, The Solitaire, with crewmate Doni Couch, who is proudly showing his father Greg around. A tradie who now fishes full-time and plasters occasionally, Doni started in 2019. Like most fishers, he balked at the concept of the 40-hour work week, and loves the unpredictable nature of this new career.

Robinson says he was scouted for the role, and he accepted as he thought the work would be interesting.

He outlines duties as a newly minted navigator, and the issues his colleagues are currently facing.

"If anyone's got a bit of an issue, they can come and have yarn. It's just talking to people and getting them the help they need. Put them on to the right people that they need to talk to.

"We're now GPS monitored 24/7 when we're at sea by Fisheries. We're going to have a camera looking at us all day, every day. So, we're under a lot of scrutiny. That's going to put pressure on guys, you know? No one really wants to have a camera look at them all the time. We're trying to do our best and have big brother standing there looking at us all day every day.

"Potentially it could [cause a lot of anxiety]. I don't know. I don't think it's a massive issue. In some ways, it's going to prove the fact that even though we're getting accused of catching dolphins and all sorts of things, we're not. So, I've got no issue with observers.

"The cameras are going to prove what I've been saying. In some ways, that will be a good thing for us."

So far, Robinson has been out helping others and has had some yarns already.

"Probably the reason why I got put forward was because I do talk to a lot of different fishermen. You're having a bad day, you ring your mate up on the other boat, have a bit of a rant."

"I call them 'bitch sessions'", he laughs.

"You get things off your chest and then carry on. But then, maybe, if we need to take it further, I can come in 'officially' and help guys out. Point them in the right direction."

When it comes to mental health, Robinson says there's "still a bit of stigma sometimes", but "if we can help

someone out that's in distress, that'd be an achievement, wouldn't it?"

However, Robinson is clear to stress the programme goes beyond mental health.

"It's a range of things. If a guy's having problems with his gear or something, maybe you can put him in touch with someone that can sort of trawl gear out or whatever."

"We can help them out with gear, codend technology, escapement for fish, things they don't want.

FirstMate is still a pilot programme that's "in its infancy and we still don't know exactly how it's going to pan out", he says.

Otago University

Adelle Heineman is the curator at Otago University, supervising all aquarium collections and animal husbandry. In her own words she "looks after the animals and the ethics sort of side of things", ensuring aquarium operations comply with permits and codes of practice.

For Heineman, the afternoon is "about engagement with kids who want to look after the ocean, and their understanding of urban and rural communities".

"The fishing industry is doing so much and it's getting people to realise that.

"I come from a family of generational fishermen. My father didn't want to deplete [the ocean]. My brother was coming in and he needed to make a living for his family. It's an all of our interests to look out to look after oceans."

"What we all talk about quite a lot is ecosystem services; what does the ecosystem give back to us as people and, without healthy oceans, our oceans can't do the basics; clean water, provide oxygen, be a food source, all those



Mark Geytenbeek and Kate Hesson

COVER FEATURE



Solitaire crew Doni Couch admires the view



From Left: Glenn Robinson and Doni Couch



The Otago University rock pool



Adelle Heineman with some crabs to show the children

things that humans rely on the ocean for.

"So, we're really looking at it from a point of view of how can we improve the health of the ocean while connecting people so that they feel a part of something."

Heineman is holding a portable tank under her arm, with thorny looking crabs scuttling from side to side. Positioned opposite is the university branded van and a pedestal with an open aquarium on top. Young children are gingerly dipping their hands in and giggling with excitement and some awe. Overseeing them is Rob Lewis, an aquarist and educator at the University of Otago.

In addition to being the curator, Heineman is also quite involved with education and the development side of things, enabling the university to go to communities outside of Dunedin areas.

"Local Schools can come to us at Portobello [the New Zealand Marine Studies Centre], which takes us to Southland, Central Otago. Some of these kids have never, ever seen a sea star, let alone touched one. It creates this huge excitement. And then they realise that, actually, through the river, they are directly connected to the ocean and what they're doing on their land is affecting these animals.

"There's kind of two facets to today," Heineman explains.

"One, is that the local fishermen give us a lot of support. We do dissections and all sorts of things at Portobello, and the fishers donate animals to us to be able to do some of those. So, it's about giving back to their community.

"It's also about meeting a different sector of the community. Coming to community days allows us to link with people perhaps we wouldn't see coming to Portobello.

It's even more exiting for her colleague, Lewis, who is engaged with his young audience.

"So, this project that Rob's talking about at the moment is his baby, 'Shark Spy'. Rob's the shark scientist. He's really interested in finding out the abundance of sharks and biodiversity and where they are.

"So, this is a citizen science project. Needless to say, we're here today to link in with the wider community and these people that are here, a lot of them will be fishermen and recreational fishers that are going out.

"Rob's really keen to get photographs of any sharks anywhere. You can upload them on to inaturalist which is a website for recording species."

Ministry for Primary Industries

Principal Advisor for Fisheries New Zealand Mark Geytenbeek enjoyed the event, despite the slight drizzle of rain, and says it could serve as a blueprint for future endeavors.

"The weather is not great," he laughs, "but there's lots of good people here. There's been lots of good yarns, with fishermen. It's great.

"From my point of view, I want to see more of this. We probably need to do this in other ports. It's really good

for the public to meet their fisherman. There's a lot of negative press about fishermen in many, many areas. And yet, fishermen are hardworking, local members of the community that do an amazing job and actually provide kai for the table.

"This gives people an opportunity to come down and see some of the fish, see the boats, and hear a few stories about how that fish gets from the boat to the supermarket. So that's really good."

Geytenbeek, who is based in Dunedin, attended in a professional capacity, having been seconded to the Seafood Sector Support and Innovation team and the Strategy and Governance Directorate.

"We have supported this open day with a lot of logistical support and money," he explains.

"I'm one of the team that write advice to the minister in terms of total allowable catch settings for the fish stocks that are managed under the Quota Management System here," he adds.

"Obviously, we have a lot to do with fishermen because they're the ones who catch the fish.



Seafood New Zealand communications advisor Janan Jedrzejewski hangs out with a crab on show at the University of Otago stand

Sustainability at the heart of pāua shell business

Emily Pope

In the small, seaside town of Riverton sits a humble Kiwi business that has been maximising the value of pāua shell for more than 30 years. Emily Pope visits the site.

Purchased from a commercial pāua diver back in the 90s, Ocean Shell owner Bruce Shields says the site is a far cry from its early days when it consisted of a single rudimentary warehouse, with no shell processing or manufacturing functionality.

"It wasn't anything like what we do now, but it was a start," Shields says.

"My brother Richard and I began the business with a focus on pāua shell. Then we got into buying mother of pearl from the Pacific Island pearl farmers in Tahiti, Northern Australia, and Indonesia."

Shields and his team have bought, dried, graded, and sold more than 5500 tonnes of pāua shell since the operation began. Today, Ocean Shell is the largest trader of pāua shell both domestically and internationally – purchasing more than 90 percent of New Zealand's commercially harvested pāua shell each year.

