

AUGUST 2015 • VOLUME 23 • NO.4

# Seafood

NEW ZEALAND

**Building industry reputation  
in the classroom p 24**

**Cover: Working for safe and  
sustainable seafood p 15**

**Investing in the  
Chathams' riches p 40**





# Your biggest catch could be your worst nightmare

**On the sea floor of Cook Strait, 350,000-volt power cables and fibre optic cables link the North and South Islands, delivering essential electricity and communication to households and businesses throughout New Zealand.**

At Transpower, it's our job to keep this energy and communication flowing over land and under sea. That's why we have a vital interest in the protection of our undersea cables from damage caused by fishing and anchoring in the Cook Strait Cable Protection Zone.

As a maritime professional, fishing in the Cook Strait area, the safety of our country's critical power and telecommunications connections is literally in your hands.

## **Respect the Cable Protection Zone (CPZ)**

If you are fishing or anchoring near the CPZ, know your exact location by checking the relevant charts. These include: NZ 463, NZ 6212 and NZ 615.

**Should you snag your anchor or fishing equipment on a cable, do not try to free it.**

Instead, record your position, abandon your gear and advise Transpower's patrol vessel ("Seapatroller", Channel 16 or cellphone 0274-442-288) or Transpower of the situation immediately.

## **Severe Penalties apply – don't jeopardise your livelihood**

Under the law, any vessel of any size, fishing or anchoring in the CPZ may be subject to significant legal penalties. These sanctions cover any equipment that may be used for fishing or anchoring deployed over the side of a vessel in the CPZ.

Penalties apply to both the master and vessel owner, including fines up to \$100,000 for fishing or anchoring, and up to \$250,000 for damaging a submarine cable. In addition the Court may order forfeiture of the vessel and Transpower may take legal action to recover repair costs, which could exceed \$30-\$40 million.

Don't take chances. Refer to the publication Cook Strait Submarine Cable Protection Zone. This is located on the Transpower website [www.transpower.co.nz](http://www.transpower.co.nz)

Alternatively contact 0800 THE GRID or 0800 843 4743.

## Catch fish... not cables



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# From the Chief Executive



**Our magazine has had a facelift – we hope you like it.**

This issue complements our 2015 conference theme: New Zealand Sustainable Seafood – Adding Value.

Nelson's Cawthron Institute's work in helping to underpin New Zealand's world class reputation for safe, sustainable seafood from a pure environment is our cover feature.

Conference keynote speaker Ian Proudfoot challenges the seafood industry to move on

from the "tried and true" and explore future possibilities if it wants to add value and secure ongoing success in the global marketplace.

Dr Pamela Mace, Ministry for Primary Industries principal advisor fisheries science, previews her conference presentation on the healthy state of our fisheries stocks.

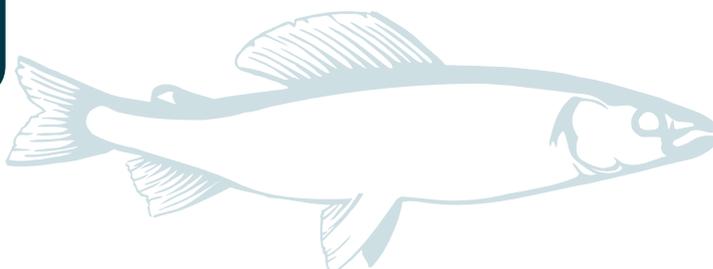
We visit the Chatham Islands where a new fish factory and wharf are providing a huge economic boost.

You can read about an example of the industry's commitment to protecting the marine environment through the great work Whitianga fisherman Adam Clow is doing to see if cameras can be used to reduce seabird captures on longlines.

A Timaru skipper who dropped out of school at 13 and nearly "fell off the rails" shares the story of how his life turned around when he found a career in fishing.

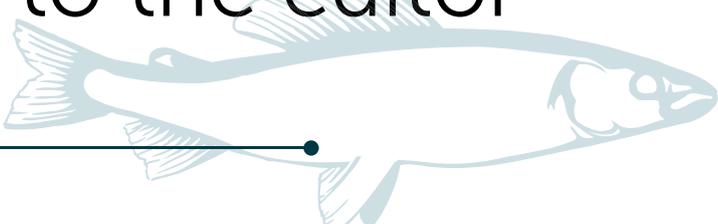
There's much more inside about our industry and its vibrant people.

**Tim Pankhurst**



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# Letters to the editor



15 June 2015

The Editor  
Seafood New Zealand Magazine

Dear Sir

Your June edition published two articles relating to the new MOSS regulations. The articles were an example of your industry taking safety seriously and constructively. Often new regulations are perceived as unnecessary, onerous and expensive. To some extent they are, however the up side far outweighs the costs and hassle, especially where the industry gets behind the intent of the new regulations, which is to keep our people safe. Saving a life, or reducing the frequency of injuries makes the MOSS worthwhile.

Congratulations on your engagement with the industry to improve the health and safety of the people you work with every day.

Sincerely

**Alastair Scott**  
**Deputy Chair**  
**Transport and Industrial Relations Select Committee**

## HAVE A SAY

Got something to say to the seafood industry? Tell us and we'll tell them. Letters should be no more than 250 words. We reserve the right to edit letters for length, sense and legal reasons. While we won't publish your contact details, we need your name, address and phone number. Send your letters to [editor@seafood.co.nz](mailto:editor@seafood.co.nz), or address them to The Editor, Seafood magazine, PO Box 297, Wellington 6140. We need them by the 1st of the month to be considered for the following edition.



