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Seafood

NEW ZEALAND



Helping the Chatham albatross p30

Cover feature: Plant & Food stepping up p20

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EDITORIALS

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In this issue

New Zealand's primary industries have suffered much criticism, often well-founded, for exporting too much of what they produce in its raw form. That is changing across all sectors and the seafood industry has been one of those to see the advantages in adding value before shipping out its products, and in finding new ways to use more of its catch.

The industry can't do that without the help of the science community. The opening of Plant & Food Research's new \$9 million research centre in Nelson last month – the subject of our cover feature - is a welcome step up in that field. This Crown Research Institute is responsible for the Precision Seafood Harvesting system being extensively trialled now. Its scientists have worked with the industry for years in a \$48 million partnership that is starting to prove its worth in maximising the value of what is caught and reducing bycatch.

That is just one of the projects that Plant & Food Research is running. Its hatchery is now breeding thousands of snapper, trevally, blue cod and flounder, offering tantalising possibilities for faster fish growth in captivity as its selective breeding programmes develop, and for building wild stock in depleted areas. It is also working on ground-breaking new ways to get far more from our fish than just fillets – heading for the day when what's left is worth more than the fillets, and will be used across many related industries.

This issue takes a look at what Plant & Food Research is doing in the seafood sector, explores what some of the opportunities are, and talks to a handful of its keen and committed scientists at the time they are settling in to their beautifully-positioned, smart new home at Port Nelson.

That is only a part of what readers will find in these pages. A feature takes you up close to the industry-supported project to save the Chatham albatross, an exemplary community effort to safeguard the future of a majestic and little-known seabird. There's some fantastic images from an award-winning photographer, a broad range of news from across the industry, and our Salt of the Ocean this month is Bluff Fisherman's Radio operator Meri Leask, a Kiwi who has won accolades for nearly four decades of service to those who go to sea.

There's also an introductory piece by Seafood New Zealand's new chairman, Craig Ellison, who says the industry has great stories to tell, and that it's Seafood NZ's job to tell them.

How right he is – and on page 12 you can learn about a coming television and internet campaign that will do just that. With industry-wide funding, it will go to air next month and feature the real faces of New Zealand's seafood industry – exactly what the chairman is calling for.

Tim Pankhurst
Chief Executive

ICES makes a hit down under

Bill Moore

The first ICES meeting in New Zealand has been deemed a great success, with scientists from both hemispheres benefiting from the formal and informal exchange of knowledge.

The International Council for the Exploration of the Sea usually meets in Europe or the United States. Bringing two of its working groups – Fisheries Acoustic Science and Technology, and the ICES-FAO Fishing Technology and Fish Behaviour – for a week-long gathering at Nelson’s Rutherford Hotel was not only a chance for New Zealand to showcase its fishing science, technology and management.

It also allowed far more Kiwi and Australian scientists to take part in the triennial joint gathering and exchange knowledge with their counterparts from the Northern Hemisphere.

The meeting brought together 122 people from 20 countries.

Acoustic Science and Technology chair and meeting convener, NIWA Principal Scientist, Fisheries, Dr Richard O’Driscoll, said scientists from China, Japan and Korea also gained from the meeting being held in New Zealand.

“It’s been good for the ICES people to get exposure to some of the stuff that’s happening in this part of the world, and conversely having all the experts in our back yard, we can suck their brains and build on their knowledge and expertise.”

He said people from overseas liked hearing about what the issues were in New Zealand, and the New Zealanders were able to get contacts to continue the conversations they’d begun.

“That’s what it’s all about.”

The advances made possible by increasing computer power were one focus of the acoustic science group and O’Driscoll said there had been several presentations about using cameras in areas where scientists had previously

only been able to visualise using acoustic systems.

“We were seeing with sound. Now that we’re putting optical observation systems down, we’re getting quite a different view of what we thought was going on.

“We’re also using wideband or broadband systems which are allowing increased ability to discriminate between species, and improved range resolution and that’s only possible because of increased computing power. It’s meaning that we’re able to apply the new technology to old problems.”

He said NIWA had done a lot of work on orange roughy, funded by MPI, and this was in parallel with the acoustic science work by the Australian CSIRO, funded by the industry.

“We and CSIRO have gone at this from complementary angles, and we’re converging on an answer. With different new technologies we’re coming up with the same understanding, and that’s good. It gives you twice as much confidence in what you’re looking at.”

Auckland NIWA fisheries ecologist Dr Emma Jones helped to lead another meeting highlight, a FINZ-sponsored session dedicated to New Zealand trawl gear technology and bycatch issues as part of the FTFB group meeting. She’d talked about selectivity trials being carried out in Hawke’s Bay with local skippers Rick Burch and Karl Warr. Deepwater Group fisheries specialist Richard Wells then led a productive discussion about a range of bycatch issues including kingfish in the jack mackerel fishery, finfish and crabs in the squid fishery, and interactions with spiny dogfish and skates. The gathered experts from overseas had provided a lot of feedback, Jones said.

“A lot of their research is looking at bycatch reduction and avoidance techniques to reduce discarding, particularly in Europe and the US.”

Reducing bycatch in the European scampi fisheries was another key research area where there was an opportunity for New Zealand to benefit.

Jones said ICES was different to many other working groups in that it was about getting together to talk, share

ideas and results, and collaborate. “It was about making connections, and I think they will be made.”



Emma Jones



Richard O’Driscoll



Sealord Resources Manager Graham Patchell (left) talks with Jeff Cardell of CSIRO and Alex de Robertis from Seattle at the ICES meeting in Nelson. Picture: Tim Cuff

AOS gets shown off

Bill Moore

Sealord's trail-blazing Acoustic Optical System drew plenty of interest at the week-long ICES meeting in Nelson, with scientists from around the world keen to learn more about it.

This AOS system, developed by Australia's CSIRO, grew out of a Sealord initiative and the Nelson-based seafood group has been pivotal in funding and driving its development.

It is now ahead of the rest of the world with an instant release system to protect the expensive fibre optic cable that provides real-time data and video to the ship's bridge.

Sealord Resources Manager Graham Patchell said the CSIRO

AOS first proved its worth in 2011 when it showed the orange roughy population on the Chatham Rise was in much better shape than previously thought.

Since then the net-mounted system has been steadily developed and improved.

In 2015 real-time imaging was achieved with the addition of fibre-optic cabling, allowing skippers and scientists to see what was happening 1000 metres beneath them, and able to tune the cameras and acoustic settings as they operated.

The latest addition is the "red button" that will instantly disconnect the cable from the net and the AOS, enabling it to be safely pulled up if there's a risk of the trawl doors crossing and cutting it.

"This is not just a simple thing to take out and count fish," Patchell said. "It's a unit that gives you a lot more information. They've been

tuning the cameras to get lasers pointing down to get the actual length and orientation of the fish much more accurately, and going to high-definition cameras.

"It's all step-by-step stuff that we do with this technology, to ensure that we have sustainable fisheries. That's what it's all about.

"If fisheries collapse, we suffer. We want to look after them. As we keep on saying, we want fish for our children's children."

With a 40-year involvement in fisheries, Patchell said the industry struggled to get its story told, and its message was often blurred.

"Science is about looking for information, developing a hypothesis, testing that hypothesis, and then maybe coming up with a conclusion.

"Don't confuse advocates with scientists."

Acidification study looks for tipping point

Matt Atkinson

Scientists have begun working to see how ocean acidification may affect New Zealand's aquaculture industry.

Ocean acidification is being caused by an increase in atmospheric carbon dioxide, which is being absorbed by the ocean, forcing PH levels to drop and the marine environment to become more acidic.

Shellfish, their shells made up of calcium carbonate, are particularly at risk.

University of Waikato marine microbiologist Professor Craig Cary said his study would look at how nutrient-rich microbes that live in sediment and feed algae, which in turn feed shellfish, will respond to the increased pressures of acidification.

"We're really interested in seeing how resilient each community in the mud is to a changing acid environment

and whether there are any logical or predictable tipping points where the system changes irreversibly," Cary said.

"Fundamentally, the question that was screaming out at me was, in near coastal systems, what will happen to the resident microbial communities in the sediment and how will that affect the regeneration of nutrients?"

The study, one of the first of its kind in the world, will involve three controlled experiments at the Auckland University of Technology's artificial seawater system and then one experiment in the Firth of Thames near oyster farms.

These will test how microbes living in sediment respond to different acidity levels and whether this affects the levels of nutrients they release.

"More nutrients, like having more fertiliser, means you're going to have more algae that is going to grow and that algae is going to be fed on by the filter feeders," Cary said.

"That's the normal cycle, but if we have an acid environment and maybe there is less nutrients or different types of nutrients being bled into the system, you might see a shift in that community, which would cause a shift in the growth

rates of the shellfish.

"So we will be forcing acidification onto the system to see if we can get it to irreversibly change and in monitoring what is happening in the system and the processes, we'll know whether ocean acidification is going to affect nutrient availability which will in turn affect productivity."

There were a number of studies taking place that looked at how climate change was changing the marine environment, all which would be beneficial to industry, he said.

"New Zealand is doing a great job of funding a number of projects that are working together on the problem. That's fantastic and it's really clear how all these projects will dovetail together and I think industry will benefit hugely from that."

The study is a collaboration with Professor Conrad Pilditch and Charles Lee of Waikato University, and Dr Kay Vopel of Auckland University of Technology, and it is funded by the Ministry of Business, Innovation and Employment.

Lobster, paua, oyster order renewals sought

In August the New Zealand Rock Lobster Industry Council, the Paua Industry Council and the Bluff Oyster Management Company will be seeking to renew their commodity levy orders.

If you own CRA, PAU or OYU5 quota, you will be hearing from these organisations this month or in July as they seek a fresh mandate from their levy payers.

As part of this process, each of

the three organisations will hold an independently-conducted referendum so that levy payers can vote on whether they support or oppose the renewal of the levy order. The levy order must be supported by at least 50 per cent of those levy payers who vote as well at least 50 per cent by value of the levy, before it can be approved under the Commodity Levies Act.

Commodity levies – not to be confused with fisheries cost recovery levies – are a form of compulsory levy that is specifically designed to enable primary sector industry groups to fund their own operations independently of government. The seafood industry has been using this funding mechanism since 2002 when the Seafood Industry Council (SeaFIC) first obtained a

commodity levy order.

The rock lobster, paua and Bluff oyster industries all funded their operations under the SeaFIC levy order until obtaining their own separate levy orders in 2013. The Commodity Levies Act requires levy orders to be renewed every five years, which is why the renewal process is occurring this year.

Operations Manager for the Bluff Oyster Management Company, Graeme Wright, is very pleased with the way that commodity levy funding has worked for the oyster industry.

"The commodity levy changed everyone's attitudes," he said. "We see real commitment from quota owners to do the things that need to be done to support the fishery. Because they have a real stake in the BOMC, quota owners



Simon Anderson measures a New Zealand rock lobster at sea.

“The commodity levy enables regional industry organisations like the Paua 3 Industry Association to operate effectively as a group, knowing that a reliable source of funding is available if they need it.”

feel more involved, and are more involved.”

The levy was also a good discipline for managers, Wright said.

“Quota owners pay attention to how their levy is spent and how annual budgets are set. It helps with transparency.”

Paua Industry Council Chair Storm Stanley said the commodity levy order had also benefited the paua industry. “Having a secure source of funding has given us the confidence to embark on multi-year commitments. If we say we’re going to do something, we know we can follow through,” Stanley said.

“Just as importantly, we’ve got the stability and capacity to build long-term relationships with government and other stakeholders.”

The five regional PauaMACs also fund their activities under the paua commodity levy order. Stanley said

something like the Kaikoura earthquake showed how important it was for all the quota owners and divers to work together to protect the fishery and support each other.

“The commodity levy enables regional industry organisations like the Paua 3 Industry Association to operate effectively as a group, knowing that a reliable source of funding is available if they need it,” he said.

Rock Lobster Industry Council Chief Executive Daryl Sykes said he also saw security as the key benefit.

“The commodity levy has given us the long-term security necessary to invest in good quality staff and make a commitment to improving the quality of science and advocacy we are able to undertake on behalf of the rock lobster industry.” He said it was a very equitable form of funding.

“Equity is important in an industry

where there are large and small companies. With a commodity levy, everyone pays a proportional share, whether they are a big quota owner or a small one. That means everyone has a say as well. Having a commodity levy actively encourages participation of all quota owners, especially at the regional CRAMAC level. I don’t think we’d achieve the same level of grass roots participation across our quota owners if we were reliant on voluntary funding.”

– *For more information, contact the NZ Rock Lobster Industry Council, the Paua Industry Council or the Bluff Oyster Management Company directly.*



Graeme Sinclair and son James exploring Fiordland during episode one.

Commercial fishing the focus of Graeme Sinclair's new show

Gone Fishin's Graeme Sinclair's new hour-long documentary series is off to a flying start as it travels the country, and further afield, sharing stories about the diverse nature of modern-day fishing.

Ocean Bounty, kicked off in late April and has been airing on *Three* every Sunday at 5pm.

"The thirteen stories are predominantly about the commercial industry, but in a lot of cases it's also about the environment, science and the nature of a shared fishery," Sinclair said.

"Plus some real bloody characters and unbelievable photography."

Sinclair, a former underwater cameraman and adventure guide, began his TV career in 1993 with *Gone Fishin'*.

Twenty-four seasons and over 600 episodes later, he said *Ocean Bounty* is likely his greatest challenge yet.

"Gone Fishin' is a doddle, you can go out and do it in a day, but some of these shows have taken weeks to film. It requires a different budget and there's a lot more detail in making an hour of television. Ensuring you hold a story for that length of time requires plenty of action.

"This is *Gone Fishin'* on steroids."

The show kicked off in the deep-south, following the establishment of the Fiordland Lobster Company and the unique arrangement of the Fiordland Marine Guardians.

"The first story talked about the fact that in Fiordland the cray fisherman fish outside the fiords and all the internal waterways are available for recreational purposes.

"That is an accord that was reached between commercial and recreational fishers to make sure they work together for the betterment of the resource and it works a treat."

It was a ratings success, winning the all-important age slot of 18-49 and males 25-54.

The show has also explored a variety of other fisheries, including paua on the Chatham Islands, toothfish in the Ross Sea and tuna off the South Island's west coast.

Sinclair said it was an "awesome feeling" hearing good feedback about the show.

"It has been bloody fantastic. It has opened people's eyes to the other side of the story and to see how the businesses work has been surprising for many."

It had been a privilege to tell so many interesting stories, he said.

"One is a guy telling me about how his boat sunk from out beneath him in the Great Australian Bight, when he was a young skipper of 21.

"Another guy is talking about being attacked by a great white. That has quite a bit of impact.

"If you want to learn about commercial fishing, gain a greater understanding of resource management and the investment in science, then check out *Ocean Bounty*," Sinclair said.

"We are talking about sustainable fisheries and sound management plus a strong environmental message, all through the eyes of some pretty amazing people. It's well worth a watch!"

The six remaining episodes will include a look at the Hauraki Gulf, our biggest and most controversial shared fishery, two separate inshore fisheries, - snapper in Nelson and elephant fish in Timaru - and hoki in Cook Strait.

– *Catch up on each episode: go to threenow.co.nz and search Ocean Bounty.*



Tom Searle of Leigh Fisheries (left) hands over the Seabird Smart Award to Mike Black of Talley's Bluff.

Seabird trophy goes from one champion to another

In 2015 Mike Black from Talley's Bluff and Tom Searle from Leigh Fisheries were jointly awarded the prestigious Seabird Smart Award by Conservation Minister Maggie Barry.