No part of the pāua goes to waste. It is the hallmark of Shields' business – sharing the ocean's beauty in a sustainable way.

"We recognise shells are a limited resource," Shields says.

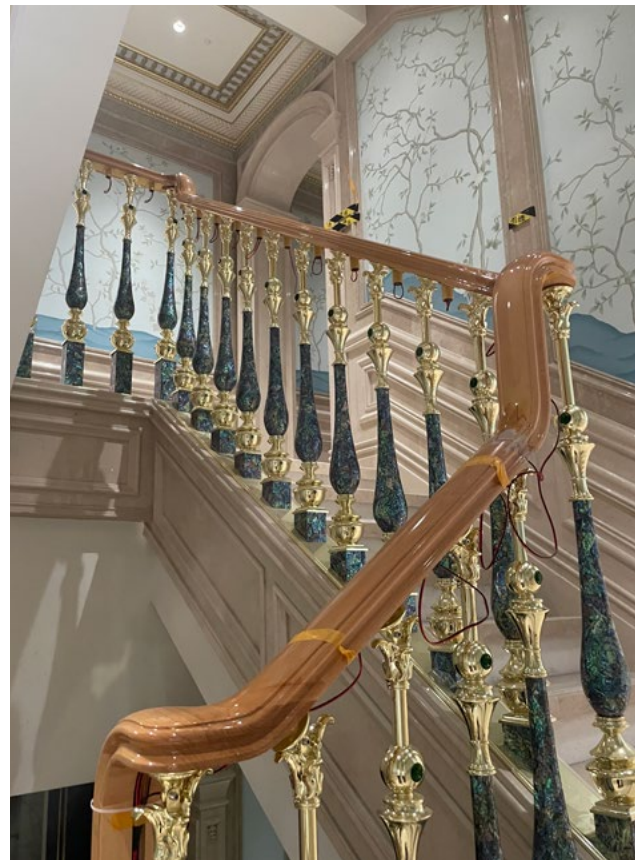
"Our philosophy is that when we buy shell, we have to be able to deal with all of it, not just the best parts. We are always aiming for zero waste in our operation."

Local pāua shell constitutes 30 to 40 percent of the 500 tonnes of total shell that Ocean Shell handles each year.

"That's the amount that would otherwise be wasted if operations like ours didn't exist," says Shields.

The pāua shell is purchased from commercial divers who land the shellfish for its high-value meat – most of which comes from Southland, Kaikoura, Marlborough, the Wairarapa, and the remote Chatham Islands.

Only pāua that meet the Minimum Legal Size of 125mm or more are taken, leaving the smaller juvenile pāua in the water to reproduce and keep the stock healthy. It is



The balustrade in a Chinese mansion featuring Ocean Shell pāua

considered one of the most sustainable methods of fishing.

"These divers and fishermen aren't harvesting the shellfish purely for the decorative shell – the shell is simply a byproduct and that is what we are adding value to," says Shields.

"We are pleased to be a more significant contributor to the pāua industry's bottom line these days."

Once the meat has been landed and processed, the shells are sent to the Riverton factory for sorting. Sorting is especially important for meeting different market requirements, Shields adds.

"There is a lot of variation to deal with in the quality of not just pāua, but all shells. The colour, the environment it comes from, damage caused by pests like marine worms, and so on. But that is what makes each shell unique."

"We believe there is a use for each one, no matter how

bad its quality may be. There is value in all of it.”

Even an E-grade – a reject shell – has at least ten percent of its shell that is still useable. These low-quality shells are often suited for fashion jewellery or for lower quality furniture inlay work.

A portion of the sorted pāua shell is sent offshore to be formed into sheets of raw pāua veneer. It is then sent back to New Zealand to be processed further at the Riverton factory. Processed shell materials are an increasing part of Ocean Shell’s business and are sold under its Lumea brand by Shields’ daughter, Nina, and her team.

Their pāua veneer has become a sought-after material in the Middle Eastern market, where it is primarily used for upmarket inlay in luxurious hotels and palaces for decorative panels and furniture.

“The Emirates Palace Project in Abu Dhabi have very talented craftspeople designing and inlaying our veneer to make decorative panels for their interior fit outs,” says Shields.

“We have supplied the project around 2500 sheets of white mother of pearl veneer so far.

“It is pretty special to have our shell, all the way from little ‘ole New Zealand, adorning palace walls.”

Pāua veneer was supplied to a mansion in China too, where it was crafted into decorative balusters for an ornate staircase.

Veneer is also used for the BONZE brand of softhead game fishing lures, and in Europe and Japan Ocean Shell’s solid shell pāua pieces are used for trout fishing.

Bruce says it never fails to surprise him what overseas markets use their pāua shell for.

“Sometimes it is tacky and other times we see spectacular work like the staircase.

“Either way, it’s great to see our product reaching all corners of the world.”

An unexpected boom in the American wellbeing market has brought a surge in demand for whole pāua shells too, due to a trend called ‘smudging’.

“It’s a Native American custom that has become increasingly Westernised, where white sage leaves are burned in shells to cleanse the interior of a home,” says Shields.

“It’s a completely new trend for the shell market that’s almost come full circle from the days when shells were used as ashtrays!”

Ocean Shell has expanded beyond pāua shell since its founding days and is now considered one of the more significant seashell traders in the world.

“We see ourselves as being in both the raw shell business and the shell materials business now,” says Bruce.

New varieties of shell have been introduced to their trade, including trochus shell from the Pacific Islands, green snail shell from Japan, black mother of pearl from Tahiti and abalone shell from Chile. Trochus shell is supplied purely for manufacturing buttons and mother of pearl is supplied to luxury-brand watch companies in Switzerland to produce high-quality watch dials.

“We recently started buying shell out of abalone farms in South Africa too,” says Shields. “Our operation stretches around the world.”

Only a small portion of whole shells from international sources go directly to the Riverton factory. The rest are moved from their island location through a complex web of logistics and handling to reach processing facilities in South-East Asia.

“Logistics are arguably the biggest part of the business,” says Shields.

“You are relying on a chain of transporation that can be haphazard and high in risk. There is a lot of paperwork that comes with trading shells and a lot of red tape too. Then there are the customs processes, sustainability certificates and language barriers.

“To get a shell from a far-flung atoll in Tahiti to a shell factory in Vietnam takes considerable organisation and significant cost.”

Those costs have worsened significantly this year, with



BONZE brand of softhead game fishing lures also features pāua



Nina Shields outside the Riverton shell warehouse

FEATURE

lockdowns forcing factories to close, disrupting freight and causing fuel costs to spike.

"Whether we are coming out of it is a big question mark," Shields says.

"We have a younger crew here now. They are all really switched on and have a lot of potential. Even so, the business is in a bit of a transition phase."

Shields' daughter, Nina, is involved too, taking care of the processing and marketing side of the business. He hopes that Nina will take over the reins when it comes time for retirement.