# Message from the Minister

## The importance of adding value



**Hon Nathan Guy**  
Minister for Primary Industries

**This year's Seafood New Zealand annual conference has a great theme. "Sustainable Seafood – Adding Value" is a perfect summary of where the wider primary sector (not just seafood) needs to head, and matches with our priorities as a Government.**

We've set an ambitious goal to double the value of primary sector exports by 2025, and in a sustainable way.

The most recent Situation Outlook for Primary Industries shows that seafood exports are forecast to rise to \$1.8 billion by 2019, with aquaculture predicted to grow strongly.

Adding value to these exports is crucial because we can't just double production. As a nation we produce enough food to feed around 40 million people, so we need to make sure we are targeting the wealthiest consumers.

Innovation is key to this and it's great to see a range of speakers at this conference covering this topic.

As a Government we are investing heavily in this area through the Primary Growth Partnership. One of these projects is Precision Seafood Harvesting which features at your conference, and has the potential to revolutionise how we catch fish commercially.

The other exciting project is SPATnz which has just opened a new high-tech facility in Nelson. This is the first ever hatchery specially designed for mussels, allowing reliable and selective breeding. It has the potential to generate nearly \$200 million per year to New Zealand's economy.

The importance of social licence is becoming more important to how businesses operate. Sustainability is no longer a 'nice to have' – it's essential to our consumers, the wider public, and our future employees.

It's great to see speakers from the recreational sector on the agenda. Our fisheries are shared and we need to work together to build goodwill and understanding.

Enjoy the conference. ➡



IN CHINA, KNOWING  
**YOUR FOOD**  
COMES FROM A  
**TRUSTED**  
**SOURCE**  
IS OF GREAT IMPORTANCE

China's urban consumers actively research the provenance of their food. Providing clear, accessible information on the origin and safety standards used in the production of your food products is one of the keys to success. With over 48,000 staff in 34 markets, this is just one of many invaluable local insights ANZ is able to identify for our clients.

**To find out how your business can benefit from ANZ's knowledge and expertise, call Grant Nicholls on 09 252 3500.**



## Sophie Preece – Freelance journalist

Freelance journalist Sophie Preece says there's nothing quite like plucking wild mussels from craggy rocks, or slurping farmed oysters straight from their shells, knowing they've been grown in the beautiful Marlborough Sounds. She reckons it's even better doing so knowing a team of marine scientists and analytical chemists at the Cawthron Institute keep a vigilant eye on algal blooms to make sure plucked mussel and shucked oysters are safe to eat. Sophie speaks to a couple of those chemists about how science is safeguarding New Zealand's seafood industry. Sophie and her salmon-farming husband Mark spend a lot of time kayaking, sailing, swimming and sampling seafood in the Marlborough Sounds with their children Ben, 7, and Emily, 5. ➔

## About our contributors

We've introduced this new feature introducing some of our regular contributors. In this issue we profile Sophie Preece who has written the cover story giving an insight into the value the Cawthron Institute adds to the seafood industry.

## MSC UPDATE

# Fishing for a Sustainable Future in New Zealand



*Meredith Epp, MSC*

Nearly 70 per cent of New Zealand's fisheries are certified to the Marine Stewardship Council sustainability standard, including six different fisheries with stocks of hoki, southern blue whiting, hake, ling and albacore tuna as well as Ross Sea toothfish. Seafood is an important part of the culture in New Zealand and protecting oceans for the future generations is a goal that the seafood industry, government and conservations groups endeavour to maintain and increase.

The Marine Stewardship Council (MSC) is an international non-profit organisation set up to help transform the seafood market to a sustainable basis. The MSC runs a certification and

eco-labelling programme for wild-capture fisheries with a set of standards which fisheries can be assessed against by third party auditors. The three core principles of the MSC standards are:

- Viability of target stock
- Impacts on environment
- Management of the fishery

In total, over 300 fisheries are engaged in the MSC programme with 205 certified and over 100 under full assessment. Another 40 to 50 fisheries are in confidential pre-assessment. Together, fisheries already certified or in full assessment record annual catches of close to 10 million metric tonnes of seafood. This represents over 11 per cent of the annual global harvest of wild capture fisheries. Certified fisheries

currently land over seven million metric tonnes of seafood annually – close to eight per cent of the total harvest from wild capture fisheries. Worldwide, more than 22,000 seafood products, which can be traced back to the certified sustainable fisheries, bear the blue MSC ecolabel.

For more information on the work of the MSC, please visit [www.msc.org](http://www.msc.org)

Connect with us on social media to stay up to date on the latest certification news, recipes, standards updates and events:

Twitter: [@MSCinAustralia](https://twitter.com/MSCinAustralia)

Facebook: [/MSKinNewZealand](https://www.facebook.com/MSKinNewZealand) ➔

# Scholarships for budding fisheries and aquaculture researchers

Five seafood industry-funded scholarships have been announced for student researchers in the fisheries and aquaculture sectors.



Tushar Koppikar (top), Mikaera Miru (centre) and Georgia Samuels (bottom) are the recipients of this year's New Zealand King Salmon scholarships for students studying the diploma in aquaculture at Nelson Marlborough Institute of Technology (NMIT).

While Kasper Brandt and Melissa Marquez are the recipients of the new seafood scholarships funded by Deepwater Group and Fisheries Inshore NZ (run through Victoria University).

Brandt and Marquez are both MSc students at Victoria University of Wellington. Marquez is researching sharks and ghost sharks, and trying to determine what it is that can make some species apparently resilient to fishing, whilst others seem to be especially vulnerable. Brandt is researching blue cod, specifically their maturation and growth. The aim is to improve estimates of the sex, maturity, and fecundity of blue cod to help determine the best minimum landing size or slot rule.

Mikaera Miru is an NMIT aquaculture diploma student and is keen to run his own aquaculture business specialising in kina production and management.