On a handshake promise, Searle took the trophy north and, 12 months later,

true to his word, travelled the length of the country to hand it over to Black. Mayor Tim Shadbolt and local MP Sarah Dowie attended a small celebration in Bluff organized by the Southern Seabird Solutions Trust to recognize the two men. Black now proudly displays the trophy in the Talley's Bluff office.

Searle and Black are seabird champions, leading the way in reinforcing the importance of seabird smart fishing practices in the fishing industry. Their commitment has positively affected the attitudes and behaviour of others in their fleets.

As Operations Manager for Leigh Fisheries, Searle is working hard to ensure every longline skipper they do business with attends a Seabird Smart training workshop. He has also helped the Ministry for Primary Industries and Department of Conservation prepare Seabird Risk Management Plans which are now installed on every longline vessel working in FMA 1. He has helped coordinate trips for fishermen to the black petrel colony on Great Barrier Island and is actively working to ensure

fishing takes place in a way that, in his own words "ensures these majestic birds are protected for the months they are in the Gulf raising their chicks".

In his role of Depot Manager for Talley's in Bluff, Black manages 20 vessels from Moeraki to Jackson Bay. When the Southern Inshore Fisheries Management Company enlisted his help in rolling out Seabird Risk Management Plans for inshore trawlers, he had it done within two months. The plans identify the importance of storing any fish waste on board the vessel when the trawl is in the water, the risk time for seabirds.

Black grew up in a household where conservation and fishing go hand in hand. He believes looking after seabirds is the right thing to do and he is using his influence to achieve this. He and his father are also passionate about good rubbish management on vessels. They took part in the Fiordland coastal clean-up in 2015 and will help in a clean-up of the southern coast of Stewart Island this year.

Nominate a mate

Here's your chance to spread the word about your fleet's achievements. Nominations are now open for the 2017 Seabird Smart Awards, so if you know someone who is making an extra effort

to look after seabirds go online and nominate them.

The awards are run by the Southern Seabird Solutions Trust and aim to recognise outstanding leadership and commitment to looking after New Zealand seabirds. You could nominate a skipper or crew, a manager, or even a vessel. Basically it can be

anyone associated with fishing in any kind of role.

The 2017 awards function is timed to coincide with an international meeting of seabird experts from thirteen countries being held in Wellington in September.

- Go to southernseabirds.org to submit your nomination.



Nominate a mate!

2017 Seabird Smart Awards



Who do you know that is going the extra mile to look after seabirds while fishing?

It could be an individual, a crew, company or organisation committed to making a real difference for seabirds.

Nominate them for the 2017 Seabird Smart Awards.

- Nominate online at southernseabirds.org
- or request a form from info@southernseabirds.org

Nominations close 10 August 2017



Photo: Neil Fitzgerald

New Yorkers enjoying Kiwi eels

Growing US consumer demand has helped increase New Zealand eel exports, particularly to New York, according to new data.

Statistics New Zealand export figures show sales of eel to North America grew by 115 per cent last year.

Award-winning US restaurateur and executive chef for Hawaiian Airlines Chai Chaowasaree said while the freshwater fish was not yet a common menu item throughout the country, increasingly eel was found in a more diverse range of restaurants.

"Historically eel has long been a staple in Asian and particularly, Japanese sushi restaurants across North America and now we are seeing it incorporated into other styles of cuisine."

One upmarket French restaurant in the SoHo district now serves a blood sausage and eel dish while a

West Village delicatessen offers an eel sandwich with horseradish cream, greens and maple sauce and keeps a live eel tank on site.

Another high profile West Village restaurant serves eel tartine and a smoked eel salad.

On the lower east side, you can also buy smoked eel wrapped in yuba noodles served with corn flakes as a brunch dish.

Chaowasaree said eel in the US was usually smoked, grilled, or stewed. However, his favourite recipe was more traditional.

"I like it grilled, topped with Kabayaki Sauce, and served over sushi rice." He said eel could taste muddy so the smoky and sweet flavours of the Kabayaki sauce helped to mellow the taste.

Senior Director of Hawaiian Airlines cargo division Brad Matheny said the carrier's own figures showed impressive growth for the niche export.

The airline helps New Zealand exporters deliver thousands of live eels to New York each year.

"The second half of 2016 was particularly strong for Kiwi eel exporters, our figures show eel shipments from

New Zealand were up more than 2600 per cent on same period in the year prior - with all of this product delivered to NYC," Matheny said.

Offering the fastest widebody service between Auckland and JFK airports had helped Kiwi exporters provide a high quality product to their consumers in New York.

"New Zealand freshwater eels need to be kept at a specific temperature and have a limited shelf life.

"By reducing transit time, we have increased the speed at which we can bring the goods to market and ultimately improving the freshness of the product on arrival," he said.

More than \$584,000 worth of New Zealand eel was shipped to US wholesalers last year - up from \$271,000 in the previous year.

The growth trend for US demand for eel is much higher than the rest of the world which showed a 39 per cent decline in sales in the previous year. North America now takes almost a third of all New Zealand live eel exports - this is up from less than 10 percent in the previous year.



Director Tim Parsons and Producer Craig Henderson release a drone on the Kaikoura coastline. Picture: Jo Currie

Industry to launch television campaign

Lesley Hamilton

A television and internet-based communications campaign featuring the real faces of New Zealand's seafood industry is currently in production and due to go to air in early July.

With industry-wide funding, the campaign aims to address a fall in the reputation of the industry following events in 2016.

Seafood New Zealand Chief Executive Tim Pankhurst said two Nielsen surveys last year showed the industry had taken a hit.

"In the July survey the industry's ranking had fallen from number two, just under the wine industry, to fifth, below forestry and dairy.

"This was as a result of the release of the spurious and widely discredited Simmons Report, which alleged discarding was 2.7 times greater than reported. This was followed by Operation Achilles and the Heron Report, neither of which painted the industry in a good light.

"While we rebounded somewhat in the December 2016 survey, industry directed Seafood New Zealand to address the reputational issues

through an advertising campaign," said Pankhurst.

The campaign is expected to run over three years, in addition to the day-to-day advocacy work and responses to specific issues.

A 45-second television commercial will show still images of the industry's workforce; from the skippers to the men and women on the filleting line, the deckhands and the forklift drivers. The voiceover will deliver a promise to New Zealand from the industry to continue to be guardians of the ocean into the future, with innovation driving sustainability.

The "Promise" will be underpinned with a code of conduct, which will be signed by the chief executives of all the participating companies. This will become a report card for the industry that will be reported back at the annual New Zealand seafood industry conference.

The campaign will be supported with filmed 2-3 minute episodes to play on the internet which delve deeper into the innovative practices that make New Zealand's fisheries management world leading. These "webisodes" will have a 15-second television commercial that invites the viewer to learn more by visiting the Seafood New Zealand website.

"The campaign has wide industry support, and while not every quota owner is signed up, or contributing to the cost, we hope others will join as we roll out years two and three," Pankhurst said.

"Some will say there is no need to

defend our reputation, pointing out, quite rightly, that the New Zealand seafood industry leads the world in sustainability and innovation.

"However, the truth is often not the public perception," he said.

"In this campaign, we are addressing the public's view, which is often formed by very slick, politically motivated campaigns by the industry's opponents.

"In the past, we have mostly let these misperceptions lie unchallenged. We can no longer afford to do so."

Globally, reputation and trust are increasingly the most important issue for companies and industries. The Edelman Trust Barometer is a respected online survey that is run in 28 countries and measures trust in NGOs, business, media and government.

"What the 2017 barometer makes quite clear is trust for business is falling," Pankhurst said.

"The seafood industry has the data to show we are not immune to that. In a world where the public will more likely believe a Facebook campaign to a company press release we must actively promote ourselves.

"To do that, we must also address the perceptions the public have of us, whether or not they are misinformed.

"A glossy public relations exercise is futile if it is seen as such. While promoting how great we are we must also admit we don't always get it right.

"The industry has been widely consulted on the campaign and the end result reflects a lot of compromises," he said.

"We think we have it about right."

Lessons from seabird deaths

The accidental drowning of 101 seabirds while a trawler's gear problem was being fixed was an unprecedented event that will result in new training and procedures, the company involved has promised.

DW New Zealand, part of Dong Won Fisheries, which operates three New Zealand-flagged vessels in the New Zealand fishery, said it would be taking extraordinary measures to educate its crews about bird capture risks.

The Dong Won 701 was deploying its net while trawling for squid to the east of Stewart Island, with bird mitigation measures in place, when it had a fishing gear failure.

The crew tried to fix the twisted gear as quickly and safely as possible, but while they were working on it, the empty net was sitting on the surface. A large number of small seabirds flew into it and subsequently drowned. The Ministry for Primary Industries observer on board counted 101 birds in total, 76 sooty shearwater (muttonbirds) and 25 white-chinned petrels.

DW New Zealand Chief Executive Tae Wang said his team was very upset about the event.

"We're feeling really bad about what happened and we're very sorry about it and so is the company for which we were catching the squid – Sanford Ltd. We have been fishing here for 28 years and have never seen anything like this before - in fact we understand that no one has seen anything on this scale, it was just so unusual.

"We've talked to our crews and made it extremely clear we all need to do our best to make sure this doesn't happen again."

Tae said there were two key lessons the company was communicating to its crews. First, they should always be aware of bird activity and any unusual behaviour from the seabirds around them. Second, if there was a gear failure, the net was to be taken back out

of the water, if at all possible, while the problem was fixed.

"These lessons will be clearly repeated to our staff and we expect them to act on them," he said.

The Seabird Advisory Group, which is made up of Government, NGO and industry representatives, has been notified and the Deepwater Group will be building the lessons into its operational guides.

The Deepwater Group (DWG) is the organisation tasked by quota-owners to help deliver industry-agreed environmental risk reduction procedures and standards across the deepwater fleet.

It was advised by the vessel

immediately after this incident, as is required in its Vessel Risk Plan. The DWG reviewed what happened, and both the fleet and vessel were advised of ways that the risk of an incident of this nature could be avoided in the future.

DWG seabird specialist Richard Wells said the fishery and gear type involved had been highly observed for many years, and there had been no event like this before. It demonstrated that, as with most risk management programmes, constant vigilance and rapid response to the prevailing conditions is required at all times.

"This has been reinforced with the vessel and the fleet as a whole," Wells said.

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Seaweed for school lunches

Australian researchers are working on a lunchbox jelly snack made from seaweed and lobster shell to help children boost their calcium levels.

Developed in South Australia by researchers at Flinders University in collaboration with the Commonwealth Scientific and Industrial Research Organisation (CSIRO), the dairy-free food aims to be a highly nutritious alternative to dairy products.

Known as SeaNu, it is being created to address the increasing number of children who shun milk products for cultural or personal reasons. It is aimed for commercial release in Australia early next year with an Asian launch to follow.

Director of the Centre for Marine Bioproducts Development at Flinders University Professor Wei Zhang said SeaNu would target global health markets but was best suited for Asia because of the high regard for Australian marine products.

"In Australia, one in six people

avoid dairy and that applies to children also," he said.

"In general, calcium deficiency is a global issue and there is a need for products that have no dairy.

"Many Asian countries also do not typically eat large amounts of dairy products and we are hoping to definitely target there soon after we commercialise the product in Australia."

SeaNu is a product of Flinders University technology that reconstitutes biological material to make it suitable for human consumption.

Professor Zhang, who is president of the Australia-NZ Marine Biotechnology Society, said farmed and wild seaweed were widely used in Asian countries and some parts of Europe as vitamin and mineral supplements.

Seaweed is not only rich in trace minerals, calcium and vitamins but is a low-calorie source of protein and fibre, responsible for up to 20 per cent of the Asian diet. The seaweed food ingredients business is worth an estimated US\$1 billion. Lobster shell is also high in calcium and protein.



Global award to Sanford boss

Sanford Chief Executive Volker Kuntzsch has been named 2017 Person of the Year by Intrafish Media, it was announced at the Brussels Seafood Show.

The judges consider executives from around the world, looking for exceptional leadership, innovation and inspiration in the global

seafood, fisheries and aquaculture industries.

Kuntzsch was selected for crafting a vision to make Sanford a world leader through investment in employees, sustainability and products that add value to New Zealand's fisheries resources.

A judge said there'd been feedback that Kuntzsch's conference speech was one of the best many people in the industry had heard.

The award has been running for 10 years.

Fanworm spreads

Mediterranean fanworm, a threat to the aquaculture industry, has extended its South Island spread to Port Taranaki in Golden Bay.

It was discovered there in September while divers were clearing the less harmful stalked sea squirt.

The fanworm, *Sabella spallanzanii*, was first found at Lyttelton in 2008 and biosecurity officials have said it is too widespread to be eradicated nationally.

Thought to have arrived in

New Zealand from Australia, it is rampant in Auckland's Waitemata Harbour and present in Whangarei, the Coromandel and around Picton. The first Port Nelson finding was in 2013.

Numbers are still low in the top of the south and the Nelson, Tasman and Marlborough councils are considering a joint management plan accessing Biosecurity Act powers to inspect boats and marine structures and enforce control of infestations.

Tasman District Council Biosecurity and Biodiversity Co-Ordinator Paul Sheldon said the fanworm could quickly become established and was poised to

spread to marine farms and natural ecosystems.

"It will readily settle on mussel grow-out lines and may reduce mussel growth by altering water flow around the lines and competing with mussels for suspended food.

"Co-ordinated and timely response are required to slow and contain the spread."



MSC marks 20 years

The Marine Stewardship Council has marked the 20th anniversary of its founding by setting out its strategy for the future, including its aspiration to have more than a third of global marine catch certified or engaged in the MSC programme by 2030.

The current figure is 14 per cent and the interim target is 20 per cent by 2020. The London-based non-profit organisation, initiated by WWF and Unilever, said it would focus on ecosystems under-represented in the programme but where catches and the threat to biodiversity are high.

In addition to tuna and small

pelagic species, new priority species would include squid, octopus, crab and seaweed, it said.

It would maintain its efforts to ensure it continued to meet global best practice in sustainable fisheries management. New measures for labour practices would be introduced, and new tools and systems to make the certification process more efficient, credible and user-friendly.

It would also increase its scientific engagement and research, work to expand markets for sustainable seafood and campaign to build public awareness and support for sustainable fishing and the MSC's ecolabel.

MSC Chief Executive Rupert Howes said the strategy prioritised those parts of the world, species and markets which could have the most significant impact on the health of the world's oceans.

"While there is much to celebrate, there is also a growing sense of urgency to address unsustainable fishing and deliver Sustainable Development Goals. This is a critical time for our oceans," Howes said.

Industry backs TPP move

The seafood industry welcomed Trade Minister Todd McClay's announcement that the Cabinet would ratify the Trans-Pacific Partnership (TPP).

Seafood New Zealand chief executive Tim Pankhurst said the industry relied on trade, as did wider New Zealand. "We exported \$1.8 billion of seafood last year and free and open access to markets is critical for the industry," Pankhurst said.

The TPP ratification sent a strong signal that New Zealand continued to support the agreement despite the withdrawal of the United States. "There are still very valuable markets for New Zealand among the remaining TPP countries and ratification is a show of faith in a future agreement that will be of benefit to the seafood industry," he said.



New sales manager for Chilltainers

Sustainable thermal packaging company Chilltainers has appointed Rob Henderson as National Sales Manager.

Henderson has been involved in the food packaging and construction industries for more than 20 years and said Auckland-based Chilltainers was leading the way for responsible packaging and quality assurance.

He said that as a qualified chef, and a keen recreational diver and fisherman, he understood the requirement for freshness and

quality.

"Being aware of environmental issues, educated customer choice for sustainable products in packaging and waste disposal issues at final destination – I believe Chilltainers are the best receptacle for shipping and freighting perishable goods," Henderson said.