"But with Covid, everything is up in the air," he says. "I just hope the business survives this rough patch so it is here for another 30 years' and remains a strong family business."

The lack of tourism has also hit the factory hard.

"Pre-Covid, our Riverton factory made giftware and souvenir items for the tourist market. Once the borders closed, that was the end to that part of our business."

Staff numbers reduced from 22 to just 12.

Demand for pāua shell jewellery has gone too, says Bruce, as there is an absence of travellers passing through airports or visiting souvenir shops to sell to.

The only silver lining has been an increase in demand for shell generated from online sales.

Through its Lumea Brand, Ocean Shell has supplied

more pāua shell to craft markets in the USA since the pandemic. It's one of their biggest new customers, Shields says.

"Traditionally, very few shops around the world sold shells before.

"Now, we are seeing more retailers transitioning to online, in part due to Covid forcing people to shop remotely and through other means. That has increased the ability of everyday people to access shells like pāua.

"People are buying small packets of pāua, tumbled pieces that we make here in Riverton, for craft projects. We pack them into small, half-kilogram bags, then ship them off to the States where they are distributed or broken up further.

"Online shopping has been a real lifesaver for the shell industry in times like these."

Despite the tough times, Shields says the satisfaction he gains from the job remains the same.

"What always excited me in this industry is seeing clever craftspeople and designers using our material. I get a lot of satisfaction out that, seeing what can be done with the humble shell.

"It's a testament to the shell's journey too. All the hard work – the handling, processing, transportation and trading of the shell – to reveal its beauty and share it with the world."



One of Ocean Shell's employees, Jason, grades 4000-5000kg of pāua shell each week



Ocean Shell founder, Bruce Shields, at an Indonesian shell button factory

"catch fish...not cables"

There are a number of international submarine cables which come ashore in the Auckland area. These cables supply international communications for both New Zealand and Australia to the rest of the world.

New Zealand is a very isolated nation and as such is extremely reliant upon global communication via submarine cables. Here in New Zealand over 98% of all international communication is carried via submarine fibre optic cables. These cables are a key component of New Zealand's infrastructure and play a significant role in our everyday lives, the general economy and future growth of New Zealand.

These cables are laid in three submarine cable corridors in the greater Auckland area where anchoring and fishing is prohibited under the Submarine Cables & Pipelines Protection Act.

These areas are:

- **Muriwai Beach** out to the 12 mile territorial limit where both anchoring and fishing is prohibited.
- **Scott Point to Island Bay** in the upper Waitemata Harbour where anchoring is prohibited.
- **Takapuna Beach** this runs from Takapuna Beach in the south to just north of the Hen & Chicken Island (opposite Taiharuru Head) where anchoring and fishing is prohibited.

Note: These protected areas are monitored by sea and air patrols.



**Spark
New Zealand**



Symbols Relating To Submarine Cables

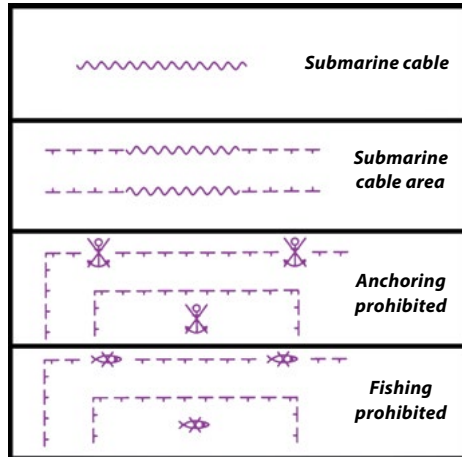


Figure 1.

These are some of the penalties

- A maximum fine of \$20,000 for a non-commercial vessel.
- A maximum fine of \$100,000 for a commercial vessel.
- A maximum fine of \$250,000 for damaging a submarine cable.

Additional to the fine for damage, the cable owners would inevitably pursue the recovery of costs associated with repairs, this could be up to \$100,000 plus a day; a typical repair can take up to two weeks.

Be Aware

These International submarine cables carry up to 10,000 volts to power the system repeaters along the cable.

What should you do?

- If you are going into any of these areas, be sure to check your marine charts and/or GPS plotter so you know the exact locations of the prohibited zones. The relevant charts are NZ53, NZ5322, NZ532, NZ522, NZ52, NZ42 and NZ43. The symbols used to mark the zones are detailed in Figure 1.
- If you suspect you have snagged your anchor or fishing gear on a submarine cable in one of these areas, don't try to free it. Note your position, abandon your gear, then call 0800 782 627.

What happens outside the prohibited areas?

These cables are covered by the Submarine Cables and Pipelines Protection Act regardless of whether they are inside or outside a prohibited area. Beyond the confines of the "anchoring and fishing prohibited" areas, the cables are clearly marked on the appropriate marine charts.

Considering possible positioning inaccuracies and repaired cable section deviations, fishermen are advised to keep a minimum distance of one nautical mile from either side of charted cables.

Note this number:

For any queries regarding submarine cables call: **0800 782 627**

For more detail refer to appropriate marine charts.



The best fish 'n' chips in Aotearoa & Australia



The *New Zealand Herald* recently published the most popular fish and chip shops – as voted for by the public as part of the publication's "Best of Summer" competition.

The winners are...

- Bobby's Fresh Fish Market, Tauranga
- Dulcie's Takeaways, Hokitika
- JFC Paihia, Paihia
- Kai Kart, Stewart Island
- Mangonui Fish Shop, Northland
- Market Galley, Auckland Fish Market, Wynyard Quarter
- Ōpunake Fish, Chips and More, Taranaki
- Pirimai Chippy, Napier
- Raglan Fish Shop, Waikato
- Skillet & Fillet, Snells Beach

Meanwhile, across the ditch the winners of the Great Australian Fish & Chip Awards 2021 MasterFoods People's Choice Awards, organised by Seafood Industry Australia (SIA), have been announced for each state and territory.

After close to 300,000 votes from the public (the most in the award's history). Fun fact: Queenslanders cast the most votes out of any state/territory, which meant the winner reeled in the most votes in the entire competition!

The winners were as follows:

- Queensland - Costa's Seafood Cafe, Capalaba
- New South Wales - Something Seafood, Callala Bay
- Victoria - Trident Fish Bar, Queenscliff
- Tasmania - Fraggles, Invermay
- South Australia - Fish out of water, Hyde Park
- Western Australia - Pinjarra Fish & Chips, Pinjarra
- Northern Territory - Frying Nemo Fish and Chippery, Stuart Park
- Australian Capital Territory - The Fish Shack, Civic

Another fun fact: this is the Australian Capital Territory first appearance in the awards, and The Fish Shack narrowly edged out the competition by just 10 votes to claim the top spot.

"In every town, across every state and territory, people spruik their fish and chips as number one. So, we've listened to the people, and crowned the best fish & chip shops around the country," SIA CEO Veronica Papacosta said.

For more information visit: www.fishandchipawards.com.au

Deepwater Group furthers orange roughy research

Tim Pankhurst



Credit: Terry Hann

Deepwater fisheries quota owners have committed to a five-year scientific research and monitoring programme.