Georgia Samuels is in the second year of her aquaculture diploma at NMIT, and completed her Year 1 placements at Clearwater Salmon Hatchery in Christchurch fin clipping over 33,000 salmon, and studying the eating habits of King Shags at NIWA in Nelson.

Tushar Koppikar, is a postgraduate international student of aquaculture at NMIT, with a degree in zoology and fisheries, as well as an MSc in marine biology. His work experience to date has been with shrimp farming—monitoring water quality, feeding and harvesting.

Victoria University of Wellington Associate Professor Matthew Dunn says the seafood scholarships aims

to provide research of value to the New Zealand industry and help train future fisheries scientists.

"We plan to fund another four students over the next 2-3 years, on a range of topics," Dunn says.

New Zealand King Salmon Environmental Compliance Manager Mark Gillard said the company was providing the scholarship to give back to the community and to give keen students the opportunity to study without having to worry so much about where the money is coming from.

"It is a great cause and one we are proud of." Gillard says. 🐟



Above: Victoria University of Wellington students Melissa Marquez and Kasper Brandt are recipients of the new seafood scholarships funded by Deepwater Group and Fisheries Inshore NZ.

## WORLD MARITIME DAY

The New Zealand Maritime industry is celebrating World Maritime Day (Thursday, September 24) with a week of activities from Monday, September 21 to Sunday September 27.

This year's theme is Maritime Education and Training.

A number of awareness raising activities are being planned by a maritime industry working group. Seafood New Zealand will keep you posted of what's planned through Friday Update, Facebook and Twitter.

For more information about World Maritime Day go to: <http://www.un.org/en/events/maritimeday/> 🐟



# Focusing on adding value in the global marketplace

*Ian Proudfoot, the global head of KPMG Agribusiness is the keynote speaker at this year's New Zealand Seafood Industry conference. He challenges the industry to move on from the "tried and true" and explore future possibilities if it wants to secure ongoing success in the global marketplace.*



*Ian Proudfoot*

**The rest of the world has woken up to the growth in demand for food, particularly for proteins, that will occur over the next 30 years.**

The Australians are talking about the "dining boom rather than the mining boom". Silicon Valley venture capitalists are looking for opportunities to disrupt traditional farming systems.

The money men from the world's largest investment funds see the protein wave as one they can't afford not to be riding.

This is all good news for New Zealand food producers, including the seafood industry—it places us, as world class producers of food, at the heart of an emerging global boom.

It creates countless opportunities for our businesses to add greater value to the products they produce by meeting the needs of new customer niches—be they the emerging Asian middle class, our increasingly aged population or the 3.8 billion people that adhere to religions that prescribe elements of their followers' diets.

However, the potential will not be realised by continuing to do the same things the same way into the future.

The innovation that has delivered our success to date will need to be built on to secure future success in a global market where producing more food from less available resource has become a high priority focus for many Governments around the world.

Meeting this expectation is not a "nice to have". Our customers expect us to produce increasingly sustainable food and are defining the standards their suppliers need to meet, be that water use, maintenance of biodiversity or animal welfare.

As a small player in a massive market the focus for New Zealand companies for 2015 and beyond is maintaining relevance. Our producers need to stand out from other suppliers by exploring ways to exceed the standards customers are prescribing to underline the unique and irreplaceable quality of the products we produce.

We need to bring innovation to market niches where we have natural competitive advantages. We should not be focused on trying to feed 40 million people but on providing the fraction of the diet that is the lifestyle-enhancing, premium experience to the 400 million richest consumers.

To achieve this, our focus must be to gain deep understanding of these customers and work to design solutions to meet their needs. We need to recognise that the food being eaten around the world is changing and be prepared to adapt to these changes.

We also need to focus on how value can be added. This could be by identifying and clinically verifying properties that can contribute to the management of medical complaints or support general wellness, something many consumers are prepared to pay extra for.

Value can be added in the solutions presented to specific consumer groups, whether this is ready-to-eat products for urban dwellers with limited kitchen facilities or nutritionally balanced, portioned controlled foods that are easy for elderly people to eat and enjoy.

We need to use technology to make our products local to consumers around the world.

We need to recognise that the food being eaten around the world is changing and be prepared to adapt to these changes.

Premium consumers are more likely to seek to understand where their food has come from. Technology enables our producers to connect with these consumers, explain how the product is produced, how it can be used and enter into a two-way dialogue. With a smart supply chain, technology enables us to become the local food producer to the world.

Our companies need to be bold and be prepared to shape their future markets rather than adopting a market-led strategy, which in effect is a following strategy in a market being shaped by a competitor's innovation. 🌐

# The future's looking bright



Proudly supporting the 2015 New Zealand  
Seafood Industry Conference



SANFORD

# The IMPROVING STATE of our fisheries

*A rigorous annual assessment process led by the Ministry for Primary Industries (MPI) shows our fish stocks are in good heart. Dr Pamela Mace, the Principal Adviser Fisheries Science at MPI, oversees the research. She reports on the latest findings:*

Each year the Ministry convenes a large number of Fisheries Assessment Working Group meetings, open to anyone who wants to attend.

Presentations are made by researchers at these meetings, combining the results of scientific research with catch and effort reports from commercial fisheries, data from the on-board observer programme and other information sources.

Detailed summaries are provided in a five-volume annual Fisheries Assessment Plenary report.

Information on stock status is then further summarised and published by MPI as *The Status of New Zealand's Fisheries*.

The report measures the status of New Zealand's fish stocks against the Harvest Strategy Standard (HSS) for New Zealand Fisheries (2008) – a standard aligned to the Fisheries Act.