"I am passionate about New Zealand foods and proud to be linked to local and export markets supplying the world with undoubtedly the best proteins and produce."



Rena in schools

Maritime NZ and the Education Ministry have combined to produce an article for school students on the grounding of the Rena, New Zealand's most significant maritime pollution emergency.

"What now for the Rena?" focuses on the long-term impact of the grounding and the factors considered when deciding on the wreck's future.

Maritime NZ Director Keith Manch said the 2011 grounding on Astrolabe Reef near Tauranga was a major maritime event.

"Most of the 360 tonnes of oil, plus other pollution, was cleared within months, but the environmental, social, economic and cultural impacts continued for years and affected Tauranga and its iwi.

"As a country, because of the Rena and other emergencies like the Christchurch earthquakes, we have changed how we think about emergencies – how we prepare, respond and recover," Manch said.

As much as possible was done to address the effects and return to normal but it had to be understood that recovery could be very challenging and take many years, he said.

Tuna aquaculture study funded

US researchers have signed an agreement to advance land-based aquaculture technology for high-value fish such as tuna and Japanese flounder.

The US\$1.5 million three-year agreement between the University of Miami and New York-based Aqqua LLC US is aimed at improving hatchery and other aquaculture technologies.

Aqqua founder and CEO Charlie Siebenberg said the first step towards implementing viable land-based aquaculture was to find and select species that could be raised in recirculating systems.

"For this reason we have teamed up with University of Miami Aquaculture to identify and select high-value species that can be raised at high stocking densities in such systems."

The research will be done at the university's experimental fish hatchery, close to downtown Miami.

More than 90 per cent of seafood consumed in the US is imported, with most of it farmed.

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Calling all seafood industry stars

Excellence and innovation in the seafood industry are again being rewarded with the Seafood Stars Awards that will be presented at the New Zealand Seafood Industry Conference this year, Chief Executive Tim Pankhurst says.

"The awards are a great way to reward innovation and excellence within our industry and tell stories about our seafood, our people and our ongoing commitment to sustainability.

"We are seeking nominations

now and urge you to select your star achievers and tell us why you think they are the best choice."

Seafood Star Awards will run across all facets of the industry and will be presented to those who have made a significant contribution to the seafood industry:

1. Future Development Innovation Award - *This award is presented to the entity that has developed a new technology that does one of the following;*
 - reduces waste by adding value to by-products or waste, or
 - reduces adverse impacts on the marine environment of fishing or farming seafood, or
 - reduces adverse impacts of fishing or farming seafood on protected species, or
 - increases the efficiency of production of seafood, or
 - makes a significant contribution to health or science
2. Young Achiever Award - This award is presented to a person,

35 years of age or under, who has demonstrated that he or she has made a positive difference to the seafood industry, and has the potential to continue to develop as an effective and respected seafood industry leader or role model.

3. Longstanding Service Award - This award is presented to a person who has demonstrated that he or she has made a substantial positive difference to the seafood industry over many years, and who has been a highly effective and respected seafood industry leader.

The awards will be presented at the 2017 New Zealand Seafood Industry Conference on Thursday, August 3 at Te Papa, Wellington.

Nomination forms can be downloaded at www.seafoodnewzealand.org.nz/industry/seafoodstars or request from Karen.olver@seafood.org.nz.

Nominations close on 30 June 2017.

Too tired to fish

#1



JANGLE JIM ALWAYS MADE SURE THAT HIS CREW GOT SLEEP, BUT NOT HIM. AFTER ONE REALLY ROUGH TRIP, JANGLE SENT THE CREW TO GET SOME SLEEP AND KEPT WATCH.

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.

BUT HE HAD AN AUTO PILOT, RIGHT?



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We have great stories to tell – and it will be the role of Seafood New Zealand to tell them.”



Seafood New Zealand's new Executive Chair Craig Ellison.

Not time to hide our sweetness

Craig Ellison

Kia ora koutou katoa.

In April I took over the role of Chair of Seafood New Zealand. Thanks to my predecessor George Clement for the duties he performed in this role.

So what have I stepped into?

The environment for the industry is much changed from that when I first entered the sector through our family fishing company Otakou Fisheries, based in Dunedin. What largely remains is the passion of those involved and the desire to be excellent practitioners in a complex, challenging, and at times dangerous sector that offers significant rewards to those who succeed.

What is different is the overlay of disciplines that must be met and understood, in order to maintain a presence in the industry. Those are compliance driven, with safety (both food and people) a constant consideration.

The Quota Management System is well positioned to deliver the stock sustainability assurances that we as investors demand, while we continue to innovate in terms of how we assess what level of fishing we can pursue.

Our markets are a mix of traditional and new, all exciting and challenging – but the returns for the industry have never been better with achieved revenues of \$2B.

Technology and change are to the forefront – from how we land and report our paua catches, to the supertrawlers being constructed and refurbished for the New Zealand deepwater fisheries.

Confidence within the industry on how we operate remains high.

That confidence is not shared as widely amongst New Zealanders as we would like – or indeed expect.

Recapturing and rebuilding that confidence will be a principal focus for Seafood New Zealand and for my role as Chair. It is an essential requirement for the 24,000 or more New Zealanders who depend on this sector – and are justly proud of their contribution.

And if the public confidence in us is uncertain – that will inevitably reflect in how our politicians view us.

Therefore our engagement – with both politicians and the wider public – must be genuine.

We have great stories to tell – and it will be the role of Seafood New Zealand to tell them.

The industry contributes an enormous amount to the country – and that contribution is at times unjustly criticised. It is time to turn that view point around. No other sector has looked to adopt such a radical system

as the Quota Management System, and then champion it for several decades! Look how far behind us are the discussions around water rights – and at the similarities those discussions are encapsulating.

No other sector has had to deal with and successfully resolve the huge issues of indigenous rights – as Peter Talley said “Thank God for the Treaty!”. The work of a revitalised Te Ohu Kaimoana is great to see, as is the continuing integration of Maori within the industry. Great progress has been made in Maori engaging in the “business and activity” of fishing – even if at times it is too slow for my liking!

A Maori whakatauki states – it is not for the kumera to say how sweet it is – and most Kiwis are self-effacing – but that has left us as seafood sector participants open to attacks on our standing, and on our reputation. It is time to talk of our sweetness! It is time to express our pride in what we do and win back the rightful reputation as a hard-working, conscientious, innovative, caring and contributing sector.

I look forward to working with Tim and the team at Seafood New Zealand in advancing this work, and look for your support across this important kaupapa.

**Kia ora
Craig Ellison**



NEW ERA FOR PLANT & FOOD RESEARCH

"We've got a good spread of disciplines and people – we're at a good point in terms of capability where we can get our teeth into the continuation of research."

- Plant & Food Research Nelson head Helen Mussely







Plant & Food's new Nelson Research Centre. Picture: Plant & Food Research

“We are global players when it comes to the ocean and the fisheries space.”
– Nick Smith

New research centre hailed as seafood industry's 'ideas factory'

Bill Moore

Plant & Food's new research centre in Nelson has set the Crown Research Institute up to be “the ideas factory” for one of New Zealand's leading industries.

This was the message from Environment Minister and Nelson MP Nick Smith when he officially opened the \$9 million centre at Port Nelson last month.

The new building, which adjoins the hatchery opened in 2014 where thousands of snapper, trevally, flounder and now blue cod are bred and studied, houses 50 scientists and support staff.

Purpose-built by Port Nelson Ltd and designed by Jerram Tocker Barron Architects, it includes laboratories, offices, a conference room and a flow tank area for testing underwater gear such as the Precision Seafood Harvesting (PSH) system Plant & Food has developed in a \$48 million project.

It all sits right beside the Talley's

Nelson wharves and factory and just across the marina channel from the inshore fleet's berths.

Opening it at a function attended by a large gathering, Smith said the fishing industry contributed \$2 billion a year to the economy, and employed 40,000 people.

“This investment in research and technology is about not only protecting that employment and that base, but looking where there is opportunity into the future.”

He said New Zealand was “a bit of a pipsqueak” in the world economy, but its oceans gave it the fourth largest Exclusive Economic Zone.

“We are global players when it comes to the ocean and the fisheries space.” The seafood industry, particularly aquaculture, had some of New Zealand's biggest growth opportunities over the next 25 years if the science and sustainability were properly developed and managed.

The new centre was “a statement of confidence in New Zealand's marine industries and the role that science needs to play in the future of the fisheries”, Smith said.

Plant & Food Research's Nelson seafood centre has grown from a handful of DSIR scientists in the 1980s into two large science groups, one working on seafood production and

the other on marine products and processing.

Until now most of the scientists have been based in an old and decaying multi-storey building on the Nelson waterfront opposite the harbour entrance.

Alastair Jerrett leads the seafood production group, which until now has been split between the old building and the new hatchery, several kilometres distant. Sue Marshall's marine products and processing group has been based at the old building, and also has a team in Auckland working on food safety.

The scientific disciplines across both groups include physiology, biology, bioengineering, breeding, genetics, biochemistry and microbiology.

The overall focus is maximising value from New Zealand's seafood resources. Jerrett's team works on harvesting, handling and production technologies – it came up with PSH - and fish physiology and behaviour. Marshall's team focusses on high-value products from marine resources, industrial-scale processing, and understanding and managing food safety and shelf life. Among other things it has discovered how to turn hoki skins into cosmetic products, and nano-fibres used in filtering systems.

Between them the two groups are helping to steer the seafood industry

towards new ways to both increase production and add value to the resource that's already here.

The overall head, General Manager Science, Seafood Technologies, Helen Mussely, said the division was to some extent arbitrary, with significant collaboration.

"We try to find projects and programmes where we can use skills and expertise from both groups, and work together.

"You've got commercial clients who might have different research needs to the more fundamental science, and you don't want to drop fundamental research – it's that work that leads to discoveries that can then support industry further down the track. We do balance that through the different programmes."

MBIE-based funding for the Export Marine Products programme was supplemented with funding from a number of companies which in turn got access to all the basic research, plus research specific to their needs. PSH was co-funded by MPI and industry.

There was also internal funding through the overall Plant & Food budget.

"Often that is used for some of the stretchier, higher-risk, more fundamental research that might develop something that can then be applied to industry," Mussely said.

"It's a balance of applied and fundamental research, but it's fair to say that we're more at the applied end, working with industry, aquaculture, and that sort of thing."

She said the old building had "treated the group well" but was no longer fit for purpose.

"The new building has been designed for us and the work we do. It's purpose-built and has what we need to continue with our current programmes and also future research programmes."

One of the best things was that it would bring the entire team together on one spacious, open-plan site, giving easy access to the work spaces of others and "allowing those tea-room and corridor discussions where you can chew things over".

"We're looking forward to being able to bring the people that we work with – funders, industry, clients, colleagues – on site and have spaces for meetings, seminars and workshops that we can feel good about."

The new centre and the hatchery together include eight laboratories and finfish tanks totalling 325,000 litres.

Mussely said the the new building showed how committed Plant & Food was to the seafood industry, and how much the Nelson work had grown.

"Now we're at a point where we don't have to necessarily keep growing in terms of numbers – we've got a good spread of disciplines and people – we're at a good point in terms of capability where we can get our teeth into the continuation of research," she said.

The scientists were excited about the future.

"There's all sorts of opportunities in the aquaculture space for finfish, not just the production and the biology side of things, but designing aquaculture systems for New Zealand that can enable the industry to move ahead.

"PSH has been great but there are always more things that we can look at.

"Our knowledge of our marine resources and what we can do with them is growing all the time and there is more and more interest in what we can do with the bits of the fish that in the past have been considered waste, and are now showing the potential of being the basis for new industries."

The task was to make improvements to how fish were caught and how they were grown, and what to do with them once they were caught or grown.

"There's some big gains to be made. It's wider than just the fishing or aquaculture industry now."

Port Nelson Ltd Chief Executive Martin Byrne said the project was a joint initiative that the port company hoped would grow into a larger seafood research precinct in the same area.

"There's a good opportunity to turn it into something really meaningful for the seafood industry."



Helen Mussely in the new Nelson Research Centre. Picture: Plant & Food Research.



Plant & Food chair Michael Ahie (left) and Environment Minister Nick Smith unveil the commemorative plaque during the centre's official opening. Picture: Plant & Food Research



Geneticist Maren Wellenreuther feeding juvenile snapper in the hatchery at Port Nelson. Picture: Plant & Food Research

Promising future for hatchery's Kiwi finfish

Bill Moore

Snapper and trevally are on the way to eventually being commercially farmed in New Zealand thanks to a Nelson research programme spearheaded by a geneticist from Germany.

Plant & Food Research Senior Scientist Maren Wellenreuther came to New Zealand on holiday, met her future husband – also a scientist – and stayed on to complete a PhD. After an eight-year stint in Sweden the couple returned to New Zealand, where both joined Plant & Food.

For the past 2 ½ years Wellenreuther has been based at the Crown Research Institute's Nelson hatchery, overseeing research on thousands of snapper and trevally.

Snapper breeding began more than 10 years ago – with the bonus of 90,000 small fish surplus to the scientists' requirements being released over the last two years.

The research has been focussed

on gaining a deeper understanding of this species that is culturally and commercially so important to New Zealanders, looking to the future when cultured snapper might supplement the very high quality wild snapper catch.

Under Wellenreuther, selective breeding for faster growth rates has been given a greater focus.

"We know we can produce snapper reliably in large numbers, we have a good broodstock, we understand how we can raise them into healthy snapper," she said. "While similar species are grown commercially around the world under similar conditions, the one bottleneck is that they may grow too slowly to be viable for the New Zealand industry. Snapper have a number of potential advantages as an aquaculture species including an impressive feed conversion rate and low mortality."

It was thought it would take 3-4 years for hatchery-raised snapper to reach around legal size and a weight of 300-400g. Recent trials suggest otherwise.

The goal isn't to produce big fish – the market will decide the optimum size – but to have them grow fast enough in sea cages to be harvestable after two years.

"We think it's highly likely that we can do this, for two reasons," Wellenreuther said.

Larvae in the hatchery show very different growth rates, suggesting an underlying potential for using selective breeding to speed up growth.

Secondly, Japanese scientists have more than doubled the growth rate of snapper's closely related species, red sea bream. This has also been achieved with related species around the Mediterranean.

"Once we can demonstrate the potential for snapper culture, then I think it will be up to the industry to decide if rearing snapper is commercially attractive. We would then see our responsibility as sharing the knowledge, and helping them to set it up."

Plant & Food has assembled the genome for snapper, a first for any native finfish species and an important source of information for the researchers.

The team has also developed methods to provide images of thousands of snapper in very short time-frames, allowing the scientists to build knowledge on the characteristics and growth of individual fish.

"In the next breeding season we are going to do the first targeted breeding cycle where we will only select a few individuals with the highest breeding value out of the thousands we have – we know those individuals carry exactly the

genes we want and we'll do targeted crossing," Wellenreuther said.

The changes happen one generation at a time.

"Every three years we get a new generation so we think that in 10 years we should see quite some improvement."

There has also been great interest in the snapper programme from recreational fishers excited by the potential of the hatchery fish for catches in the top of the south. It's too early to know the long-term survival rate of the annual releases – but easy to tell a hatchery-raised fish from a wild one. For reasons not yet fully understood, the nostrils of hatchery fish fuse into a single opening on each side. Wild fish have two.

This makes identification easy, and Plant & Food hopes that the fishing public will latch on to the difference and get more involved in the programme.

Snapper have so far grabbed most attention but Wellenreuther is just as excited about trevally, a fast-growing fish that is favoured for sashimi and carries a high value in Japan.

Two years ago the Nelson scientists got captive trevally to spawn.

"We have produced offspring from them successfully, and they are showing fantastic potential," she said.