In partnership with Australia's Commonwealth Scientific and Industrial Research Organisation (CSIRO), the programme aims to assess the biomass of selected deepwater fish stocks and to monitor and quantify fisheries interactions with deepwater benthic communities.

CSIRO and deepwater quota owners have collaborated over the past 22 years to research, develop, and deploy science to better inform sustainable deepwater fisheries practices.

"Working together over these years has successfully combined the best available scientific research and fishing capabilities to develop and apply new acoustic techniques to survey orange roughy stock sizes in particular," Deepwater Group (DWG) chief executive George Clements says.

"Since 1998, quota owners have directly invested \$27 million into scientific research on orange roughy, delivering 37 biomass surveys and 11 stock assessments, in addition to those contracted by Government.

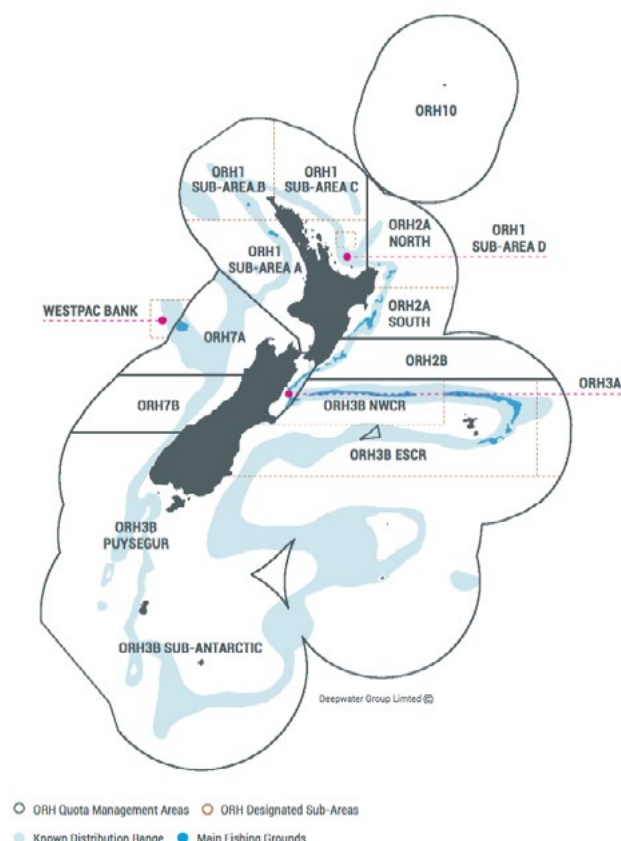
"Without this work, the management of our orange roughy fisheries would not be so well-grounded scientifically and we would not have been able to meet the very high Marine Stewardship Council (MSC) science-based standards.

"Our three main orange roughy fisheries, which together produce 82 percent of the annual catch, are now certified under MSC's programme."

The latest programme, entered into last year, involves a further \$11 million investment in scientific research through the further application of CSIRO's world-leading technologies and scientific expertise, complemented by Deepwater Group shareholders' knowledge, vessels and fishing capabilities in deepwater fisheries.

The programme will deliver in three key areas over the five years: further developments in multifrequency acoustic biomass surveys; undertake surveys to quantify the benthic biodiversity of selected areas; and develop and deploy a robust underwater camera system that can be routinely deployed on commercial trawls to monitor the seabed habitats trawled across.

"There are growing concerns about the possible impacts of bottom trawling, most of which have been speculative, driven by a lack of knowledge and a lack of real-world



Orange roughy fisheries in the New Zealand Exclusive Economic Zone. ORH 3B NWCR, ORH 3B ESCR, and ORH 7A are MSC-certified fisheries

data," Clements says.

"Anti-trawling proponents frequently overstate the impacts of trawling for effect, labelling it 'destructive' without context or without information. Recently, these concerns have been focussed on corals and seamounts.

"Context matters. All forms of food production necessitate some environmental change. On land, even organic farming requires a wholesale change to the pre-existing natural ecosystem. At sea, we do not have that option, as we must ensure the natural ecosystem remains intact and fully functioning.

"Effective management measures are already in place. Ninety-two percent of New Zealand's Exclusive Economic Zone (EEZ) has never been contacted by bottom trawls; 31 percent is closed to bottom trawling by law; and each year we only bottom trawl across 1.1 percent of the EEZ in order to produce 700 million servings of natural and nutritious seafood.

"Assertions of the damage by bottom trawling on deepwater benthic biodiversity have been raised in prominence both globally and in New Zealand.

"For the most part, the impacts have been overstated – fewer than 7 percent of observed orange roughy trawls have coral captures and less than 2 percent of the depths

between 800 m and 1600 m, where orange roughy live, are trawled annually.

"This programme will assess in detail the habitat types and the benthic organisms that occur within the very small areas that we do trawl for orange roughy, that is the 2 percent."

The Ministry for Primary Industries (MPI) and The Department of Conservation (DOC) have contracted modelling assessments to make best estimates of the benthic biodiversity across the exclusive economic zone (EEZ), Clement says.

Epi-benthic species are sessile invertebrates, including corals and sponges, that extend above the seabed and are therefore vulnerable to damage if contacted by bottom trawls. Results to date indicate that most benthic species, including corals, are widespread in their distributions across the seabed, outside our fishing grounds, across our EEZ and beyond.

The Fisheries Act 1996 allows for impacts by commercial activities on non-fish species along with the obligation to ensure that these impacts are not averse to their populations. This does not mean no impact, it means no adverse effects overall.

Requirements under MSC's standards are that fishing practices must be highly unlikely to reduce the structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm. In addition, the MSC standards require the identification and management of fishing on Vulnerable Marine Ecosystems.

"As there is inadequate scientific data to determine the location of epi-benthic fauna, as a first step we need to collect data to establish the nature and extent of these within our fishing grounds," Clement says.

"We can then assess any impacts that may be caused by trawling to establish if these are adverse effects or are likely to reduce the structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm."

The first of the three key areas are continuing the development and application of multi-frequency acoustic and optical systems to better assess the stock sizes of orange roughy and other deepwater species. CSIRO has developed world leading capabilities in the collection and analyses of high-quality video and acoustic information to identify deepwater species and to measure their biomass.

These capabilities have been routinely deployed in New Zealand and Australian waters since 1998, as well as in the Tasman Sea and Indian Ocean, to scientifically assess the biomass of commercial species and to collect information on benthic habitats.

The second priority is to survey and then quantitatively assess the habitats and benthic biodiversity within each survey area (e.g. mud, sand, rock, biogenic areas where there are notable abundances of epi-benthic species or communities) along with the extent of each species'



Spawning plume of orange roughy at 1000m depth

occurrence within biogenic habitats (i.e. corals, sponges and other epibenthic invertebrate communities).