## The HSS specifies four performance measures:

➤ the *soft limit* – a biomass (the total weight, in tonnes, of a particular species of fish in a defined area) level below which a stock is deemed to be “overfished” or depleted and needs to be actively rebuilt;

➤ the *hard limit* – a biomass level below which a stock is deemed to be “collapsed”, where fishery closures should be considered in order to rebuild a stock at the fastest possible rate;

➤ the *overfishing threshold* – a rate of extraction (percentage of a stock removed each year) that should not be exceeded as it will ultimately lead to the stock biomass declining below management targets and/or biomass limits, if this hasn't already happened; and

➤ the *management target* – usually a biomass level, but sometimes a fishing mortality rate, that stocks are expected to fluctuate around, with at least a 50 per cent probability of achieving the target.

By the end of 2014, 83.6 per cent of our fish stocks of known status were above the “*soft limit*”, 94.3 per cent were above the *hard limit*, 86.0 per cent were below the overfishing threshold, and 72.3 per cent were above their *management targets*.

When considering the tonnage of landings of fish stocks of known status in 2014, 96.4 per cent of the landings was made up of stocks above the ‘*soft limit*’, 99.5 per cent was of stocks above the ‘*hard limit*’, 95.9 per cent was of stocks below the ‘*overfishing threshold*’, and 90.3 per cent was of stocks above their *management targets*.

## HIGHLIGHTS FROM THE 2014 AND 2015 PLENARY REPORTS

➤ As a consequence of substantial reductions in **hoki** quotas over the period 2001–2007, both stocks of hoki (eastern and western) increased in size for eight consecutive years, and have subsequently stabilised in 2015 at a level above the upper end of the *management target* range. As a result, the hoki TACC has been progressively increased from 90,000 metric tonnes to 160,000 metric tonnes over the period 2008–2014.



“ In all cases where stocks are below the soft or hard limit, measures have been, or are being, put in place to rebuild the stocks ”

➤ Four new stock assessments for **orange roughy** were completed in 2014, with three of the stocks – two on the Chatham Rise and one on the Challenger Plateau – showing moderate to substantial increases in biomass from the late 1980s to early 2000s, with the current biomass being near or within the *management target* range in all three cases. The fourth assessed orange roughy stock – on the mid-east coasts of the North and South Islands – appears to be rebuilding slowly but is below the *management target*. A TACC reduction for this stock was implemented in 2014.



➤ The Campbell Island Rise **southern blue whiting** stock is estimated to be well above its *management target* and is currently near historically high levels.



➤ An international assessment of **yellowfin tuna** in 2014 showed that it is performing well relative to all harvest strategy standard performance measures.

➤ New assessments for almost all **rock lobster** stocks show that all are performing well relative to all harvest strategy standard performance measures. Rock lobsters in the Bay of Plenty are an exception as they are estimated to be below their *management target* (but well above biomass limits). The Chatham Rise rock lobster stock has not been assessed.



➤ New assessments for three **paua** stocks along the east, south and southwest coasts of the South Island (areas PAU 3, PAU 5A and PAU 5B) show that all of these stocks are at or above their *management targets*.



➤ New stock assessments in 2013–2015 show that **red gurnard** are at or above their *management targets* in virtually all areas where they occur (although *overfishing* may be occurring in some South Island areas).



➤ **Tarakihi** on the west coast of the South Island were assessed to be performing well in 2014 relative to their *management targets* and biomass limits.



➤ **Trevally** on the west coasts of both the North and South Islands was assessed in 2015 to be above the *management target* with overfishing very unlikely to be occurring.



## RESPONSES TO STOCKS BELOW BIOMASS LIMITS

In all cases where stocks are below the *soft* or *hard limit*, measures have been, or are being, put in place to rebuild the stocks. For example, fisheries on two orange roughy stocks or sub-stocks have been closed (they effectively have a TACC total allowable commercial catch) or voluntary catch limit of zero) to maximise the rate of rebuilding. A rebuilding plan was implemented for the orange roughy stock on the mid-east coasts of the North and South Islands in 2014.

The Tasman Bay scallop fishery has been voluntarily closed to all commercial fishing since 2006, and the Golden Bay scallop commercial fishery has been voluntarily closed since 2011.

Bluenose stocks were identified in May 2008 as needing rebuilding. Three TACC reductions were implemented in 2008, 2011 and 2012 to ensure the stocks rebuild to target levels.

The Commission for the Conservation of Southern Bluefin Tuna (CCSBT) has adopted a management procedure designed to rebuild the stock to interim and long-term target levels. Conservation measures have also been adopted for bigeye tuna by the Western and Central Pacific Fisheries Commission (WCPFC). New Zealand is an active member of both of these Commissions.

These changes demonstrate the responsiveness of New Zealand's fisheries management system to the intrinsic fluctuating nature of wild fish stocks and our contributions to the management of international fish stocks. 🐟

➤ The biomass of **stargazer (monkfish)** on the west coast of the South Island has increased strongly over the period 2008–15 and was assessed to be performing well relative to all harvest strategy standard performance measures in 2015.



➤ **Elephantfish** around the east and south coasts of the South Island appear to have substantially rebuilt from the low levels experienced in the late 1980s.



➤ The biomass of **snapper** along the north and west coasts of the South Island was assessed in 2015 to have increased substantially from 2010 to 2014.