"Everything about them is amazing – they have very fast growth, and we have currently 20,000 trevally, about 1 ½ years old. This is a species we'd really like to focus on. It ticks all of the boxes."

The team, with Ngai Tahu support,

has also recently announced that it has successfully bred blue cod in captivity, another first, with several thousand tiny fish being reared in hatchery tanks.

Wellenreuther said the new research centre, which adjoins the hatchery on reclaimed land at Port Nelson, includes a high-security molecular lab that will allow the scientists to expand their research.

She said the native finish breeding programme on snapper and trevally was a first for New Zealand and the scientists were passionate about it.

"I would feel extremely proud if we had an aquaculture release species here in 10 years. That would be fantastic – and a good thing for New Zealand."

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Analytical chemist Daniel Killeen. Picture: Plant & Food Research

Omega-3 potential to add value 'enormous'

Bill Moore

Scientist Daniel Killeen is working on New Zealand fish oils and believes that there is enormous potential for this country's omega-3 products to develop into a major industry.

The Irish analytical chemist joined Plant & Food Research in Nelson two years ago as a marine products scientist, and specialises in fish oils.

He was in the news earlier this year when his laser-based Raman spectroscopy tests carried out in association with the University of Otago, where he previously studied for his PhD, showed that 11 brands of fish oil supplement capsules sold in New Zealand contained oil in line with the label claims.

This contradicted a much-disputed 2015 study which argued that only three of 32 oil supplements met what was on their labels.

"There never really should have been such a furore," Killeen said.

"Science is a combination of many studies. You make your judgments based on all of the work, not one study. It was pretty unfortunate for the marine oils industry that there was so much

press given to one particular negative story."

New Zealand companies package and sell omega-3 products but a high percentage of what they sell contain imported oil derived primarily from the huge sardine fisheries of Peru and Chile.

Killeen said that could change because of companies such as Nelson's SeaDragon – one of Plant & Food's clients and which has just built a state-of-the-art fish oil processing plant.

"When the New Zealand industry can produce more New Zealand oils, then you can charge that premium that you get for New Zealand products."

With a huge global deficit in omega-3 oils, there were many untapped resources, he said.

For example New Zealand's large stock of mackerel, an oily fish with high potential as a food-grade omega-3 source, was yet to be fully recognised as ideal for oil production.

Killeen's work focuses on analysing fish oils for their quality and composition. As well as omega-3s, he looks for other components that might be bioactive and offer health and wellbeing benefits.

And instead of the old-established testing methods that dissolve the oils in solvents and run them through various instruments, he is developing the use of lasers.

"You point and click and you get some of the information you need to make a fast decision on the oil – what the concentration is, whether it has

oxidised or is good.

"You can potentially analyse 100 samples in the time it used to take to do one, all automated. What I'm trying to do is develop these methods and try to push them out towards the seafood industry."

Killeen said Plant & Food Research was a scientific institution that wouldn't compromise its scientific values.

"At the same time our mandate is to apply science to help New Zealand industry."

As a partly taxpayer-funded organisation it had a responsibility to the New Zealand consumer, he said.

"But that extends to the economic stuff because what's good for the seafood industry is also good for the consumer."

Moving to the new research centre from the old Wakefield Quay building would be a big improvement.

"At the moment we're working against the building. You'll be working downstairs and you have to go through four doors and up flights of stairs to get to the lab if you've forgotten something. It's painful, and it's not conducive to efficiency.

"This new purpose-built lab is going to be fantastic."

Happily settled in Nelson, Killeen said Plant & Food was an incredible place to work, offering a supportive and collaborative environment to all its scientists.

"I can achieve a lot here."



Scientist Denham Cook working with very young flounder that could be released in the Marlborough Sounds. Picture: Plant & Food Research

Unconventional approach could take hold

Bill Moore

Plant & Food Research scientist Denham Cook considers himself a borrower, working in the middle ground between the two halves of the institute's seafood production group.

"We've got a pretty solid cohesive team that knows how to grow fish, right through from an egg to an adult spawning age animal, and we've got a large group of people working on capture technologies – I sit in the middle, borrowing people wherever I can," he said.

Cook's scientific space is around fish behaviour and physiology. He worked with snapper, kingfish and king salmon in the early part of his career and in Nelson he's once again focussing on snapper but also the research team's latest success in captivity, blue cod, as well as trevally and yellow-belly flounder.

He said the conventional ways to produce seafood were wild capture and at the other end of the spectrum aquaculture, where the fish are contained.

Plant & Food is looking at both, but he is also trying to find different ways to meet the overall goal of increasing seafood production.

One research line is investigating population restocking in the wild fishery, particularly those fisheries with high recreational and commercial value.

"We're taking aquaculture technology in that we know how to grow the fish, but rather than put them in a confined space, we'll release them into the wild."

These fish don't have to be fed while they grow to harvest size, and they are available not only to industry but also the wider public who fish for fun and the table, and iwi for customary harvest, Cook said.

"Ultimately they might become seafood, but they can serve multiple purposes in the same space."

Plant & Food Research is already well down this pathway with the juvenile snapper it releases in their thousands from its Port Nelson hatchery into Nelson Haven, from where they have ready access to Tasman Bay.

It's too soon to draw conclusions about how well that's going, but various trapping, catching and monitoring techniques have shown that the juvenile fish are surviving well in the wild.

New Zealand's rivers and lakes have been stocked with hatchery-raised trout and salmon for generations, providing some of the world's best freshwater fishing.

Meanwhile the Japanese have been stocking their oceans with saltwater fish for more than 50 years, successfully supplementing wild populations of many species, most notably red sea bream, a close relative of snapper.

"We took a quota management approach, they also stock with hatchery-reared animals in specific fisheries to maintain historical levels of fishing," Cook said.

Having the Haven on the doorstep was ideal, providing a sheltered small-scale environment to study what happens after the fish are released, he said.

"We've been able to go out and recapture these fish and we can monitor growth, see whether hatchery-raised animals are able to feed in the wild, whether they have the right behavioural repertoire to succeed in the wild, and just look at their natural biology.

"You'd expect wild fish to use the shallow waters of an estuary a lot during the summer but less so through the winter, we're looking at whether our hatchery-reared fish share those same behaviours.

"It's still very much a forming story."

Cook has also been involved with efforts to develop flounder as a species for restocking in the Marlborough Sounds, working with a Havelock-based Maori-owned company that wants to see future generations being able to still catch the fish. Now that the hatchery has begun to successfully breed blue cod, there's the possibility that the Sounds population of these favoured eating fish will also be supplemented in years to come.

Cook said his work could be termed "assistive technologies", finding ways of increasing the tonnage of fish outside

the conventional approach adopted inside the QMS.

“Rather than having the mentality that we just want to sustain our current level of seafood production, we’re trying to be a bit bold and increase the size of the cake, using different approaches adapted to New Zealand species and conditions to make a gain.

“Obviously we’re a very maritime country, there’s marine space everywhere, a lot of it we don’t know

much about – so it provides a lot of opportunity. Being temperate, we’ve got this fantastic array of species to pick and learn from - with pretty good access, particularly in somewhere like Nelson. As a location it’s the perfect place to operate.”

He said marine science in New Zealand was in “this wonderful space”, with so much still unknown and waiting to be investigated.

“We’d like to think that

technologically we’re right up there, but we’re just very small scale compared to the rest of the world – a world that’s made the decision that seafood is very important.

“There’s a lot of good evidence to say that some forms of marine-based production can be much more efficient and beneficial than land-based. In the 21st century New Zealand can’t afford to ignore its watery back paddock.”



PSH architect Alistair Jerrett. Picture: Plant & Food Research

A long way from buckets of briny

Bill Moore

Veteran scientist Alistair Jerrett would rather talk about his research team than himself – yet he continues to spearhead innovations that are beginning to transform the fishing industry.

Plant & Food Research’s Science Group Leader, Seafood Production, Jerrett headed the science team that worked with the industry to develop Precision Seafood Harvesting (PSH), the multi-award-winning trawling system that allows fish to be landed alive and in

perfect condition while safely releasing small fish and bycatch.

Now being extensively trialled around New Zealand, PSH is seen as potentially revolutionising fishing for wild catch around the world.

The \$48 million government-industry project is a long way from the days in the 1980s when Jerrett dodged trucks while ferrying buckets of seawater across Nelson’s Wakefield Quay to keep alive the mussels he was studying.

He’d joined the then DSIR’s tiny Nelson seafood research team after years of working with kahawai and later snapper at the department’s oceanographic institute at Greta Point in Wellington.

There he found a way to quieten the fish, opening up the ability to transport live snapper to Japan – and picking up his first crop of awards.

The top few per cent of the catch from Northland and Auckland fisheries were air-freighted live along with the premium “iki” snapper.

“We were shipping eight kilos of fish in 10 litres of water – with the Japanese tiger economy of those days, it was good money,” Jerrett said.

But when those days ended he made the move to Nelson, sticking with his guiding principle that understanding the needs of the animal leads to better and more successful harvesting.

Jerrett worked for several years on how to reduce the damage to hoki during the capture process, “taking less of a food technology approach and more of an animal physiology approach” but concluded that variations in the

trawl methods were so large that the scientists were “on a hiding to nothing”.

So he shifted to finding a “lab rat” species that could be studied in captivity, settling on king salmon as a model species for hoki and other wild fish. The derelict council-owned former powerhouse on the ocean side of Wakefield Quay was empty, having served as a fish factory, a truck workshop and a work scheme base over many years.

Jerrett saw the potential to use it for holding and studying live fish and persuaded his DSIR bosses to lease it. His first seawater tank in the building was a para pool. There was “so much crap” in the rat-infested basement that the team didn’t discover its concrete floor for several years after moving in.

That building – much more famous for the large mural of the Marlborough Sounds on its northern wall than what was quietly happening inside – has housed Plant & Food Research ever since, right up until the new research centre was commissioned last month.

It was in the old building that Jerrett and his colleagues developed their knowledge of rested harvesting and its beneficial results.

“We were really surprised,” he said. “Salmon muscle could basically protect itself and stay alive for a day after harvest. That led to the development of aquatic anaesthetics for harvesting fish, we developed a product called AQUI-S, and several other anaesthetic compounds. That’s now a small company that exports all over the world under a registered trademark.”

Next came a return to studying hoki, aiming to apply the lessons learned from salmon to post-harvest handling on the trawlers.

The scientists quickly saw that the handling improvements they could identify after the fish were caught were hampered by the variability in the catching – big boats, small boats, long tows, short tows, more or less bycatch.

“That was the really big hurdle. We had to start at the beginning of the process. So we built some underwater cameras and housings and chucked them down with the gear.”

That turned out well, starting to give skippers, crews and scientists insights into what was happening during the trawls. It showed that with a conventional cod-end, exhausted fish would fall back, leaving the rest swimming ahead of the bow-wave they created. This was the genesis of PSH – a way to avoid exhausting and “sieving out” the catch.

“If you’ve got a long tow, animals are the best at avoiding each other and avoiding surfaces, if you bring the conditions within the trawl to within their physiological and physical tolerances, then all of that unnecessary damage and variability will disappear,” Jerrett said.

“The guys who are actually using PSH see the benefits and they don’t want to go back.”

The PSH difference was highlighted in long tows where the netted fish could maintain a comfortable pace within the gear, he said.

“Talk is cheap and this works – all the benefits that can flow from it are still ahead of us in a lot of ways.”

Jerrett said Working on PSH with his young team had been “hugely satisfying”, and he was keen for the industry to get credit for “putting their treasure up to do something different”.

He wanted to see those who had invested in the project get the return, and appropriate recognition for “having

the vision alongside us, not just listening to a lot of scientist wankers wanting more money”.

The new research centre was being designed at the time PSH was gaining traction, and would be used to deliver many maturing and new projects including other ways to produce and rear fish.

“It’s about having a giant playpen, with all the right kit, where people can make a hell of a mess and then they can re-set it. We want to make it easy for our science staff, industry and community to make the mess and try different things.”

The seafood industry was really open to innovation, still a frontier in many respects, with scientists able to do a diverse range of work and having the opportunity to really make a difference, he said.

“I’m really proud of what we’ve done and the great bunch of people I work with, they just get on and do stuff. ”

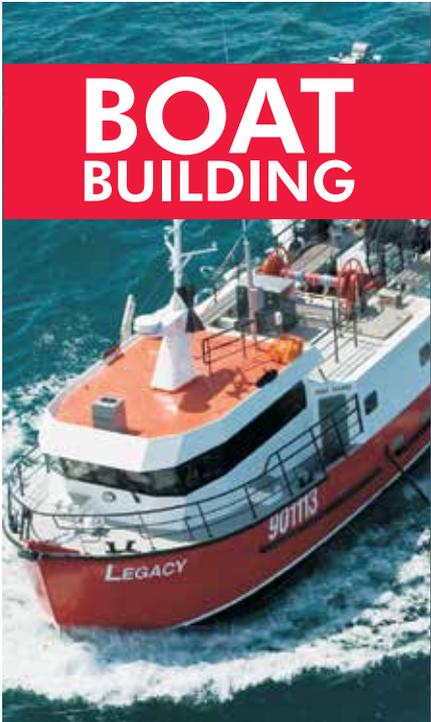


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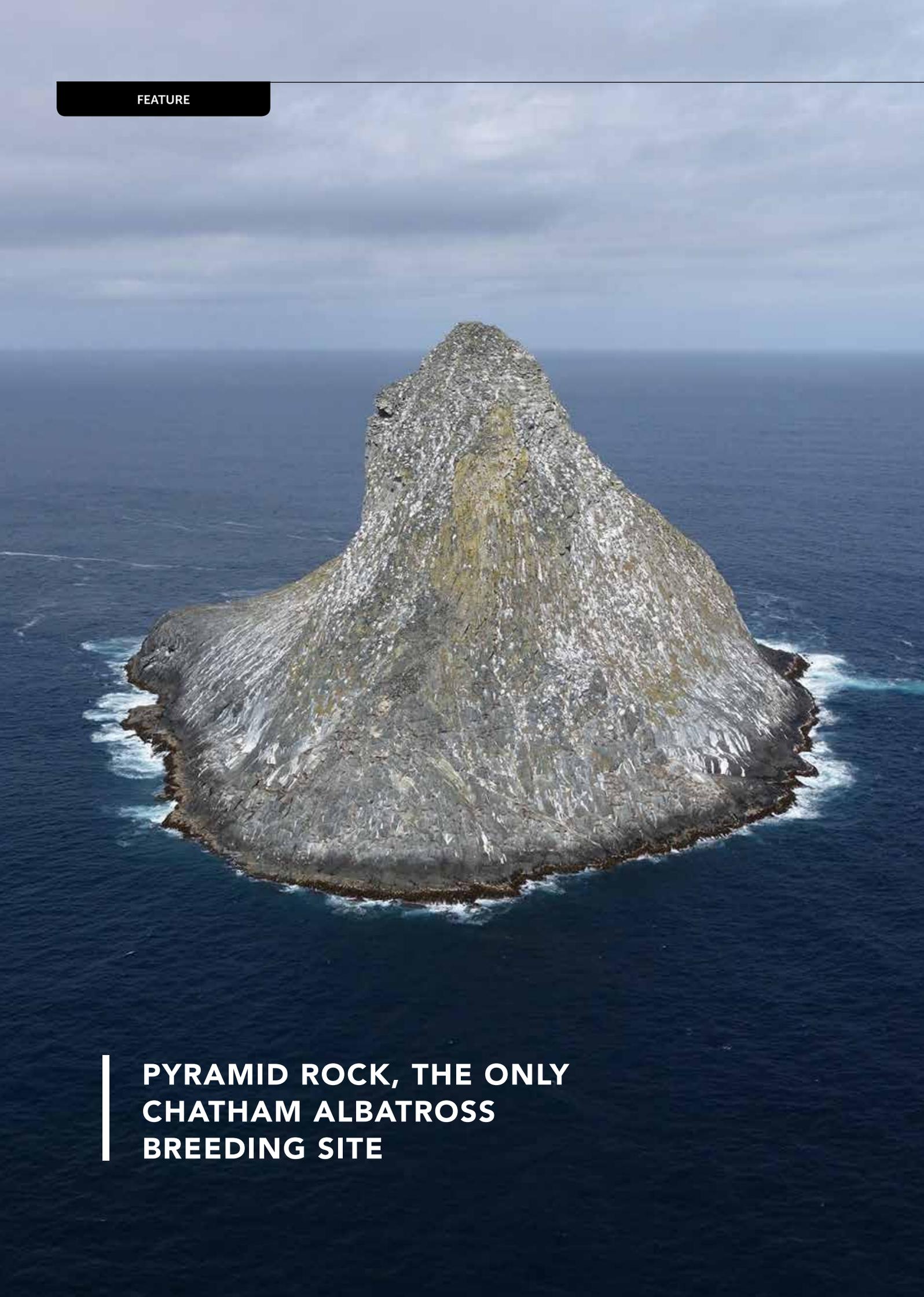
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FEATURE



**PYRAMID ROCK, THE ONLY
CHATHAM ALBATROSS
BREEDING SITE**

Bold effort to nurture majestic seabirds

Tim Pankhurst

On a cool day in April a rare Chatham albatross stretched its huge wings and prepared for one of Nature's greatest wonders.