The benthic habitat surveys will be undertaken onboard industry vessels, deploying CSIRO's underwater towed video system with real-time connectivity to the survey vessel. Initially, these will be on selected Underwater Topographical Features (UTFs), underwater hills and knolls on the Chatham Rise and on the Challenger Plateau. There are no seamounts (underwater features with elevations of 1,000 m or more) fished in these areas. Over the five-year period, the plan is to survey the benthic habitats of 20 to 25 of the key UTFs that are subject to fishing.

Once obtained and analysed using CSIRO's artificial intelligence (AI) capabilities, the survey information can be overlaid with other data, such as trawl paths on each UTF, enabling assessments of any impacts of trawling and of the extent of areas untouched by trawling, which may serve as natural refuge areas for key epi-benthic species vulnerable to trawling.

The third of the three key areas is to develop and deploy bespoke and robust UW hardware and software that can be routinely deployed during commercial fishing tows to collect digital imagery of the seabed.

"Given the concerns raised about bottom trawling and the lack of information, it falls to industry to unequivocally demonstrate the low level of impact that we are having on marine benthic biodiversity within our trawl paths," Clement says.

"To do this, we need to collect data on the facts around any environmental impacts of deepwater bottom trawling, starting with orange roughy, have these independently analysed by a credible international research agency, and

inform the Government and the public.

"The purpose of this key area is to routinely collect high resolution photographic and video footage that can be used to identify and quantify the benthic habitat types and their biodiversity we trawl across, commencing with our orange roughy trawl grounds.

"As most of the areas of interest lie between 800 and 1,200 m depth, where it is dark and the ambient pressures are 100 times greater than at the surface, we not only need high resolution cameras and powerful lighting systems contained within a pressure-secure waterproof housing, this equipment also needs to be strong enough to withstand deployment and retrieval from working fishing vessels in rough weather conditions. "

Under the programme, CSIRO and DWG will develop an integrated Industry Trawl Camera/lighting system (ITC) for routine deployment on trawl nets during commercial fishing activities, together with automated methods to analyse the photographic data using CSIRO's AI capabilities.

Initial development work will be focused on orange roughy fishing grounds on the Chatham Rise.

Once developed and proven, CSIRO will provide nine fit-for-purpose underwater camera systems to vessel operators for deployment during commercial orange roughy fishing operations to routinely record information on benthic biodiversity along trawl pathways.

*Epi-benthic species are sessile invertebrates, including corals and sponges, that extend above the seabed and are therefore vulnerable to damage if contacted by bottom trawls

Seafood sector shows continued resilience heading into the new year

Dan Bolger, Deputy Director General, Fisheries New Zealand

We're entering 2022 and looking to the future on the back of a couple of very challenging years.

Like many in the primary sectors, the seafood industry has worked hard to adapt to the challenges of COVID and change operation methods to keep people safe. The fact you have done this while continuing to provide economic security to your colleagues and communities, is a testament to your dedication and resilience.

As of the time of writing there are still significant headwinds across a range of fronts, best evidenced as we watch closely the impacts of omicron in Australia. Adaptation will remain a top theme for 2022. Despite this, we expect over time that New Zealand's high quality seafood products will continue to be sought-after around the world.

MPI published its *Situation and Outlook for Primary Industries* report in December, which forecasts seafood export revenue to rise 2 percent to \$1.8 billion in the year to 30 June 2022.

Last year was an important one for Fisheries New Zealand, as we worked with colleagues across other government agencies to support a new Oceans and Fisheries portfolio with a vision of ensuring the long-term health and resilience of ocean and coastal ecosystems, including the role of fisheries.

One of the key milestones of 2021 was launching the strategy to restore the health and mauri of the Hauraki Gulf Marine Park. It was the culmination of a huge amount of mahi from many people representing a range of interests across the Gulf.

The Strategy, *Revitalising the Gulf – Government Action on the Sea Change Plan*, was launched by the Ministers for Oceans and Fisheries and Conservation in June. It sets out a package of marine conservation and fisheries management actions to restore a healthy Hauraki Gulf and includes a draft Hauraki Gulf Fisheries Plan, tailored to the unique needs of the Gulf.

We're in the process of setting up an advisory group to provide advice and support to finalise and implement the Hauraki Gulf Fisheries Plan.

More broadly, MPI's roadmap, *Fit for a Better World – accelerating our economic potential*, sets out actions to accelerate productivity, sustainability, and inclusiveness of the primary sector, to deliver more value for all New Zealanders.

The plan identifies sustainable aquaculture as a significant contributor to the primary industries productivity goal. It also highlights opportunities for fishing sector transition, including amendments to the rules for landings and returns, the wider roll out of on-board cameras, and supporting innovation to drive environmental performance and create value, with a particular focus on reducing seafloor impacts.

These will all be focus areas for our work together in 2022. As part of this, we are setting up a forum including people from industry, NGOs, and iwi to consider how we better manage the effects of bottom trawling in the exclusive economic zone (EEZ). This is important work so thanks to those who will participate in the forum.

In 2021, MPI's Sustainable Food & Fibre Futures (SFFF) provided support for initiatives in aquaculture aimed at reducing the number of runaway floats that are lost at sea from aquaculture farms and a pilot for regenerative commercial seaweed farming. Both projects are examples of the sector developing new ways to benefit the marine environment while supporting growth of the sector.

As we begin a new year, I encourage anyone with fresh ideas for innovation in fisheries and aquaculture to reach out to MPI's SFFF team to find out how they might be able to support you. There is an opportunity for more seafood-related projects to be funded, and we would like to work with you to explore this. Information, including the criteria and contact details, are available online at sff-futures.mpi.govt.nz.

The team at Fisheries New Zealand are looking forward to the year ahead and working with you all.



Dan Bolger, Deputy Director-General Fisheries New Zealand

Deepsea scientist awarded for mentoring women in science

A deepsea fisheries and ecology scientist at National Institute of Water and Atmospheric Research (NIWA) was recently awarded the 2021 Miriam Dell Award by the Association for Women in the Sciences (AWIS) for her advocacy for and mentoring of women working in science.

Di Tracey began her career working for the then Ministry of Agriculture and Fisheries (MAF) - now part of the Ministry for Primary Industries - where she was often the only woman at sea, working on board research and commercial fishing vessels helping estimate fisheries abundance.

Tracey progressed in this male-dominated field to serve as Voyage Leader on several expeditions. Through her dedication and awareness of fairness and equity issues in the workplace, she has worked to improve attitudes towards women, paving the way forward to allow others like her to go to sea in a culturally safe environment.

Her drive, Tracey says, comes from the lack of diversity still seen in science organisations and universities today, particularly in decision-making roles.

"Women do great science, it is visible in the media, we lead many programmes and projects, and are incredibly capable," she says.

"Why, then, do we remain invisible at the top in the science leadership roles? Why the gaps? Why are we still paid less?

"A lot has changed over the decades, certainly since my early days of being the only woman at sea, but it is clear that there is still gender bias in science and that many inequities remain.

"These challenges make me want to continue to raise awareness and continue to support women in science."