# Working for safe and sustainable seafood

**Nearly 100 years after Thomas Cawthron highlighted the need for science to enhance and protect primary industry, Cawthron Institute is playing a vital role in adding value and sustainability to New Zealand's seafood sector.**



## “It’s a phenomenal success story for Cawthron Institute, earning export dollars and international prestige”

Nearly 100 years after Thomas Cawthron highlighted the need for science to enhance and protect primary industry, Cawthron Institute is playing a vital role in adding value and sustainability to New Zealand’s seafood sector. *Sophie Prece reports.*

**In a large Spanish laboratory at the edge of the Galician coastline, a scientist uses a drop of Cawthron sourced precious liquid to test mussels for okadaic acid.**

In a far smaller lab in Nelson, at the edge of the Tasman Sea, Dr Paul McNabb and his team of scientists create that liquid gold from micro-algae,

providing more than 200 labs around the world with tiny amounts of purified marine toxins.

Cawthron Institute has been researching marine micro-algae for the past three decades, and has become an internationally recognised centre for seafood safety. Off the back of that research, it is growing and processing micro-algae to produce exact quantities

of around 30 natural compounds that can cause illness, paralysis or death when consumed in seafood.

“Our toxins are used for calibration of new tests, and we can do the algal growing and isolation better than anyone else,” says Paul.

Until recently, the Galician lab, like many, would have used a mouse test to safeguard consumers from toxins and subsequently protect the seafood industry.

But the mouse test was costly, had delayed results, and often proved a false positive, in which case the dead mouse led industry and regulators to shut down harvest and recall stock, when in fact there was no actual threat, says Paul.

That was bad news for the producer and the wider industry, let alone the sacrificial mouse.

Scientists at Cawthron, regulators and, most importantly, shellfish growers, were unsatisfied by the crude test, and aware that at some stage people would begin to “squeal” about the use of animals, says Paul.

In 2000 they pioneered an instrumental test method for marine toxins in seafood, using a liquid chromatography-mass spectrometer (LC-MS).

Cawthron chief executive Professor Charles Eason (centre) says Cawthron Institute’s work helps underpin New Zealand’s world class reputation for safe, sustainable seafood from a pure environment.

**Image:** Cawthron Institute.



Alongside its research and science projects, Cawthron runs a host of community and educational initiatives. A winning entry in Cawthron's Seaweek photography competition, this year, themed as Beneath the Surface, came from Lily Power.

Because the new test is calibrated, unlike the mouse, it indicates the level of the toxins, if present, so industry has a steer on whether their products are close to regulatory thresholds, says Paul.

Fifteen years on, Cawthron Natural Compounds is a world leader in growing and processing micro-algae to produce the purified toxins required as a reference material for the test.

Meanwhile, the new test developed by Cawthron has become the standard worldwide, and is mandated by the European Union, resulting in a leap in demand for the toxins.

"Our work changed the regulations and the way we do this testing, so it's opened this market up," says Paul.

He points out that using a highly skilled team to produce something that is virtually weightless, but has an incredibly high value per gram, is a great business model for New Zealand.

Last year Cawthron Institute signed a deal with global distribution company Sigma-Aldrich, which works with labs in America, France, Australia, Spain and beyond.

It's a phenomenal success story for the Cawthron Institute, earning export dollars and international prestige.

Meanwhile, another project is also building on Cawthron's decades of research into natural toxins in shellfish.

The Institute, along with Japan's Hokkaido University and National Research Institute of Fisheries Science, is conducting research to better understand the link between food, obesity and diabetes.

The team is investigating the natural properties of New Zealand Greenshell™ mussels, paua, and several species of seaweed and algae.

Their first step will be to determine if the foods have any effect on the diseases, says Paul, who is project leader. "If they do, then we'll attempt to identify and isolate the cause for those effects, and then see if we can influence the levels of those components in raw foods, or replicate them artificially in the lab."

He says it's not about food being a cure for the diseases, "but foods can affect the body's response to disease – and we want to find out how and why this happens".

The project builds on 20 years of research between Cawthron and Japanese scientists looking at natural toxins in shellfish, and complements

Cawthron's existing research into health promoting properties from Greenshell™ mussels and algae.

Projects like this and the marine toxins work have enormous potential to add value to the seafood sector.

But they're just the cherry on the top of a research programme ensuring the safety and sustainability of New Zealand's seafood industry.

The Safe New Zealand Seafood programme is a collaboration between programme leader Cawthron, AgResearch, Plant & Food Research, and the Institute of Environmental Science and Research (ESR).

Co-leader Dr Tim Harwood, speaking from another Cawthron lab in Nelson, says it is an "insurance policy", to ensure New Zealand's seafood continues to gain access to premium export markets.

The programme has seven years of Government funding through the Ministry of Business, Innovation and Employment (MBIE), with just over \$2million per year, from 2013 to 2020.

Tim says seafood is the only primary sector with a dedicated food safety research programme and everyone involved sees it as enormously valuable.



Dr Paul McNabb says the move to using LC-MS to test for seafood safety, in lieu of live mice, was also due to a fear that in Europe there would eventually be some “squealing” about the use of animal testing. **Image:** Cawthron Institute.

“To have this background programme to identify current risks and come up with ways to better address them, or to look out to the horizon and scan for emerging risks that are likely to come to our shores, and be able to address them, is pretty cool.”

The work is strengthened by being collaborative, bringing the “best team to the table to meet the needs of the industry”. The expertise of each organisation is utilised to investigate and identify pre-harvest and post-harvest microorganism risks to New Zealand seafood, including harmful micro-algae, viruses and bacteria.

The collaboration goes beyond New Zealand shores, and Tim has

worked with scientists in Japan, the UK, Canada and French Polynesia since he joined the programme in 2012, and more recently has been sharing Cawthron’s knowledge with several Australian research organisations.

He says New Zealand has a world-leading reputation in testing seafood safety, largely thanks to a “major event” in 1993, when all commercial shellfish areas in New Zealand were closed because of toxins produced from a micro-algae bloom event.