It was about to let the wind lift it off the cliff top and carry it across the vast Southern Ocean, not to touch land again for at least five years.

Eight of its companions had launched into the unknown the day before and now with heavy rain and a storm looming, the remaining birds were sensing the westerly wind and preparing for their first flight.

These birds are part of a bold experiment by the Chatham Islands Taiko Trust, supported by far-sighted farmers Liz and Bruce Tuanui, the local seafood industry, the Chatham Island community, Wildlife International and the Department of Conservation to nurture a species that has all its eggs in one basket.

That basket is Pyramid Rock, a stark finger of rock that rises out of the Southern Ocean far to the south of Pitt Island, the only other inhabited island in the Chathams group.

Pyramid Rock is girded by storm-tossed kelp but is so exposed it has no vegetation.

Its albatross population is stable at around 5200 breeding pairs but there is no room to expand.

The neighbours are seals, shags, terns, prions and gulls.

Pyramid Rock is now the only place in the world the Chatham albatross breeds, although the species was never widely distributed.

If disease or an extreme climatic event were to strike the colony, the species could be lost.

That drove the Tuanuis and Taiko Trust to try to establish the Chatham albatross on its namesake island in a bid

to secure the long-term survival of this unique species.

And the Tuanuis do have good form in saving endangered birds.

It was on the Tuanui farm in 1978 that the taiko, a species of petrel, was rediscovered after last being sighted 105 years earlier and long thought extinct.

That supposed last petrel was shot from aboard the sailing ship Magenta in 1873, as was the way of early collectors, and housed in a museum in Italy.

Whangarei-based amateur ornithologist Davey Crockett camped on the Tuanui farm in the 1970s in search of the taiko and was joined by young Bruce Tuanui, who was 14 at the time.

Crockett was thought to be chasing a ghost but subsequent DNA testing confirmed the birds he had found were the same species as that dusty specimen in the Italian museum.

It took him 10 years to find the first burrow, where the birds nest up to three metres deep.

Bruce's parents, Manuel and Evelyn, were so impressed by Crockett's commitment and passion they allowed him to establish Camp, the bush camp used in his rediscovery expeditions, and also gifted to the Crown one third of their sheep and beef farm - 2500 acres - as a nature reserve.

The Tuku Nature Reserve has no public access and as well as harbouring the taiko undisturbed, it has helped restore other species such as tui, transplanted from Rangatira Island by the Taiko Trust, and the native pigeon, the kerea, which is about a third bigger than the mainland kereru.

Following on from Bruce's parents, Bruce, Liz and Davey Crockett established the Chatham Islands Taiko Trust with Taiko Camp since becoming the main hub of its operations.

Around seven years ago the trust turned its attention to the Chatham albatross.

It took three years to gain DOC approval and support before the first chicks were taken off Pyramid and brought to Chatham Island.

Predators are rife on the Chathams - wild cats, pigs, possums and rats.

That meant building a U-shaped 1.3km predator-free fence around the fledgling albatross colony at considerable cost.

DOC Chathams Operations Manager Dave Carlton agreed to drive me down to see the work being undertaken by the Chatham Island Taiko Trust. He would like to see the entire island become predator-free and believes that is possible.

"You could take off the possums in 10 years or so," he said. "There would be no-reinvasion issues."

Not when the mainland is some 800km away.

Wild cats remain a major problem, exacerbated by people dumping unwanted animals.

A blackboard at the Taiko Trust's base records the body count in the continuing war on pests.

In 2014-16, 55 cats and 343 possums were caught and killed.

In 2015-16 the tally was 64 and 657 respectively.

And so far this year it stands at 34 cats and 288 possums.

"The key is getting the islanders on board," Carlton said, as we bounced along the farm track.

"There's no point in me turning up in a DOC shirt and telling them what to do. I'd just get run out of town. They need to own it."

And Carlton and his wife and two young children are here on a four-year appointment and are loving the island life.

Project manager Dave Bell said: "The opportunity to do this sort of thing only comes around once in a lifetime."

The albatross project is the most exciting he has been involved with - it is world-leading wildlife management that has huge implications and benefits for larger seabird species the world over.

The chicks, as big as they are, need intense care for more than three months. There were 60 in this year's class.

They are placed in pots that serve as their nest and are fed weighed amounts of squid and pilchards every morning, which are warmed to 25 degrees C.

They are also given a small amount

of seawater, again carefully measured, and every second day receive a vitamin tablet.

Each bird has an individual feeding tube to reduce the risk of infection, washed in Milton's baby bottle cleanser.

Those handling the birds wear gloves, which are also disinfected.

On hot days the birds pant like dogs and are hosed down to keep them cool.

"When it is cold and wet and windy they love it," Bell said.

"It is not so comfortable for their human carers."

The birds, clacking their beaks in warning, are also capable of delivering a nasty slash.

Being a totally self-funded community conservation group, securing funding for the project is a constant challenge.

The Lotteries Commission came to the rescue with significant funding along with local islanders getting in behind the project. Local fisherman Chris Morrison has now joined major island sponsors Chatham Island Food Co who provide bait fish to feed the birds, flown by Air Chathams, and Ruka Lanauze who provides his boat Gun Island to transport the birds for relocation.

The trust raises some money by charging tourists \$70 a visit but those numbers are small.

Individual birds can also be sponsored at \$100 each, named and tagged and reported on when, or if, they return.

Thus three of these magnificent birds now wheeling across the ocean have been named Indie, Oscar and Isabelle after my three grandchildren.

The first birds nurtured here will not return until late winter next year, assuming they do make it back to Chatham to establish a new colony.

One of last year's class was spotted off Chile, identified by its numbered band, but as they remain at sea for 5-7 years there is little other information on how the young birds are faring.

It is really a question of waiting and hoping.

Further to the south, the white-capped albatross population appears to be in good heart, with a census report due in mid-year. This population has been monitored by aerial census for many years now and seems to be fluctuating without significant trend.

Seafood NZ, the Deepwater Group, DOC and the Ministry for Primary Industries combined resources in January this year to conduct a census of the white-cappeds on the sub-Antarctic Auckland Islands, 465 kms south of Bluff.

Around 95 percent of the worldwide populations of white-cappeds breed on the Auckland Islands each year, with hundreds of thousands of birds making their way there in an epic journey from around New Zealand and faraway South Africa.

A separate survey team also took the opportunity to complete an annual survey of sea lion pups. The 2016

estimate was 1727 pups, a 15 percent increase on the 2009 low.

In yet another albatross project supported by the seafood industry, a count was conducted in March on The Snares, the northernmost of New Zealand's sub-Antarctic islands, 100km southwest of Stewart Island.

In a year when DOC and MPI did not have the resources available, Deepwater Group commissioned seabird scientist Paul Sagar to conduct the annual demographic survey of Southern Buller's albatrosses across three delineated study sites.

Sagar has conducted such surveys every year since 1991 and has spent a total of two years studying his beloved birds on The Snares.

Two thirds of the world's population of Southern Buller's breed on The Snares, the remainder on the Solander Islands close to the western end of Foveaux Strait.

The last full census on The Snares in 2014 found 8000 pairs of southern Buller's, almost double the population recorded in the first census in 1969.

The islands are also home to a vast population of sooty shearwaters, an estimated 1.75 million pairs, plus large numbers of petrels and penguins.

Human impact on wildlife is undeniable but in our remoter outposts the seabirds appear to be more than holding their own, with a little help from some friends.



Feeding the transplanted chicks at the Chatham Island site. Picture: Dave Boyle



Bruce and Liz Tuanui next to the predator-free fence.
Picture: Tim Pankhurst



Delwyn (left) and his father Bruce Tuanui at the Chatham Island nesting site with a Chatham albatross about to take wing.
Picture: Tim Pankhurst

“The opportunity to do this sort of thing only comes around once in a lifetime.”

– Dave Bell

Returning Home - Delwyn Tuanui

Tim Pankhurst

Like the albatrosses, Delwyn Tuanui had an overwhelming desire to return home.

Hard times a decade ago when the global financial crisis struck had him questioning his future on the family farm where he grew up.

Returns were so bad, sheep were being taken out the back of the farm and shot.

It was cheaper to do that than ship them out.

That corrosive experience led to a conviction that products, whether from land or sea, had to be better marketed and have value added.

Delwyn headed to Geelong outside Melbourne to build the knowledge he needed through an agribusiness degree.

Relaxing with his mates at a weekend barbecue, he served blue cod sent to him from the Chathams.

They raved about this amazing fish

to the extent Delwyn realised he had privileged access to something really special.

He consulted The Age newspaper's celebrated Good Food Guide and targeted Melbourne's top 20 restaurants.

He had an almost 100 percent strike rate - but only if he could supply fresh cod fillets, not frozen.

Friday became delivery day, with blue cod sent from tiny Owenga, population about 100, via the Chathams airfield and Wellington to Melbourne's bustling Tullamarine airport.

Delwyn condensed his studies into Monday-Thursday and did his practical work on Fridays, collecting the cod and speeding it around Melbourne's finest eateries.

But why stop at 20?

When he graduated, newly married to Gigi, he worked fulltime supplying 50 restaurants.

Sister Katrina got in on the act too, supplying another 50 restaurants in Sydney.

Virtually every two or three-hat restaurant, the sign of culinary excellence, was serving Chatham Islands blue cod.

They were paying a premium as

Delwyn built an appealing provenance story on “food from the edge”.

The demand was there but sometimes the supply was intermittent.

In 2014 Delwyn decided to sell the distribution rights and fly back home to move into catching and distribution.

He was a paua diver at age 17 and had served as a deckie on a cray boat but he did not know a lot about the industry and had no financial backing.

When the small processing factory at Owenga was put up for sale by Marconi Seafoods, the team at Leigh Lobster, fronted by Geoff Creighton, believed in the vision presented by Delwyn and co and threw their support behind them.

Delwyn's parents offered to mortgage their farm to bankroll him into a partnership but he was not prepared to put them at risk.

He borrowed heavily and has expanded into kina as well as cod, buying the big-beamed, 16-metre ex-Gisborne longliner Bahara Bas as a dive boat.

His factory chillers are also used to store the fish the voracious albatrosses consume.

His philosophy remains: “If you're passionate about the industry, find your point of difference and just go for it.”



Andy Smith

Ring-fence if you want to keep going to sea

Talley's Operations Manager Andy Smith left school and went to sea at 15. He says the best route into the fishing industry was to get his "tickets" (seafarer's certificates).

"Since I was 19, I've been skippering boats in New Zealand," Smith said. "I became a Coastal Master at the age of 19 and got my Deep Sea Mate's in 1979 and Deep Sea Skipper qualification in 1985. Then I diversified and went offshore and worked in Chile in South America and all sort of places around the world."

In 2007 Talley's asked Smith to "come ashore and sit behind a desk" as Operations Manager. He's now advocating for ring-fencing - a chance for seafarers with older, legacy certificates to have their qualifications acknowledged so they can keep using them.

The deadline to ring-fence is September 1 this year. If seafarers have not let Maritime NZ know by then, they will need to transition into SeaCert to

keep working. This will involve some study and expense.

Smith said ring-fencing was an excellent opportunity for people who had been in the industry a long time - 20, 30, 40 years.

"A few years ago it looked like guys who had been at sea all their lives would have to go back to school, which we thought was a bit rough. A whole bunch of fishermen came and said 'what the hell's going on?'"

"We went and talked with Maritime NZ and they thought: 'Industry's got a good point here'. Maritime NZ were bloody good - they worked with us and decided to take the bull by the horns," he said.

Maritime NZ introduced ring-fencing in September last year, and once it became an option Smith jumped at the chance to keep his qualifications current.

"I was one of the first to apply and mine was among the first 100 VOS cards they sent out," he said.

Although now mostly land-based, he liked that he could keep his qualifications current. "I've got six certificates ring-fenced on my card - from Skipper Deep Sea right back down to my deckhand's ticket." They also include Inshore Skipper's, Coastal Masters, Second DTE and a Mate's ticket.

"I became a Coastal Master at the age of 19 and got my Deep Sea Mate's in 1979 and Deep Sea Skipper qualification in 1985. Then I diversified and went offshore and worked in Chile in South America and all sort of places around the world."

"The process was easy. Absolutely easy. I did it online."

Smith urges seafarers to contact their local Maritime Officer if they need help with ring-fencing.

Talley's has proactively encouraged staff to ring-fence. "Anyone who can ring-fence within the Talley's group has done that. We know who they are. If they don't, we remind them," he said.

"Most of my friends have ring-fenced their certificates and I've encouraged anyone I've spoken with to ring-fence - dozens and dozens of people."

His final word for seafarers who need to ring-fence: "Get it done if you want to keep going to sea and using your tickets. It's simple. It takes 10 minutes. It's just too easy."

Visit Maritime NZ's website to ring-fence: <http://www.maritimenz.govt.nz/legacy>

Remember the final cut-off date is 1 September. After that older and legacy certificates will expire.

Call 0508 669 734 or email ringfence@maritimenz.govt.nz if you need help with ring-fencing.

Don't forget to ring-fence!

You have just a couple of months left to ring-fence, by 1 September this year.

Thousands of seafarers have already ring-fenced their old and legacy certificates for life with Maritime NZ.

Ring-fencing keeps all your options open, including moving into SeaCert at a later date.