As such, Tracey's talent and passion for mentoring and advocacy reach far beyond her role as a senior scientist. In the early 1990s, she was instrumental in helping establish a crèche at Greta Point in Wellington. Furthermore, she is considered a willing and strong mentor for women working at NIWA centres across New Zealand; established and administers the Greta Point Women's Network; and supervises both Masters and PhD students studying marine biology and earth sciences at Victoria University of Wellington.



Di Tracy with her PhD student, Ashley Davis

Tracey has also been a strong advocate for AWIS. She was the Wellington Convenor for several years, encouraging colleagues to attend AWIS events and take up networking and learning opportunities.

The Miriam Dell Award for Excellence in Science Mentoring was introduced in 2013 and is awarded on a biennial basis to someone who demonstrates outstanding mentoring efforts to retain women in science, mathematics, or technology.

Previous recipients are Judith O'Brien from the University of Auckland (2013), Dr Roslyn Kemp from the University of Otago (2015), Professor Vivien Kirk from the University of Auckland (2017), and Professor Abigail Smith from the University of Otago (2019).

Wellington Trawling Co. celebrates centenary with mural



Winbill

The Basile family, founders of Wellington Trawling and Sea Market, immigrated to New Zealand in 1921 and have celebrated this milestone by commissioning a mural of their boats that formed a huge part of their journey.

The outside wall beneath the large windows and the entire left wall of the iconic Cuba Street fish and chip shop has been painted with the likeness of vessels such as *Norseman*, the first boat made from wood, and the *San Antonio*, which is still in the family but only used 'for fun' - no longer a commercial fishing vessel.

Company owner Tony Basile commissioned local artist Ymre Molnar to paint the pieces after seeing his artwork at

nearby night-owl haunt Midnight Espresso, just a few doors down the road on Cuba Street.

Molnar, working off old photographs, freestyled the images of the ships and used the negative space of the blue wall to create the illusion of the ocean. It took him about three weeks to complete, and some of his favourite details to add were things like the Italian flags, he says.

The whole experience of working on the piece was an enjoyable one, he adds, with customers who came and went wanting to stop and chat.

You can see the artwork at Wellington Sea Market Fish and Chips, 220 Cuba Street, Wellington.



The clever use of negative space creates the image of a vast expanse of sea



The family still have a good time out on the *San Antonio*



Artist Ymre Molnar with the finished mural



Prince Umberto



The Italian flag is a subtle, but much loved, detail



The view from outside (on a rare sunny and calm Wellington day)



The *Norseman* was the first Basile family vessel

Great kai and giving back – Catch & Co, New Plymouth

Lesley Hamilton



Rahul Radhakrishnan at Catch & Co

Rahul Radhakrishnan came to New Zealand in 2011 and is a shining example of the value migrants to this country bring.

A charming and articulate young man, he now owns two businesses in New Plymouth, both with a seafood theme.

He has owned Catch & Co, a fish and chip shop, for just over a year. Down the port a little way is Bach on Breakwater café and restaurant, which he bought three years ago.

"We sell a lot of seafood at the Bach, but it is more of a café and bar," Radhakrishnan says.

"Catch & Co was doing good business until Covid and when it went on the market, I just thought it was an opportunity to expand my businesses. We had a good summer last year and we are quite steady now.

"We were of the mindset that fish and chips does not

work in the winter months but looking back, we have been really busy. And the fact we only do fresh fish brings lots of people into the shop."

Rob Ansley of Ocean Pearl Fisheries supplies most of their fish and they also get fresh seafood from Egmont seafoods.

"It is the freshest fish you can get. Caught in the morning, cut up and served the very same day. You can't get better than that."

Their staple supply is lemonfish, snapper, and gurnard.

"But, if we are lucky and Egmont has any blue cod, hapuka, or kingfish we try to do that as our premium fish, because we have a lot of older clientele who like that now and then.

"Blue cod is popular, and gurnard goes out the door the very same day."

Radhakrishnan, unsurprisingly, is not going to give away his batter recipe but does share that a lot of effort went into it.

"We had to do a lot of trials because the batter has to be light, and it has to stay crispy for a long time. We came up with a very good recipe that is gluten free as well. The customers are shocked when they taste it because they say it tastes just like normal batter."

Radhakrishnan had trained as a chef before he left India and completed his bachelor's degree in hospitality before coming to New Zealand in 2011.

"But when I came here, I had to do another course in order to work in New Zealand. I started in New Plymouth working at the Bach as head chef and then moved to Auckland for a couple of years before realising New Plymouth was where I wanted to live.

"I got the opportunity to buy the Bach off the previous owner. Then I bought Catch & Co and made Taranaki home."

Radhakrishnan is grateful for the opportunity to be in New Zealand, and has now been joined by his wife, his cousin who is now head chef at the Bach, and his sister.

He wanted to give back to the community and he has chosen to support year one to six students at the local Marfell Community School.

"They have a lot of issues getting funding from the government for infrastructure and that's when I thought, well, we got such a lot of help from the government to keep going during Covid, that I should help out other people.

"My staff were getting paid through the wage subsidy and after lockdown we got so busy, I thought I should give back. So, I thought I should do a fundraiser for them. We started 'drop a dollar at the Bach' when people had a meal, and we match that dollar.

"And then I did a fundraiser at Catch & Co. We sold \$5 fish and chips and sold 1000 meals in eight hours."

Radhakrishnan made a promise to Marfell school's special needs' unit and at the end of last year raised another \$4000, bringing the total fundraising up to \$11,000.

But he's not finished yet.

"We are also starting an initiative called 'feed our tamariki' from this month in which 50 students from low decile schools will get invited to Bach on Breakwater to have a feed. It's more to do with their wellbeing and to motivate young kids. It will happen on the first Monday of every month.

"I feel if you do good, you get it back in some way. That's how I see the world."



The fish is straight off the boat at Catch & Co



Students at Marfell School



The secret is in the gluten-free batter

Thai style baked whole fish



Credit: Harbour Fish/The Macpherson Diaries

Seafood New Zealand have just launched a new website, featuring some delicious recipes created alongside Harbour Fish. This Thai style baked whole fish dish is one of our favourites. Visit www.seafood.co.nz/recipes for more.

Ingredients

For the fish

Whole fish, scaled
Flaky sea salt
Oil, good quality & neutral flavoured
Fresh 'flavourings' (lemon/lime slices, Kaffir lime leaves, lemongrass, fresh ginger slices all work well)

For the sauce

½ cup sweet chilli sauce
2 Tbsp soy sauce
2 cloves garlic, minced
1 knob of ginger, minced
1 lemon or lime, juiced
3 dashes of fish sauce (or pinch of salt)
1 heaped tsp palm sugar (or brown sugar)
Kaffir lime leaves or a handful of coriander (optional)

For the garnish

Fresh herbs (Thai basil, mint, coriander work best)
Sesame seeds, toasted

Method

Preheat the oven to 180 degrees and line a baking tray with baking paper.

Rinse the fish and pat dry with paper towels. Cut a few evenly spaced large slits on each side of the fish.