That spurred Government, industry and scientists to act, establishing relationships with expert marine toxin chemists in Japan, kick-starting regular monitoring of seawater and shellfish

flesh, and enhancing collaboration between labs, government regulators and industry.

Experienced Cawthron scientists Dr Lesley Rhodes and Dr Lincoln McKenzie were already conducting research on micro-algae toxins and the event gave their work greater relevance and impetus.

In 2000 Cawthron decided to lead the move away from the mouse bioassay and spent around \$1million dollars on its first mass spectrometer to measure levels of marine toxins in shellfish.

Tim says that was “a massive risk and a massive outlay” at the time, but the result has been of great benefit to the



One of the most cost effective ways to produce marine toxins is to harvest the micro-algae from the wild, says analytical chemist Dr Tim Harwood. These Cawthron staff use a plankton net to collect bucket loads of *Alexandrium catenella* cells, which produce paralytic shellfish toxins.

**Image:** Cawthron Institute.



Dr Tim Harwood with the liquid chromatography–mass spectrometer (LC-MS) used to check seawater and seafood for undesirables.

**Image:** Sophie Preece.

## “For your science to mean something and make a difference – that’s very rewarding”

industry, with financial savings, faster turnaround times and a reduction of false positive results.

“We now have reasonably regular blooms of harmful micro-algae around the coastline of New Zealand and it does affect the industry, but we are able to monitor toxin levels and are able to ensure there’s no risk of harvesting contaminated product, so that it can be exported and people don’t get sick.”

These days he has a room full of the LC-MS, a team with the niche skills to use them, and a programme with an international reputation.

Their work, while ensuring the safety of New Zealand seafood for export, has a halo effect and also leads to greater

safety for recreational fishers.

It can also impact on refining regulations, such as calling for a reduction or removal of a regulated marine biotoxin level, based on a toxicologist’s research. “We can help be a rule maker rather than a rule taker,” says Tim.

When the analytical chemists confirm the presence of toxins, they alert the compounds team, who can harvest the algae cells required to create their purified marine toxins from the wild, rather than growing them in the lab.

For Tim, whose background is in academia, the work has “real world”

impacts, and he loves being able to pick up the phone to talk to a mussel farmer he’s helping. “For your science to mean something and make a difference – that’s very rewarding.”

The Cawthron Analytical Services team provides food safety and compliance testing for the wider seafood industry to ensure they meet overseas market access requirements (OMARs), such as label claims, microbiology and chemical contaminants, like mercury. It also provides research and development services for seafood by products and marine extracts.

Paul and Tim are two of more than 200 scientists, laboratory technicians, researchers and specialist staff working for Cawthron in Nelson, delving into a range of outcomes based projects.

Cawthron chief executive Professor Charles Eason says it is work that remains true to the wishes of institute founder Thomas Cawthron nearly 100 years ago, to provide science in support of primary industry.

“It underpins our world class reputation for safe, sustainable seafood from a pure environment.”

Cawthron's Coastal and Freshwater Group provides farmers with knowledge and tools to find suitable space and to assess and manage the environmental impacts of their farms, as well as manage risks, including biosecurity, harmful micro-algae, and contaminants.

And at its aquaculture park, 10 minutes north of Nelson, Cawthron runs projects in collaboration with industry, such as salmon feed studies, selective shellfish breeding, the SPATnz mussel hatchery and exploration of scampi opportunities. (see sidebox).

Alongside its research and science projects, Cawthron runs a host of community and educational initiatives. It is the major sponsor of the Cawthron Marlborough Environment Awards, runs the Nelson Science Fair, takes science into schools and holds a Seaweed photography competition each year.

That's a vital part of ensuring science, sustainability and New Zealand's primary industries have a bright future, says Charles.

“Through our community education and development programmes we're fostering the next generation of scientists and promoting a greater understanding and appreciation of the value of science.” 🍷



Cawthron technical consultant, Craig Waugh, inspects a marine toxin sample. **Image:** Cawthron Institute.



One of the most cost effective ways to produce marine toxins is to harvest the micro-algae from the wild, says analytical chemist Dr Tim Harwood. These Cawthron staff use a plankton net to collect bucket loads of *Alexandrium catenella* cells, which produce paralytic shellfish toxins. **Image:** Cawthron Institute.

## Cawthron adding value

This year's New Zealand Seafood Industry Conference theme, "New Zealand Sustainable Seafood—Adding Value" is perfectly aligned with Cawthron Institute's work, which focuses on every step of a seafood product's life-cycle, from source to export, in order to improve production and sustainability.

That work includes everything from breeding, spawning, growing

and harvesting, to a product being packaged and exported around the world. It's in the monitoring of the water, the development of aquaculture farms and on-farm technology, and in vitally important food safety testing and analysis to meet export requirements.

Cawthron was established in 1919 and is New Zealand's largest independent science organisation, with more than 200 highly-skilled scientists,

laboratory professionals and specialist staff. Its world class science is supported by substantial testing and research laboratories, state-of-the-art technology and purpose-built aquaculture park.

Here are a handful of Cawthron Institute's many outcomes based projects, which are striving towards a safe, sustainable and high-value seafood sector. 🌊

## WATER QUALITY

Cawthron's Coastal and Freshwater Group develops tools to look at the characteristics of a system, water currents, depths, and habitats surrounding a potential farm site. It also develops forecasting tools, including models to help simulate effects on the seabed, potential changes in levels of nutrients or predictions of harmful algal blooms or contamination events. The team also works with local councils to monitor water quality, sediment and the impact of fresh water.