If you would still like to ring-fence let us know by 1 September 2017 – otherwise your 'tickets' will expire from 2 September this year. If you have any of the following certificates, ring-fence them now by going online: maritimenz.govt.nz/ringfence

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Engineer Local Motor Ship

Engineer Local Ship

Engineer Restricted Limits Motor Ship

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First Class Diesel Trawler Engineer

Inshore Fishing Skipper

Inshore Launchmaster (ILM)

Local Launch Operator (LLO)

Local Launchman's License

Marine Engine Watchkeeper

Master of a Foreign Going Fishing Boat

Master of a Restricted Limit Launch

Master River Ship

Master River Ship
(holding an engineering qualification)

Master Small Home Trade Ship

Master Home Trade Ship

Mate Home Trade

Mate of Deep Sea Fishing Boat

NZ Coastal Master (NZCM)

NZ Offshore Watchkeeper (NZOW)
including NZOW with ILM endorsement

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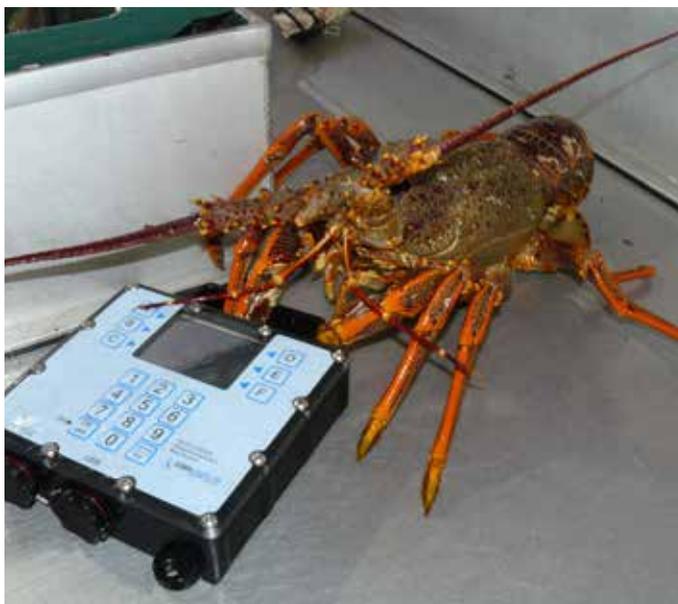
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or phone **0508 669 734**



A rock lobster and deck logger meet up.



Wet tag on a rock lobster pot.

Technology and teamwork behind innovations

Matt Atkinson

The rock lobster industry and a Nelson technology company have teamed up to create a series of innovative fisheries data collection and reporting products.

The relationship began in early 2011 when CRAMAC5, the industry group managing rock lobster fishing from Marlborough to Banks Peninsula, heard of Zebra-Tech through its work with the Paua Industry Council.

The company, established in 2002 by former NIWA scientist John Radford, had developed two new measuring devices for the PIC, one for fine-scale catch data and a second which records individual dive profiles.

CRAMAC5 executive chairman Larnce Wichman approached John Radford and the team to make a similar product for their voluntary logbook programme.

The logbook programme, which collects detailed information from a sub-sample of designated pots from

each day's fishing, was being done with clipboards and pencils, leaving the logs open to errors and misinterpretation.

Wichman said Zebra-Tech was alert to their needs from the beginning.

"We wanted to make sure, that not just for the log book work, that we were going to develop equipment that could be utilised in the future in other ways," Wichman said.

"They spent the time really understanding what our needs were and from there they considered what could be adapted to the lobster fishery in respect to all our recording requirements under the logbook programme."

Those recording requirements meant doing away with the pencil and getting fishers to enter catch data onto the loggers, affectionately nicknamed BERT (best electronic recording terminal).

"When it came time to putting it out there was a wee bit of an acceptance period to drop the pencil and push buttons and scroll down screens, but after they got familiar with it, you wouldn't be able to take it away from them.

"It has enabled us to have clean and tidy data, one hundred percent of the time."

Whilst high on the list was making sure the products were easy to use, ensuring the lobster logger could stand

the wear and tear of being on the vessel was also a must.

"The logger had to be rugged and indestructible, and it's been put to the test, and they have survived," Wichman said.

Inshore boats could face some "pretty damned rough" seas. The logger had been dropped on to the deck many times, but had never failed, he said.

It is now used in all bar one CRAMAC countrywide.

Zebra-Tech Marketing and Sales Manager Gavin Scandlyn said over time the company identified the need to improve the lobster logger and extend its benefits to other fisheries.

The result was the new generation Deck Logger, also well received by CRAMAC5 and the paua industry.

"It's a very customisable platform, we have an app and the hardware is incredibly tough and designed specifically for use on the vessel deck," Scandlyn said.

"They can also have position monitoring systems and are being used by paua divers on the Chatham Islands for safety and compliance."

Years later Wichman again approached Zebra-Tech, this time looking for a digital tag for their pots.

After working together hashing the idea they came up with the "Wet Tag",

Scandlyn said.

"It's a small recording device that can be attached to any static gear, for example lobster pots, and every time it comes out of the water it transmits back to the new generation Deck Logger," Scandlyn said.

"So it will give soak time, temperature data, depth, vessel and pot ID and also the position. It all goes back to the deck logger. All that is wirelessly and automatically recorded without having to do any data entry or physical work."

Wichman said the data gathered from the Wet Tag and the Deck Logger had meant better business decisions for fishermen.

The information could be overlaid

to help bring clarity around rock lobster biological sequences such as when they drop their berries or begin moulting.

This meant fishermen were adding value to their ACE.

"Even though some of the guys fishing are third or fourth generation there is still a lot to understand about the lobsters and about the area," Wichman said.

"We fish in less than a third of the region because there is no habitat in the other areas so it is critical to understand and have others appreciate where our effort occurs."

"After several years of use, the data started to outline trends. So we have fisherman who aren't going to particular spots because the data shows their

previous catching in those locations was no good."

He said the next step in the rock lobster technology cycle was to build a bluetooth calliper that would send catch data straight to the deck logger.

"That is where we are now - electronic gauges - and we want them to talk to BERT.

"So when a fisherman measures something, at the press of button that information will go straight to BERT. I have been absolutely blown away at the way Zebra-Tech has approached it," Wichman said.

"These guys don't think down the line and they are great at drawing things out of you so you can maximise what you're asking for."

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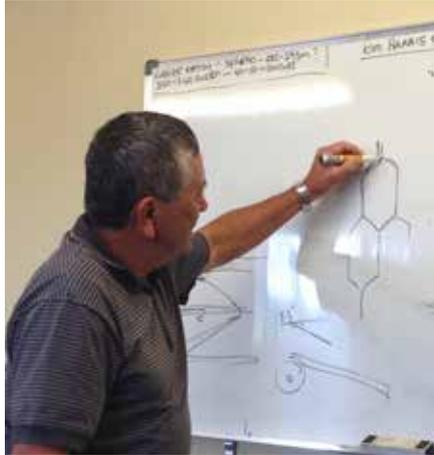


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T90 Mesh



Andrew Hope



Diamond Mesh

“Sadly the industry has done nothing to educate the public about the practical realities of fishing.” - Doug Saunders-Loder

Codends make a splash

Chris Carey

The five-inch codend, “turned mesh” or T90 is making a bit of a splash of late but the use of the net technology isn’t a recent development.

Prior to joining Environment Canterbury Kim Drummond spent 28 years with the Ministry of Fisheries as a scientist and a regional manager.

“We did some mesh selectivity work on commercial inshore vessels out of Nelson in the early 1980s to look at the benefits of moving to different mesh sizes for a multi-species fishery,” Drummond said.

“Most of the field work was done by the late Alex Johnston when he was part of the Fisheries Gear Unit and I can remember helping him out.”

He said before (and even after) the QMS came into effect spawning snapper were being targeted by purse-seine and pair-trawl. A number of input controls were thrown at the fishery in an attempt to arrest the decline in the snapper stock size.

The best known of those was the closure from Adele Island to Pepin Island to pair trawling and purse-seining once a certain quantity of snapper was taken after October 1 each year. The introduction of five-inch mesh really came into effect as part of those measures and was aimed particularly at the pair trawl fishery.

“It was not applied to single trawling because it was a multi-species fishery, however those rules survived the introduction of the QMS,” Drummond said.

Motueka Nets head Andrew Hope said the Nelson company had been supplying five-inch codends for quite a while.

“The use of five-inch goes way back; I’m talking the ‘80s here when I was the trawl manager in charge of the net shed for Skeggs and John Greening was the gear technologist with MAF. They had been looking at fish escapement and experimenting with woven knotless hex-mesh ‘Raschels’ or ‘Ultra Cross’, a woven type of knotless on the *Kaharoa* to look at fish escapement.”

Hope said almost two decades ago the 64 metre hoki filleter *Amatal Atlantis* converted to twin-rigging, the

first vessel of this size in New Zealand to do so. The Dynex® Lionese trawls supplied by Hampidjan incorporated “Turbo” or “T90” lengtheners and he recalled seeing fewer “stickers” in the body of the trawls; smaller fish and bycatch species were escaping through the T90 meshes immediately in front of the codend.

In 2008, Rick Burch and his 40-footer *Nancy Glen* made headlines here and in the UK with his use of Dynex warps, trawls and T90 mesh.

In 2015, Ngati Kahungunu in partnership with Hawke’s Bay Seafood started using T90 lengtheners and five-inch codends on their company’s inshore trawlers - the first iwi fishing company to do so.

Talley’s Group have been encouraging the use of five-inch codends for several years. Resource Manager Doug Saunders-Loder said the group wanted to make sure those landing into Talley’s were taking all possible steps to minimise small fish capture.

“So we encouraged all trawlers to take up the offer to use the minimum five-inch codend. There is no legal requirement for single trawl; they can

fish down to four inch if they want to but the anecdotal feedback is that you'll see a lot fewer small fish in a five-inch codend."

Offering an incentive, Talley's supplied those fishermen landing into them with a five-inch codend.

"We weren't waving a big stick; it was more of a carrot and it's been remarkable," Saunders-Loder said.

"Some were a bit sceptical at first because their number one fear was they were going to lose marketable fish. What they're now telling us is they're seeing less small fish, less rubbish. What is hitting their deck is cleaner, easier to handle and better quality. The fish they're catching now is going into a bin and they have less handling issues."

Hope said Motueka Nets had been working with number of operators out of Nelson, Motueka, Lyttelton and Napier for years, using five-inch codends and T90 as a selectivity device and trialling variations to see if bycatch can be reduced even further.

"We import material in several twine diameters to suit a vessel's horsepower but we probably won't go under a 3mm" he said. "For T90 we use PE in four and-a-half inch but there are quite a few fishermen using five-inch in the lengtheners, codends or both. Starks have also gone the five-inch T90 way on some of their inshore boats. Tony Threadwell, Pegasus Bay Fishing has gone even further using cut-on-the-square five-inch."

Independent research has us believe that up to 80 per cent of unwanted fish are released through T90 so what is "turned mesh" or T90 or "cut on the square" and how does it work?

"Because of its shape, diamond mesh will only open so far; the fish in the codend will force it to open to its halfway point but it's unlikely to open more because you're then trying to pull the end knots together," Hope said. "T90 works due to the knot [size] providing that width so using a thin twine size negates any advantage of T90 unless the material is made with double knotted mesh to provide that bigger knot width. A knotless diamond mesh doesn't work as T90. You can turn it but

because it doesn't have a knot to hold the mesh open it just pulls into its normal diamond shape."

Mesh cut on the square, down the bar along the side knots, or knotless mesh turned 90 degrees, provides the maximum opening but there is an issue with cost due to the cutting ratios and how much you get out of a bail and that's why T90 is proving more popular.

Drummond said the work the Ministry of Fisheries had done on the selectivity and on establishing where juvenile snapper were hanging out was aimed at establishing a rebuild programme. Part of that was identifying the habitat that needed to be closed to trawling on a seasonal basis (when the juvenile snapper were there) and to look at options for increasing the average size of snapper caught across the fishery.

"In the end MAF and the fishing industry agreed on a voluntary package of measures including seasonal closures to trawling and the benefits to moving to a five-inch knotless codend as a recommended Code of Practice. Of course there is now evidence of the rebuild is well underway."

Saunders-Loder said the issue around small fish and discards was a vexed one.

"Sadly the industry has done nothing to educate the public about the practical realities of fishing."

For example that that fishermen were required to legally discard some fish yet land others, and that they may return some live fish yet are required to land and kill others.

"There are a huge number of technicalities and inconsistencies that need to be addressed in order to really solve the small fish issue both from the fishermen's perspective but also to establish good social licence. That said, it is important that as an industry we continue to learn and innovate. Time and technology make a huge difference to how we might think and behave and avoiding small fish capture is only one aspect of that."

Referring to claims fishermen were dumping fish wholesale and the Hauraki Gulf was covered in floating fish, Saunders-Loder said that whether or not it was below the minimum size limit and

legally had to be returned to the sea didn't matter – the public wasn't able to make a distinction.

"Long before the introduction of the QMS, small fish have been legally returned to the food chain and managed properly, as part of the business. It's about how much and what is sustainable that is important."

He said views differed on how much occurred or whether it was acceptable at all, but the fact remained that a level of legal discards would not have any detrimental impact on current fisheries.

"I liken it to a forester 'thinning to waste'; thinning out a forest so the rest can grow to maturity, bigger and better. Industry must however develop a system whereby we record and declare all fish. Discards are an integral part of this and must be recorded in order for us to factually state our case or, for us to better manage."

Hope said that despite the sustainability incentive with five-inch mesh there were issues with its use.

"Smaller fish and bycatch are released underwater but when you're coming alongside and the net goes slack any small stuff left will probably get out and this can be problematic because to the untrained eye these guys are dumping when in fact they're not, they're just doing the right thing. Hawke's Bay Seafoods were having all sorts of problems with this however I understand a few of the local papers, MPI and the local council have got onboard because they now understand that the fishermen are trying to come up with a scientific and structured approach to find answers."

Saunders-Loder said the industry wasn't very good at promoting what it was good at, and the improvements it has made.

"People struggle to get their heads around the fact that we're fishing the same grounds more or less our grandfathers did but the gear we use, the trawl technology, is a hundred times better and environmentally friendlier than it was even 25 years ago. That's just time and technology and cannot be ignored."

One thing that frustrates him is

fishermen's attempts to avoid catching fish purely for the sake of a perception.

"If there's any imbalance between target and bycatch species in a particular fishery then we need to fight that politically because the Quota Management System in this instance, obviously isn't working. We need to utilise the research that supports the Minister adjusting TACC's as the QMS was designed to do. The trouble is that decisions are now based on political imperative particularly with a fishery where there is a recreational component."

He said promoting five-inch codends was about implementing something that could be applied universally – a consistent approach achieving the same outcomes for everyone.

"We gave fishermen that

opportunity and we will continue to provide support for those fishermen who run with it," he said. "Innovation is great, we encourage innovation and many have picked up on that. Some have identified other alternatives and have challenged just the use of five-inch. They have started to think of better ways to eliminate small fish. If someone comes up with an idea, well, we're up for that too but it shouldn't just be left up to the fishermen to find the answers. It needs to be balanced with good fishery management decisions based on science and reality."

Drummond said it was worth noting that initially the industry considered full adoption of five-inch mesh to supplement the regulation but ended up going for progressive implementation.

"It shows they have been thinking about improved management practices for some time and progressively moving towards that as a goal."

Hope said those using the five-inch had noticed a huge reduction in "the amount of stuff that's coming up, and what they have got is big stuff".

"So I guess there's a bit of pain initially but in a year or two it's going to pay back in spades."

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Roughing it pays off for ocean-loving photographer

Matt Atkinson

An award-winning photographer prepared to rough it in search of great images has created a collection showcasing the seafood industry.

Terry Hann has put together a selection of photos for his new book *Catch*, which features some of the best seafood photos and graphic art from his 20 years of capturing the industry.

Wairarapa-based Hann was voted New Zealand's best commercial photographer in 2012 and 2013, with the top picture in both years being seafood-related.

The 2012 win came by trailing a Talley's boat fishing for hoki off the Chatham Rise.

"I was on the Amatal Columbia and they have a little inflatable boat that gets hauled down the side of the boat into the water," Hann said.

"I've been out a couple times and it's simply just following the trawl as it is coming in, so we just followed it, got in really, really close and got a great photo."

The 2013 win was for a black-and-white graphic of a rock lobster.

"There is an awful lot of time invested in each particular project, not to mention the amount that was put back in digitally."

The win gave him the distinction of becoming only the seventh "Grand Master of Photography" under the New Zealand Institute of Professional Photographers honour system.