On the baking tray, drizzle the fish with oil and season generously with salt. Rub the oil & salt over both sides of the fish until it's well covered. Fill the cavities of the fish with your fresh flavourings.

Place the fish in the oven. The cooking time will depend on the size of your fish. Around ten minutes per inch of thickness is a good rule to follow. For example, a small-medium tarakihi takes about 15 minutes. Make sure the fish has lost its translucent appearance and

don't forget it will continue to cook when removed from the oven.

While the fish is cooking, prep your sauce by blending all the ingredients together using a stick or jug blender. Adjust flavours to taste.

When the fish is done, transfer it to a serving plate. Drizzle the sauce, reserving some to serve on the side. Sprinkle with sesame seeds and garnish with herbs or fresh greens around the edges.

Living in a shared fishery

Keith Ingram, NZ Recreational Fishing Council

Over the past few months, much has appeared in the media. Bagging or punishing the commercial fishing industry as a whole and some smaller fishermen in part around the coast. Some of this criticism by media has been warranted, and in fact, justified with good reason – some, sadly, has not.

We operate in a shared fishery. Clearly, both baskets contain some bad eggs, so it is beholden on all of us to do our best to catch fish thieving from any source when we see it, as the consequences reflect on all of us. Something I believe we can all agree on.

Around the country MPI and the busy honorary fisheries officers' network, appear to have an unofficial network of coast watchers keeping an eye out for any recreational offending in their local patch. This is quite noticeable in the greater Auckland area, which has two jewels in its crown; the Manukau Harbour and the Hauraki Gulf. Both are on the doorstep of the local population of 1.715 million. Yes, that's just over one third of New Zealand's population, so using best government guestimates, this conservatively equates to some 570,000 recreational fishers. This is one of the reasons why Auckland appears to be suffering from spatial conflict noise in this shared finfish fishery more than the rest of the country.

This background noise has been recognised by many commercial fishers in recent years, with some leading companies adjusting their fishing behaviour to avoid public conflict. A positive move that has not gone unnoticed by many in the recreational fishing community.

The addition of the new 186A closure (Rāhui) encompassing all waters within one nautical mile around Waiheke Island has added confusion to fishers as to whether they can fish inside the one-mile boundary. This Rāhui only affects the taking of tipa (scallops), kūtai (mussels), kōura (crayfish) pāua (abalone), and excludes kina (sea urchins) and all finfish.

So how is recreational fishing in the Hauraki Gulf?

In the lead up to Christmas, the tail end of the equinoctial sou-westerly weather appears to have kept the expected early summer flush of snapper out of the Waitamata Harbour, with many reports of late spawning, even as late as the first week in January. At the time of writing, with cyclone Cody bearing down on us, we were receiving some reports that the fish were starting to move, albeit late, into the harbour on the evening tides.

Some experienced charter boat skippers have expressed concerns about the deteriorating quality of the water in the Waitamata harbour, due to urban runoff. Their concerns are backed by the disappearance of some of the large



worm beds and other ground food sources off the east coast bays and inner harbour that attract fish.

On a positive note, it would appear that the gurnard have started to return and are making their presence felt in the Tamaki Strait, which after a lengthy absence is nice to see.

In monitoring the boat ramps and local tackle shops, general fishing reports remain good with the successful recreational fishers still having to travel distances to Tiri, back of the Noises, Aha's and David's Rocks and the bottom end being the most popular.

For the more venturesome, boats are heading out into the traditional spots in the Hauraki Gulf including Horn and Anchorite Rocks. Or those in the know who are prepared to travel, it's straight across the Firth to the Coromandel mussel farms, where they are not only welcomed by the aquaculture farmers, but encouraged to catch the destructive snapper.

Another species, which is nice to see making a steady return with the bait fish, are kingfish, with a number of anglers landing some nice kingis over the holidays. The downside is the large number of bronze whalers coming in close, along with stories of anglers hooking the large snapper or kingfish of their dreams on 20pound line (10kg), only to have the line go slack in the middle of an adrenalin rushing battle, to be left with a head cleaned nicely off about an inch past the gill plates. How these creatures of the deep do this with such precision has got to be admired.

However, there has been one noticeable downside impacting on all fishers. The high cost of Auckland's petrol, at \$2.49.9 for unleaded, is now making fishers plan ahead, do fewer trips, and make sure they have the numbers on board to share the high cost of fuel. A poor fishing trip can have a significant impact on many sustenance fishers' family household weekly budget.

CLASSIFIEDS



AOTEAROA QUOTA BROKERS

QUOTA TRADER + QUOTA MARKET REPORTS + QUOTA MANAGEMENT + QUOTA CONSULTANCY + AQUACULTURE

ACE FOR LEASE

BCO1, BCO8	KAH8	SQU
BUT2	LIN3, LIN4, LIN6	STN1
ELE1	PAR1, PAR9	TOR1
FLA1, FLA2, FLA3, FLA7	POR3	TRE7
GAR2, GAR3, GAR8	SCH1, SCH4, SCH7, SCH8	YEM9
GMU1, GMU7	SPD1, SPD3, SPD4, SPD5, SPD7	
HOR3, HOR7	SPE2, SPE3, SPE4	
HPB4, HPB5, HPB7, HPB8	SPO1, SPO8	

QUOTA SHARES FOR SALE

FLA3	2.5 tonne
PAD1	PAD5

BOATS FOR SALE

5.05m Allenco dory - Honda 60Hp outboard, GPS/Sounder, road cover - \$25,000 + GST

7.5m alloy, 150Hp Volvo, hauler, ideal live fish or marine farm work horse - \$75,000 + GST

DOMINIC PREECE
Managing Director

PHONE (03) 383 7282 | MOBILE 027 406 0419 | quotabroker@extra.co.nz | www.aotearoaquota.com
HEAD OFFICE | PO Box 6420, Dunedin North, Dunedin 9059



Enovation
Sustainable Solutions

Do you use CHEMICAL LIGHT STICKS or LED LIGHTS in your fishing operation? Please complete the FREE SURVEY BELOW through the QR CODE OR LINK:

<https://www.surveymonkey.com/r/28VMRLZ>



Help us add to the sustainability of the NZ fishery.

For more information: oscar@enovation.co.nz



JOB OPPORTUNITY!

Would you like to be part of the team helping to support the health and wellbeing of our seafood whānau?

FirstMate is looking for a Trust Coordinator.

This is a part time role (30hrs a week) that can be located anywhere in NZ.

For more information, and to apply, go to Seek.co.nz/Job reference 55738133

SPLASHZONE
Marine



www.splashzone.co.nz

All enquiries to Richard or Jean
fish.man@extra.co.nz or 027 230-2333

BNS CRA HPB KIN

TRU
TRE
TAR
SNA
PAU

**ACE &
SHARES**

Inshore Parcels

North Island

WANTED

MOK SCH SPO

BCO
WAR
GUR
LIN

Follow us on Facebook!