## MUSSELS

A world-first mussel hatchery and lab facility opened at **Cawthron Aquaculture Park** in April, to selectively breed Greenshell™ mussels for industry. The mussel farming industry has traditionally relied on spat collected from the wild and, at the whim of nature, has had to adapt to variability of supply and quality. The new hatchery was built by **Shellfish Production and Technology New Zealand Ltd** (SPATnz) as part of a \$26 million **Primary Growth Partnership programme** between SPATnz, Sanford Limited and the Ministry for Primary Industries.

## SALMON

A new research collaboration based at the Cawthron Aquaculture Park was announced in February, with a **\$5.2 million project** spearheaded by Nelson-based **New Zealand King Salmon**. The world-first study aims to develop a high-quality, species-specific feed to improve on the generic products currently available. It brings together a research group comprised of Cawthron Institute, **Seafood Innovations Ltd** (SIL), the **Nelson Marlborough Institute of Technology** and Danish feed producer **BioMar**.

## SCAMPI

This world-first research project is aimed at moving scampi beyond frozen commodity production to a live export trade, thereby realising an estimated \$200 million annual export potential. The initiative is led by Cawthron Institute in collaboration with Waikawa Fishing Company, University of Auckland and Zebra-Tech.

# FUNDING AVAILABLE

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Images provided from last year's conference.

# Farming Goodness

New Zealand Aquaculture Conference, Nelson, September 17-18



**You won't find these addresses on any map but Oyster Alley, Salmon Street and Mussel Row will be the number one destination for New Zealand's seafood industry next month.**

As part of the annual New Zealand Aquaculture Conference, oyster, salmon and mussel farmers come from across the country to serve their best produce direct to delegates at the September 17-18 event in Nelson – and people come from all over the seafood industry to experience it.

## Inspiring speakers

Themed Farming Goodness, the 2015 conference brings inspiring and entertaining presenters to explore the challenges and opportunities for sustainable aquaculture growth in New Zealand.

"The programme includes a wide range of speakers from across primary industry in New Zealand and abroad to explore topics around: confidence to invest, adding value in market, social license, innovation and capability, iwi participation and protecting and enhancing productivity," said Aquaculture New Zealand CEO Gary Hooper.

"Each speaker has been handpicked to provide industry with ideas, tools and inspiration to be a resilient and

prosperous sector farming goodness."

## Amazing seafood

While the quality of the speakers makes it a must-see event, the quality of the food makes it a must-taste experience.

"An integral part of our conference is serving up a showcase at every meal of what makes New Zealand's farmed seafood the world's best," Gary said.

"At Oyster Alley, you can compare the "merroir" (the marine equivalent of terroir) of at least six different oysters as the farmers themselves shuck them for you and explain their individual characteristics.

"Along Salmon Street there is a suite of salmon styles from different regions around the South Island, prepared by top chefs. While Mussel Row is home to a selection of mussel favourites prepared directly by the people who farm them."

## Unparalleled networking opportunity

The event attracts over 300 delegates from around New Zealand, making it the industry's largest annual gathering.

"The conference has become a must-do event on the seafood calendar because of the wide range of industry contributors that it attracts," Gary said.

"As well as a large representation

from aquaculture and seafood companies, there is a strong presence from a host of other sectors including research, policy, finance, transport, packaging, and equipment manufacturers.

"It's the perfect platform for strengthening key relationships and making new contacts."

The 2015 event will again run in conjunction with a dedicated Technical Day which will precede the conference proper on September 16.

"The Technical Day brings the scientific community together with the relevant industry representatives to dissect technical aspects and align research priorities with industry needs."

With inspiring and entertaining guest speakers, unparalleled networking opportunities, and a culinary showcase of our aquaculture products, the New Zealand Aquaculture Conference is not to be missed.

For full event details and to register, go to [www.aquaculture.org.nz/farming-goodness](http://www.aquaculture.org.nz/farming-goodness) ➔



# Building industry reputation in the classroom



*Debbie Hannan*

**Tauranga professional fisherman Brian Kiddie and his wife Colleen have a growing fan club at Hamilton's Melville High.**

The couple first visited the school last year as part of a nationwide seafood-based education programme commissioned by Seafood New Zealand and delivered by a Hamilton-based company, the Ministry of Done, which specialises in developing classroom resources.

The Kiddies provide a "face" for the industry in the classroom giving a first-hand account of how our Quota

Management System works and bringing some of their catch into the classroom to show the students.

The first visit was such a hit the Kiddies were invited back in May this year to present to a wider audience of around 130 year nine students including students in the school's Best Buddies initiative which places students with disabilities with mainstream students in a friendship/"buddy" relationship.

The teacher who organised the experience, Jay Warren said the day was a "roaring success".

"It was a really valuable experience and when the fish is brought out that is just massive for the kids, everything comes alive and they get so excited.

"Opportunities to connect industry with education are not easy to plan and organise. However, the value added to student learning, particularly around sustainability issues is visible/tangible, and so the benefits for our students and school far outweigh the challenges posed in the planning stages.

"This is something students talk about throughout the year and remember fondly."

The events have helped students understand the commercial aspects of marine sustainability and have raised the industry's profile throughout the school, especially this year, Jay says.

"Having this as a school-wide event helped get the word out. Also having the Best Buddies crew preparing, cooking and serving kai moana to the year nine students who participated in the day was a great way to raise awareness of the seafood industry and get urban students, who have never eaten mussels and fish, the opportunity to do so.

"I have to extend a huge thank you to Karen Olver and Seafood New Zealand for their support with this aspect of the day. It really adds the extra 25 per cent and makes it a special school-wide event."

The event also gained positive profiling in Hamilton's daily newspaper, the Waikato Times. Jay Warren was quoted in the article as saying:

"The main thing we're going to get out of it (for students) is the sustainability aspect, keeping New Zealand's marine resource as a sustainable resource...the value of the ocean to New Zealand."