But even a Grand Master still has to rough it to get the best pictures, he said.

"I went out on a small trawler, I can't remember the name of it, but I had to sleep on the floor because the cabins were all full and I was begging the trip anyway, just tagging along, so I ended

up cooking meals for them as well.

"But it's all worthwhile and I love being at sea."

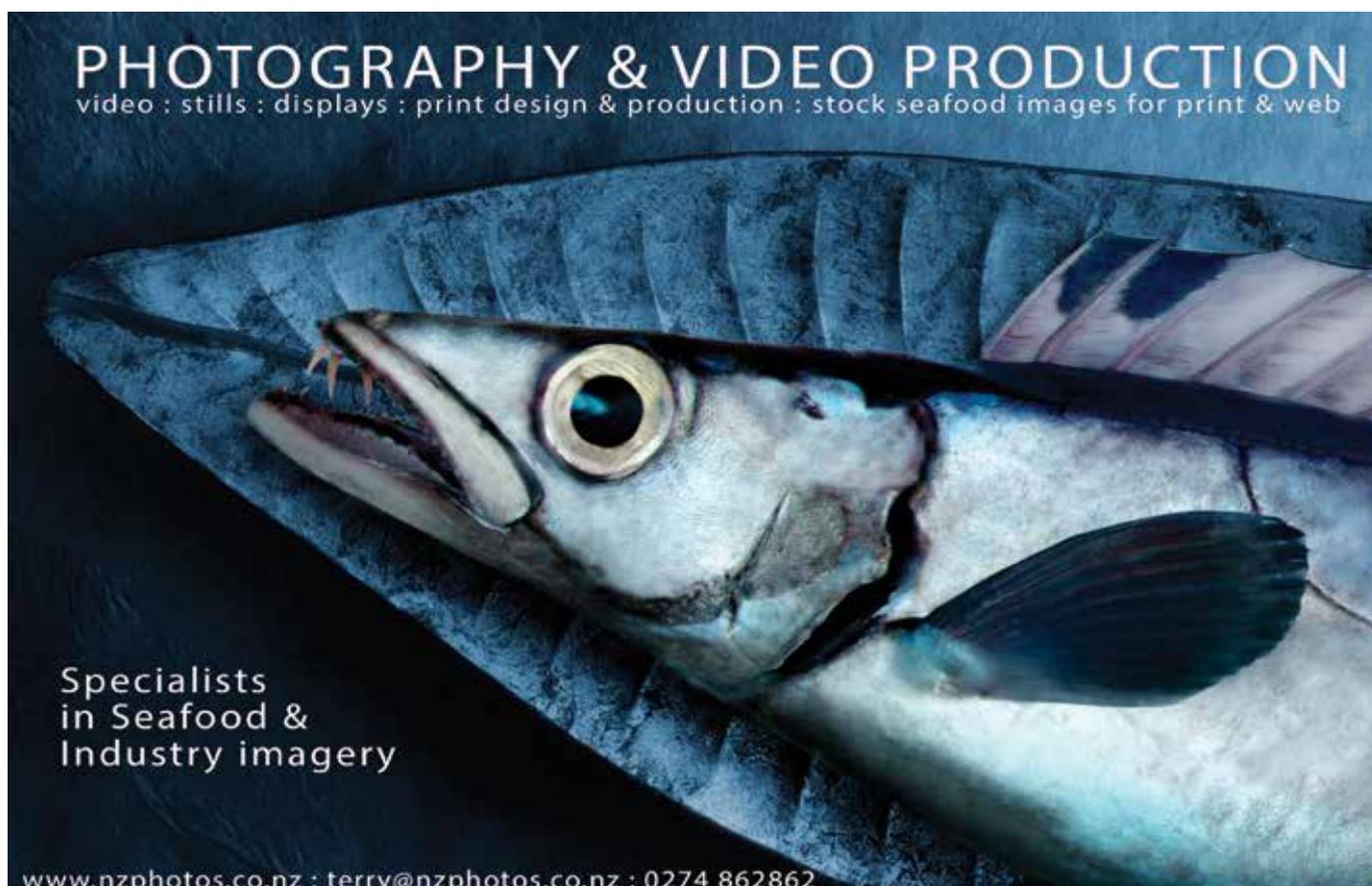
Hann has been shooting fish, vessels and anything seafood related since the 1990s when he first took shots for trade brochures for Seafood NZ's predecessor.

"As a photographer I saw a need for a good quality resource that wasn't there and guess I saw potential for the business.

"It's the primary industries stuff that I like doing so it all fits into that area and so it became a bit of passion, the going to sea, the fish and putting it all together in a way that looks good."

Hann also has a comprehensive library of fish images, with his orange roughly picture featuring on the cover of Seafood New Zealand chief executive Tim Pankhurst's new book *Roughly on the Rise*.

To see more of Hann's work visit nzphotos.co.nz or to get in touch about purchasing his work email terry@nzphotos.co.nz



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**HANN'S 2012 AWARD WINNING
PHOTOGRAPH OF THE AMALTAL
COLUMBIA**







**A STUNNING ROCK LOBSTER IMAGE
SAW HANN WIN BEST COMMERCIAL
PHOTOGRAPHER FOR THE SECOND YEAR
RUNNING**

"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 97% 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**

To download Spark Undersea Cable Awareness Charts visit:
boaties.co.nz/useful-info/cables-underwater.html

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**

Symbols Relating To Submarine Cables

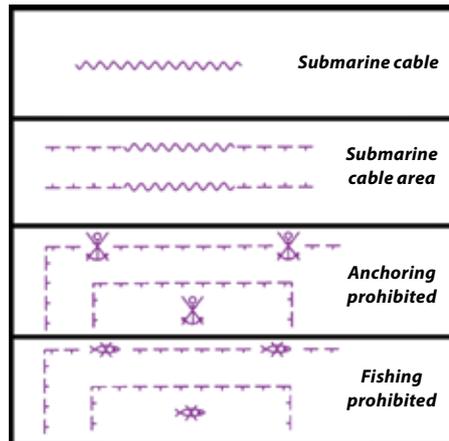


Figure 1.

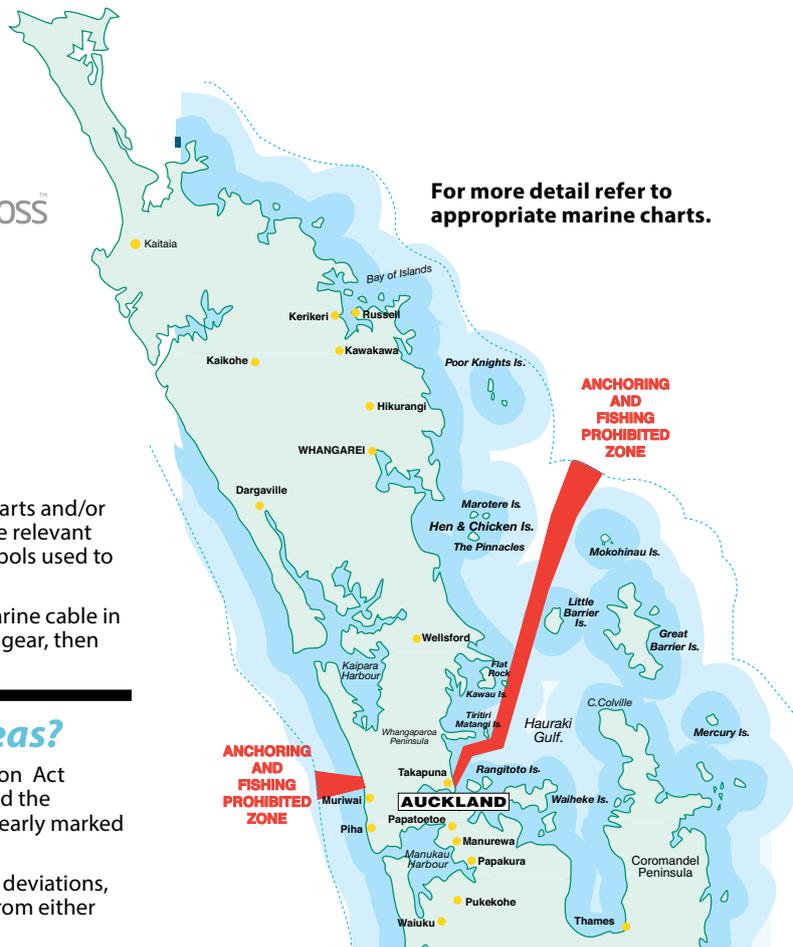
These are some of the penalties

- A maximum fine of \$20,000 for a non-commercial vessel.
- A maximum fine of \$10,000
- A maximum fine of \$250,000 for damaging a submarine cable.

Additional to the fine for damage, the cable owners would inevitably pursue the recover of costs associated with repairs, this could be up to \$750,000 plus a day; a typical repair can take up to two weeks (around \$10 million).

Be Aware

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



For more detail refer to appropriate marine charts.



Mangonui Fish Shop overlooking the idyllic Far North harbour.

'Authentic experience' key to shop's success

Matt Atkinson

The Mangonui Fish Shop opened 80 years ago, with the key to its success as simple as ever.

"The constant theme is line-caught fish, off the boat, to the shop, cooked in six minutes and to your table," owner Lee Graham said.

The restaurant stands over the Mangonui Harbour in the Far North and is known for its picturesque view and world-famous fish and chips.

Graham, who owns the restaurant with wife Nina Quarrington, said people love the "authentic fresh fish experience".

"It's one of the reasons this shop is as popular as it is. I don't have to go to the fish market, I just get it straight from the boat."

Fish and chips has been its mainstay

from the start and still make up the core sales, but Graham and Quarrington, who are trained chefs, have added their own touch to the business.

"We've added a few different things on the sidelines, for example a nice hearty chowder, full of fresh seafood. We are also doing our own raw fish salad and paua fritters."

The shop has its own quota, with its biggest holdings being for bluenose and hapuka, with smaller allotments in tarakihi, snapper and many others.

It meant they had built an important relationship with the local fishers, Graham said.

"We are really fortunate to have a one-on-one relationship with the fishers.

"These guys, it's their livelihood, they run serious businesses and it's important to have a really good working relationship with them."

The couple bought the fish shop eight years ago, when, living in the United States and thinking of coming home, they heard from Graham's dad that the business was for sale.

"At first we weren't sure if it was our cup of tea, so we did look at a series of cafes and food establishments as well,"

Graham said.

"Because of the iconic nature of the business and the area it's in ... we decided this would be something we could add some value to."

But coming into the business without a background in seafood meant a "huge learning curve".

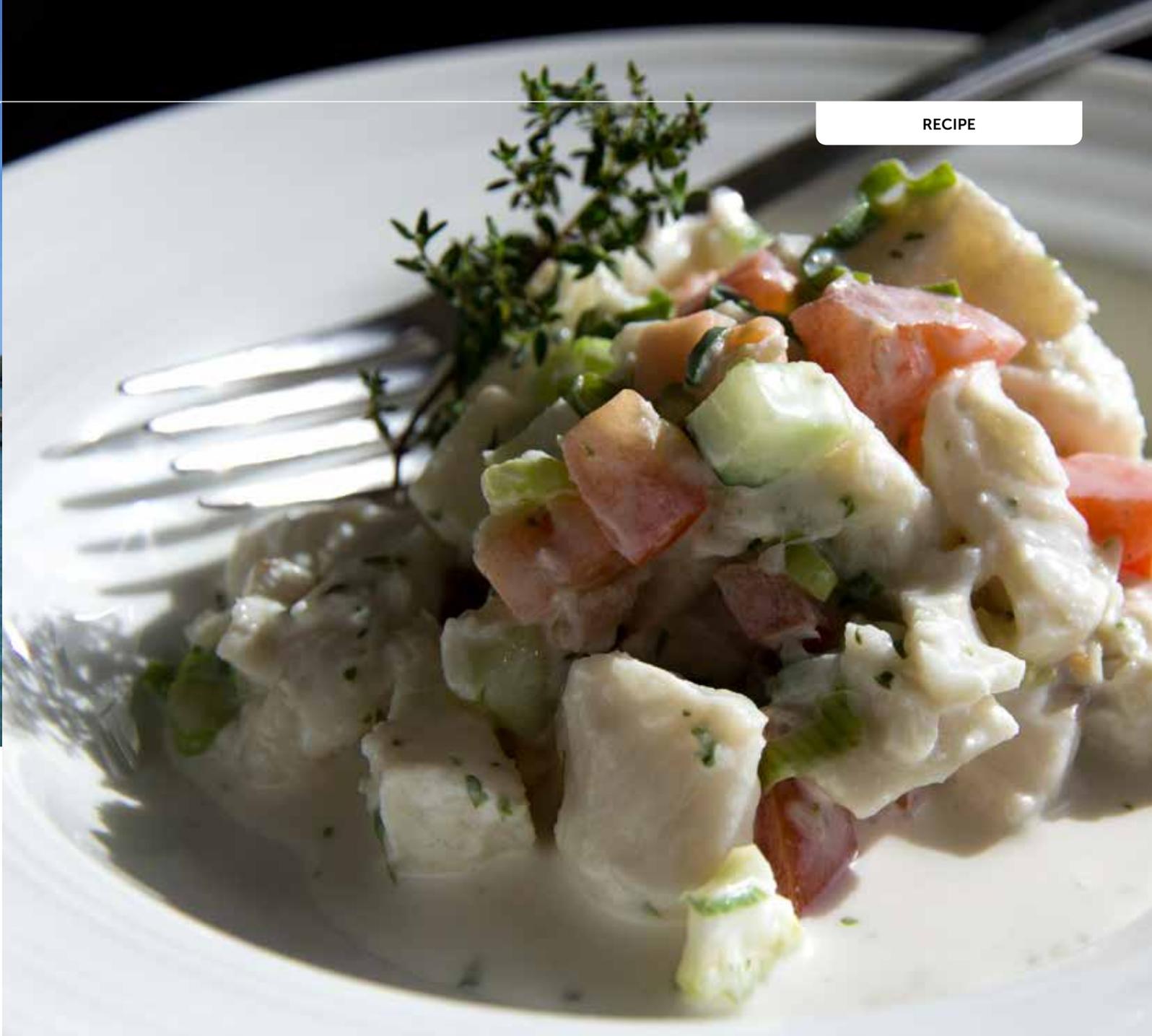
"I was pretty naive about where the fish is sourced, the sustainability of the fish and the different species, it's been very interesting learning that part of the business.

"I don't think a lot of New Zealanders are aware of the different species, how they're caught, and what the demand for New Zealand fish is overseas.

"I've been here eight years and every day I'm learning something new."

Graham describes the couple as "caretakers of the business" with each owner adding something new.

"It has had so many larger-than-life owners who have really done the hard work. From the pioneers who brought the original building to its site over the water ... to the several different owners who have added their own touch to the shop."



Raw fish salad

Graham's raw fish salad combines intense flavours of the South Pacific like citrus and coconut cream with locally caught fish in a light and delicious meal.

Marinate approximately 400 grams of firm diced fish fillets like bluenose, hapuka or snapper in freshly squeezed lemon juice in a chiller overnight.

Fish must be covered with lemon juice or alternatively stir the fish every few hours to allow it to "cook" or denaturise due to the acidity in the lemon juice.

After about 8 to 10 hours drain the lemon juice away and combine the fish pieces with

- One can of coconut cream
- Approximately 150 grams of chopped tomato, celery and cucumber
- Approximately 25 grams of sliced spring onion and chopped parsley.

Season to taste with flaky sea salt. Serve and enjoy.



Meri Leask at her desk, surrounded by radio equipment.

Four decades of radio service

Matt Atkinson

For 38 years Meri Leask has been operating Bluff Fisherman's Radio, keeping an attentive ear on everyone in our southern waters.