@SeafoodNZ



WANTED TO BUY OR LEASE

GUR1
Quota shares or ACE

Contact Mark
Ph: 027 493 5144 Email: info.raglanfish@gmail.com



Marine Services NZ Limited
Specialists in Screw Anchors, Moorings, Jetties & Construction Diving

Screw Anchoring for accurate positioning & strong holding power
Block Positioning to ensure compliance
Commercial Diving for inspections and maintenance
Barging for logistical support
Moorings for Vessels 5m to 40m in length

www.marineservicesnz.com | (03) 573 8045 | info@marineservicesnz.com





COMPLEX PROBLEMS
GUARD
SAFETY
SIMPLE SOLUTIONS

OPERATIONAL WORKPLACE SAFETY


- Training
- Health & Safety videos & E-learning
- Operational risk assessments
- Full safety system creation
- At sea services
- MOSS audit support
- COVID-19 Policies and Procedures support

TALK TO US ABOUT YOUR MOSS AND HEALTH & SAFETY NEEDS

Darren Guard - Managing Director
027 436 2396 | darren@guardsafety.co.nz
www.guardsafety.co.nz

FISHY GIFTS

Check out our great range of fish poster merchandise available at:
www.seafood.co.nz/shop



Contact us at info@seafood.org.nz to discuss a bulk order.



5256 TUNA TROLLER & LONG LINER

LOA 17.6m x B 4.9m x D 2.8m
Main Doosan L126TIH 285kW
Aux Cummins 4BT 67kVA alternator
Onan 18kVA genset
Fuel 14,000 litres. Water 500 litres
20 tonnes ice hold. Good electronics
Bottom & surface line gear
Survey 100 miles Expiry 9 November 2023

GOOD BUYING \$220,000



#5306 MUSSEL SEEDER
11 TONNES DECK LOAD
LOA 12.5m x 4.3m x 1.25m
Caterpillar 3208. Bunk room
saloon/galley. Toilet/shower
3 davits. Palfinger crane
Simrad electronics
Survey to 3 April 2023
PRESENT ALL SENSIBLE
OFFERS **\$200,000**



5297 TUNA & BOTTOM
LINE, TROLLER
L20.6m x B5.4m x D 3.35
Gardner 8L3B 230hp
Perkins 9kVA genset
Fuel capacity 16 tonnes
Ice hold 30 tonnes.
New/refurb living areas
reel 40 miles. Pot hauler
Survey to 2025 **\$395,000**



5301 TROLLER LINER POT
L15.5M Timber hull alloy
house. Detroit 8V92 305hp
10t ice hold, 4 berths fwd
Gas cooker. Toilet/shower.
Pot hauler. Drum 6miles
8mm rope. Tuna poles
Good electronics
Survey 100 miles Dec 2022
\$125,000



#5305 NETTER & BOTTOM
LINER. L21.2 x B6.7m x D2.6m
Iveco main 285hp
Aux driving 40kVA generator
Fish hold 27 tonnes
Gill net drum. Rope roller
Nets & bottom line gear
New survey February 2022
Possible ACE package to
approved buyers. **POA**



5226 WESTCOASTER 60
LINER. L18.636m x B5.95m
Main Cummins N14 400hp
Aux Cummins 35kVA gen
Fuel 8,000 litres
Hold 10 tonnes + 3t bait
32M tuna drum & spare
Survey to October 2022
VERY WELL PRESENTED
VESSEL **\$850,000**



#5299 MARKO 72 LONG LINE
GRP, Built 2001, LOA 21.3m
Main Cummins KT19 600hp
Auxilliary Cummins 4BT
7 x Brine tanks 10.5 tonnes
10t refrigerated fish room
2 x bait freezers. Ice machine
Survey 200 miles Oct 2022
MAJOR REFIT COMPLETED
POA

5295 MARKO GRP CRAY BOAT VG CONDITION

Built 2000. GRP. L 17.5m x B5.4m x D1.7m
Scania DI16076M. 900hp. 352 HRS SINCE NEW
2 x Seawasp 12kVA gensets. Solar power
Gearbox ZF 2.29:1. 3 Station steering
Bow thruster. Fuel 4,800 litres
4 berths forward. Large dinette
Good electronics.
EXCELLENT SEA BOAT
TOP CONDITION **AU\$725,000**



• All prices indicated are plus GST unless otherwise stated.

150 VESSELS AT



Thanks for all the support so far in 2021. If you are interested in any of our programs make the effort to ask about the course guarantee. We will not cancel a course and can start for 1 person at anytime. Reach out and let us help you gain those MNZ licenses in a way that suits your lifestyle and fishing operation.

2021 Maritime Training

- Skipper Restricted Limits
- **Zero Fees** Advanced Deckhand Fishing
- Specified Activity Endorsement
- Maritime Restricted Radiotelephone Operator's Certificate
- Maritime General Radiotelephone Operator's Certificate
- Skipper Coastal Offshore
- STCW Basic
- MEC6
- MEC5
- Workplace First Aid

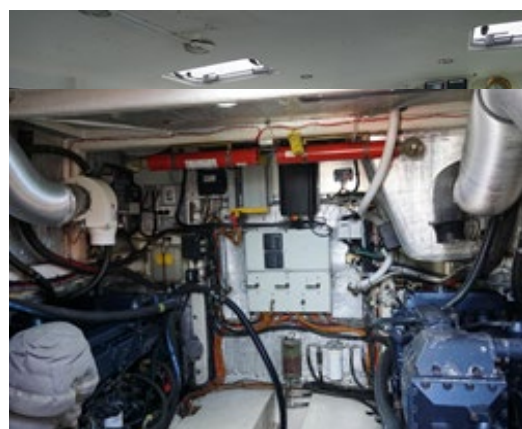
Accommodation available

Contact Peter on 0274 507585

0800DEEPSEA - 08003337732

info@deepsea.co.nz

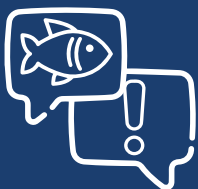
www.deepsea.co.nz



SFMblue is coming

A WHOLE NEW MARKETPLACE, AT THE CLICK OF A BUTTON!

SFMblue is an online trading platform connecting buyers, suppliers, fishers and wholesalers of quality seafood. It is a fast, intuitive, and user friendly tool that will transform the way you trade seafood.



DIVERSE RANGE AND ACCESS

Easy and efficient procurement and ordering tool for purchasing seafood.



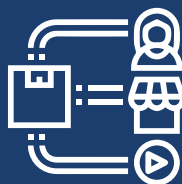
SET PRICE SALES

Use SFMblue to sell fresh product at set price, including while it's in transit to auction.



TRACKING & TRACEABILITY

Receive notifications on how your purchase is tracking in the supply chain and when it's available to collect.



NEW SALES CHANNELS

No longer a market focused on fresh seafood, list your frozen, processed, or long-life product on SFMblue.



If you would like more information on SFMblue,
please contact our team.

service@sydneyfishmarket.com.au or
(+612) 9004 1100