"I like to think that I can help people and look after people, especially on the water," Leask said.

"I think having been at sea myself I understand the situation of the commercial fishermen and pleasure boats on the water."

"If they get into any difficulty, the majority of the time I'm the first contact person to get help to people on the water who need it."

Leask started the radio service with her late husband Ian when they moved from Stewart Island to Bluff in 1979.

The old fisherman's radio had just shut down and the radio licence needed to be picked up or it would be lost for good.

The Leasks bought all the equipment, spoke to the radio inspector (as was necessary in those days) and launched what is now, nearly four decades later, part of New Zealand fishing folklore, and the winner of many accolades.

Leask is a member of the New Zealand Order of Merit, received an award from the NZ Federation of Commercial Fisherman for her service and was also honoured at the Sealord New Zealand Safety Awards for her outstanding contribution to keeping the community safe.

The awards are deserving recognition for someone whose voice continues to be the reassuring connection back to land.

"I'm very fortunate that people appreciate the work I do," she said.

"It doesn't matter about the hour of the day or night, the boys will ring if they need too."

"Trust is vital - to know the boys can have that in you and if they need to talk to you or ring you about something that is happening out there they can."

Her work is not only appreciated

"I like to think that I can help people and look after people, especially on the water," Leask said.

by the fishers, but also the families left behind, being the intermediary for messages going back and forth.

"Just being there for the families being left ashore too; if they want you to ring, it's good for the family to know everyone is well and they are safe where they are.

"If there is anything they need to talk about they don't hesitate to call in and see me."

Being in constant touch with the fishers had seen them develop a humorous rapport with the shore station.

"We keep that banter to ourselves. I can't tell you too much but we have our own fun."

Not content with just helping fishers and their families, Leask is also a trustee of the Bluff Medical Centre, chair of the VHF radio association and has been a volunteer at the NZ Police for 23 years.

"I try to help in the community in any way I can.

"I'm a very busy lady anyway and I'm very blessed to have the work that I have to do."

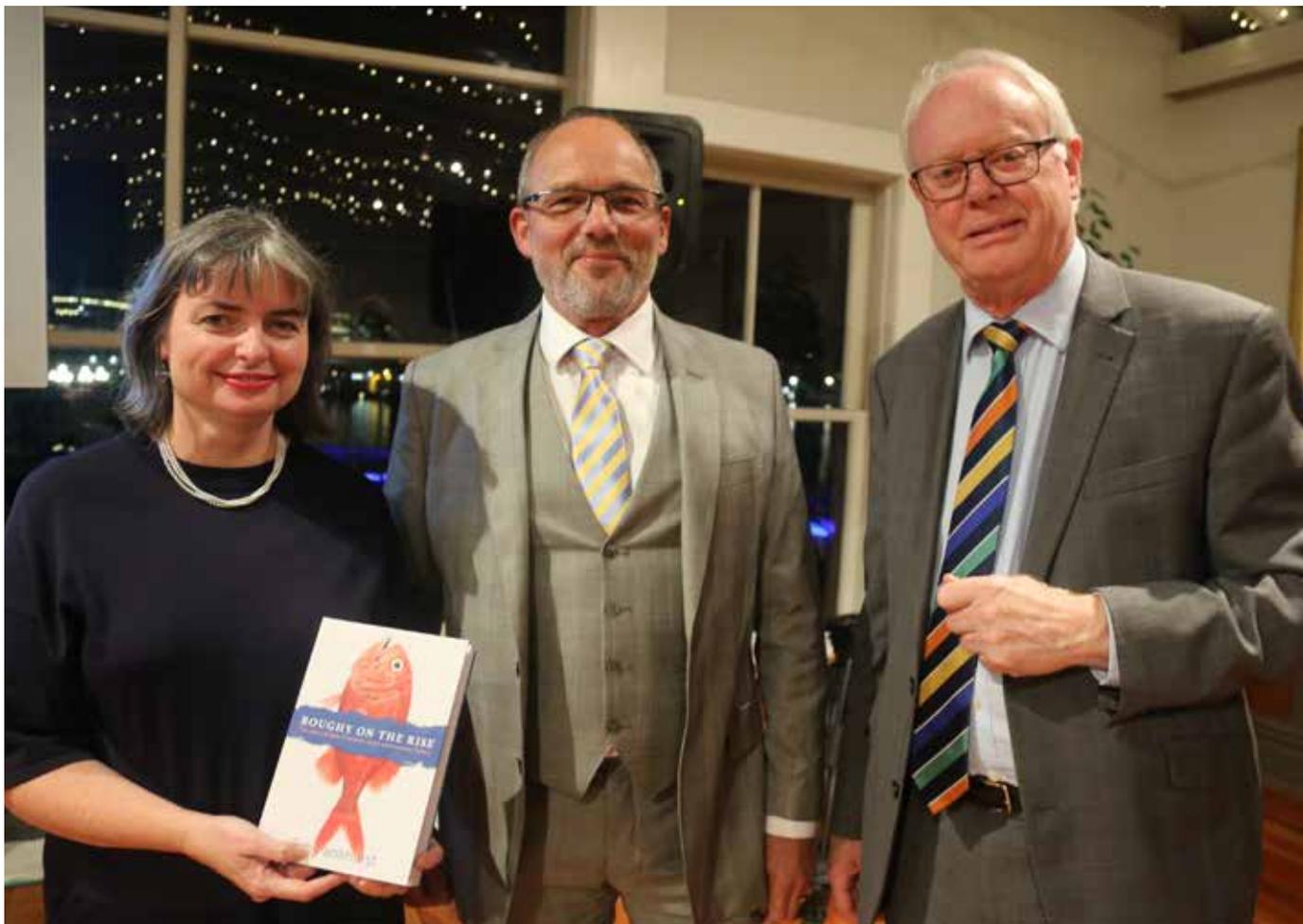


Seafood New Zealand Chief Executive Tim Pankhurst speaks at the launch of his book *Roughy on the Rise*.

ROUGHY'S RISE HAILED AT BOOK LAUNCH

"The roughy story in New Zealand is an amazing story of improvement and one that I am very keen to tell."

- MSC Regional Director Patrick Caleo



Former fisheries private secretary Erin Wynne, Deepwater Group Chief Executive George Clement and former fisheries minister Sir Doug Kidd.

Book launch celebrates roughy certification

Marine Stewardship Council certification of three New Zealand orange roughy fisheries was one of the biggest ever fishing industry stories, said MSC Asia-Pacific Regional Director Patrick Caleo at a Wellington book launch.

Speaking to guests at the launch of Tim Pankhurst's book *Roughy on the Rise*, Caleo said few fisheries around the world had sparked such controversy or had such a bad reputation as orange roughy. It was the classic story of boom, bust and redemption.

"The roughy story in New Zealand is an amazing story of improvement and one that I am very keen to tell – and also one that I am very keen to defend," he said.

Many world fisheries were in bad shape and more examples like the roughy story were needed to inspire fisheries around the world to do better.

"You guys in New Zealand do get a hard time and you seem to have been getting a particularly bad time of late. Do you know why? It is because everyone expects you to be the best in the world at this stuff," Caleo said.

"The New Zealand public, your consumers and conservation groups all expect you guys to be the best. And when I listen to you all speak, you have the same expectation of yourselves."

Caleo said New Zealand fisheries were doing well, with 75 per cent of the deepwater fisheries landing – 50 percent

of the total New Zealand catch – now MSC certified.

This was "a pretty amazing achievement".

Primary Industries Minister Nathan Guy said the MSC certification sent a message to consumers in New Zealand and around the world that they could buy a premium product harvested with care.

The MSC has certified three major roughy fisheries on the Chatham Rise and Challenger Plateau, and Guy said a huge amount of work by the industry and successive governments had gone into rebuilding the stock.

He said two years of review and assessment by a team of independent experts had led to the certification.

"Many international markets are now demanding MSC certification as a baseline requirement, so to have this for such a valuable export fish stock is



Labour MP Damien O'Connor, Primary Industries Minister Nathan Guy and Sir Doug Kidd.



Owners of Fishbone in Queenstown, Mark Godden and Darren Lovell.



Nathan Guy addressing the audience.



Hoki sliders.

extremely important.”
Orange roughy was the sixth New Zealand species to achieve MSC certification.

“It shows our Quota Management System is flexible and effective and helps support the global reputation of New Zealand as being committed to developing sustainable fisheries,” Guy said.

The more than 100 guests at the launch function in Wellington’s Boatshed were treated to carpaccio-style roughy, hoki sliders, pickled tuna, hake rillete, ling tacos and skewered toothfish, all MSC certified.

The menu was prepared by owner and chef of Queenstown restaurant Fishbone, Darren Lovell, who said his own research no longer left him “drowning in a sea of guilt, but riding of wave of enthusiasm for our seafood industry”.

He had learned that fisheries in North America were adopting the New Zealand quota management system and seeing stocks rise, and that fishing used no pesticides or fertiliser and didn’t cause soil erosion.

“If you care about the New Zealand environment, you should drink less flat whites and eat more orange roughy,” Lovell told the guests, many of whom feature in Pankhurst’s book.

Roughy on the Rise tells the story of the fishery from its gold rush days to the present, where sustainable management and responsible fishing methods are the guiding principles.

Full of characters and anecdote, it includes interviews with skippers and crews, scientists, observers, officials and politicians.

Speaking at the launch, Pankhurst said the rich history of the roughy fishery had not been captured until now.

“Putting it in print makes it permanent.”

Ultimately it was a story of redemption and success, and an affirmation that the industry could harvest responsibly to provide healthy seafood and help to build the wealth of the nation.

The book was not a navel-gazing exercise for industry consumption and would be available to the public through bookstores, Pankhurst said.

“No doubt it will spark some conversation and controversy.”

Roughy on the Rise – The story of New Zealand’s most controversial fishery, is on general sale and can also be ordered through Seafood New Zealand’s online shop at www.seafood.co.nz/shop

Letter to the editor

Aggregation limits

The Quota Management System was introduced for finfish in 1986.

Aggregation was 20 per cent, meaning an entity could own 20 per cent of any one fish stock in any one area.

In 1990 when limits were set for crayfish this ownership issue was of major concern amongst CRA licence holders. When CRA aggregation was set at 10 per cent, fishermen considered this essential to their future within a robust QMS. Exemptions were not a consideration.

Today, bigger companies at their 10 per cent limit are applying for exemptions. Industry is relaxing their position.

Reasons given for relaxing the stance on aggregation limits are:

1. There have been approximately 36 exemptions since 1990.

Through the Official Information Act I asked MPI for all CRA aggregation exemptions since the inception of the CRA QMS. MPI gave me exemptions back to 1999. There had only been three exemptions in the last 18 years. It is important to note that the majority were part of the introduction of the QMS, the main reason being that small holders with under 3 tonne were granted exemptions for being under the threshold for a fishing permit.

2. ACE (lease) has no aggregation limit so one entity can already control ACE.

I totally disagree with this argument. Comparing lease with ownership is invalid. Generally ACE is only annual, often with restrictive conditions.

3. Through the Treaty of Waitangi, Maori are completely exempt.

Maori do have provisions to assist exemptions. Maori ownership is like Crown ownership; it's in safe hands. If private companies become large enough, they could publicly float, thereby allowing foreign investment.

This letter is to engage all independent Quota Share Owners and other interested parties. Benefits of strict aggregation enforcement can be seen historically. It has allowed fisherman access to parcels of shares. I want the existing situation to be clear so we can have a well-informed debate.

Do we want to allow the erosion of aggregation limits? Do we want to create another monopoly platform?

Shouldn't future generations of New Zealanders have the same opportunity as we did to own shares and be independent? If you own shares, I believe aggregation protects your investment. Aggregation should stay intact and be made even more robust by blocking the loopholes available to manipulate the system.

Neil Bramley
nlbramley@gmail.com



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SNA	WANTED			LIN	
PAU	MOK	SCH	SPO		



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ACE FOR LEASE

BCO1, 8 KAH1, 8
BUT3 LEA2
FLA1, 2, 7 PAD1, 5, 7, 8, 9
GAR1, 3 SPD1, 3, 4, 5, 7
GMU1 SPO1
GUR1 TAR1
HPB1, 5 TRE7
JMA1 YEM9

QUOTA SHARES FOR SALE

LEA2
OYS7
PAD7, PAD8
PIL
SCA7

QUOTA SHARES FOR TENDER

CRA8
1/2 TONNE
SHARES FOR
TENDER
Tenders close
30th June 2017
5pm (NZST)

QUOTA SHARES FOR TENDER

PAU4
1/2 TONNE
SHARES FOR
TENDER
Tenders close
30th June 2017
5pm (NZST)

FLOATS FOR SALE

<p>Ribbed cray floats</p> <p>AO \$25/float + GST Dia - 20cm Circ - 70cm Length - 27cm Eye - 2.5cm Available in red, black, orange and green</p> 	<p>Longline/cod pot floats</p> <p>PA/R2 \$40/float + GST Dia - 32cm Circ - 98cm Length - 60cm Eye - 2.5cm Available in red, yellow, white and green</p> 	<p>Titanium Trawl Floats</p> <p>30/3 SPOA Dia - 30cm Max depth - 3,000m Working depth - 2,500m Impact strength - 60kg/m</p> 
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DOMINIC PREECE **PHONE (03) 383 7282 | FAX (03) 383 7288 | MOBILE 027 406 0419 | quotabroker@xtra.co.nz | www.aotearoaquota.com**
Managing Director HEAD OFFICE | PO Box 38174, Parklands, Christchurch 8842



#4941 WETFISH STERN TRAWLER

Built 1991 LOA 22.24m x B 5.52m
Caterpillar 3412 375kW main
3 x Auxilliaries. 2 x 47.5 Stamford gens
Hundestad VP propeller
Fish hold 130cbm.
Accommodation for 5
Grumsen Split trawl winches. Gilson.
Net drum. Good electronics
Danish survey (built to DNV Ice C)

Euro 810,000

#4940 WETFISH TRAWLER - SHELTER DECK

Built 1988 Sweden LOA 23.22x x B 5.8m
Volvo Penta D16 650hp main NEW March 2016
2 x Cummins auxiliaries
Hundestad VP propeller in nozzle
Bow Thruster
Brine tanks 45 tonnes. + 500 boxes in fish hold
3 x split trawl winches
3 x net drums
Danish survey

Euro 600,000



#4938 BOTTOM LINER/TROLLER.

Could go back trawling
Built Robb, Timaru 1970. Kauri
LOA 16.5m x B 4.27m x D 1.83m
Detroit 8V71
4,000 litres fuel
Ice hold 14 tonnes bulk
Line drum, Tuna poles
MNZ survey 100 miles.
Owner retiring

\$95,000



#4937 SURFACE LONG LINER

Timber Built Australia 1975
Cummins NTB55 261kW
Twin disc 405 . 10 knots
Fuel 5,000 litres
Water 1400 litres
10 tonnes fish hold
30m Steeltech drum .
Tuna poles.
Survey not current.

\$150,000



#4917 MULTI PURPOSE
FISHING VESSEL / WORK
BOAT. HULL REFITTED
Steel built 1969
16m x 4.4m x 2.3m
Gardner 6L3B 170hp
Ice hold 10 tons.
Survey to 2020.

**KEEN SELLER PRICE
REDUCED TO \$150,000**

All prices indicated are plus GST unless otherwise stated.

150 VESSELS AT



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WE'RE COMMITTED TO A VIABLE SEAFOOD INDUSTRY. We actively support the industry with initiatives which inject value back into fishing communities. We pride ourselves on the transparency

of our mechanisms of sale and activity, including our dutch auction which ensures fair market prices. We back this up with guaranteed weekly payments to our suppliers.

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