The paper also quoted Brian who said the visit was all about changing perceptions of the fishing industry, and especially how the quota management system works to control how much can be taken.

"You Google fishing and it's all gloom and doom. You don't actually get down to the sensible Quota Management System," Brian said.

Later that week Whitianga fisherman Adam Clow also visited a year 11 food studies class at Melville High to talk about a career in fishing. He took with him some freshly caught fish and showed the students how to fillet and crumb fish. Read more about Adam on page 26 and his work to help find new ways to protect seabirds. 🐟

**“The value added to student learning, particularly around sustainability issues is visible/tangible ”**



Melville High teacher Jay Warren gets ready to cook lunch with the students. **Image:** Colleen Kiddie.



Students sampling the seafood. **Image:** Colleen Kiddie.

Opposite page; middle left: Adam Clow taking fish to the classroom. Melville High students get hands on experience with fish. **Images:** Colleen Kiddie. Elizabeth Ross.



Flax seabirds being used in the trial.  
Image: Jason Elsworth.



Adam Clow, skipper, Southern Cross.  
Image: Bruce Foster.

# Electronic eyes on the water

Jackie Bedford

**Whitianga fisherman Adam Clow jumped at the chance to be involved in a trial to see if cameras could be used to increase monitoring of seabird captures on longlines.**

Snapper fishermen believe their fishery catches far fewer seabirds than is generally thought, but haven't been able to prove this. "I'm keen to show the public and anyone who's got any preconceived ideas – that we're not doing what they say we're doing," says Adam. "I want to be transparent and to show that what we're doing is sustainable."

Placing fisheries observers on board small inshore vessels can be logistically challenging, and electronic monitoring using cameras offers another way to monitor seabird interactions.

Conservation group WWF-NZ welcomes the trial as an important step in understanding more about the effect of fishing on seabirds. "It's

vital to collect this kind of data, and it can't be done without the support and engagement of the fishing community," says Peter Hardstaff, WWF-NZ's Head of Campaigns.

The trial is using woven flax, proxy seabirds that have the same profile as a dead seabird on a hook. These are attached to hooks at random times during normal line setting. The camera records the line being hauled on board and the footage is later reviewed blind – without the reviewer knowing how many seabird proxies were added to the line. From the trial it will be possible to see how well the cameras collect information on seabird captures and how easily they are picked up by reviewers. The trial is due to finish in September, when a report will be published on the camera's performance.

Jake Hore, a fisheries analyst from the Ministry for Primary Industries, has been involved in previous trials of electronic

monitoring and says MPI is exploring how the use of cameras for fisheries monitoring could provide advantages for New Zealand. "Overseas there are examples where electronic monitoring is fully integrated into the fisheries management regime – like Canada and in Europe. So it's not a new initiative and there are definitely opportunities for New Zealand to look at."

"The main driver for MPI and DOC is that we have obligations under the National Plan of Action for Seabirds which we are committed to achieving. The ability to collect better information on seabird interactions with fishing vessels will help us make management decisions that best protect our seabirds".

The main costs of electronic monitoring are camera installation, storage of the footage, and a person's time to review the footage. A big advantage is that, rather than sending

an observer to sea for a whole trip, the reviewer can select the specific parts of the footage that are relevant to the monitoring objectives. As well, the footage can be reviewed at speeds greater than real time.

"This project is a real collaborative effort" says Jake. "The trial is being funded by the Department of Conservation. Adam is providing his time and his vessel, and the Ministry for Primary Industries has provided training and support to help Adam and his crew familiarise themselves with the trial. Trident Systems, which is a Limited Partnership of quota owners, has provided the camera and is carrying out the trial. David Middleton of Trident Systems has even involved his wife Rachel, who wove the seabirds". There has also been great support from the fishing industry. While the current trial is being run on Adam's vessel, and Adam fishes for Aotearoa Fisheries Ltd, both Sanford Ltd and Leigh Fisheries have offered to host cameras. Trident will supply additional cameras to one

vessel from each of these companies and expects to involve them in further research and development work after the conclusion of the current trial.

Adam says he has had lots of questions from fishermen about having the cameras on board. "They've been asking things like, 'What's it like, having a camera watching your every move?' I say some of your privacy is gone, but I also say to them, 'We're doing this because we want to be on the front foot. We can't just carry on.' By law you have to record if you catch a seabird; I'm guessing some don't. It's a case of: if you are as good as you say you are, you need to prove it and you shouldn't have to worry about the camera. We need to move on and be prepared to be watched while we continue to harvest."

*Southern Seabird Solutions Trust is a collaborative alliance between Seafood New Zealand, the Ministry for Primary Industries, Department of Conservation, Te Ohu Kaimoana and WWF-NZ.* 🌐

## Woven flax seabirds

**Trident Systems Chief Executive David Middleton enlisted his wife Rachel to come up with replica seabirds for the trial.**

"I thought woven flax would make for a sturdy design," Rachel says.

Her son Sam, 18, pitched in by helping draw a black petrel's profile to use as a guide for the woven proxy seabirds.

"My first design looked nothing like the birds. We had a few false starts but we managed to get the birds right."

The woven flax birds were dyed black to complete their black petrel look. About 20 such proxy seabirds were woven in all, with each taking at least three hours to complete.

"I was quite excited to be part of the project," Rachel says. 🌐



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# Managing recreational fishing – how does New Zealand stack up?

Nici Gibbs

*“I cannot believe that anyone would be proposing bringing in a recreational licence scheme. That would go down like a cup of sick with all of our kiwi mum and dad fishers, who really enjoy taking their children out and catching fish.”*

This was Fisheries Minister Nathan Guy's response in July last year to a parliamentary question from his Ministerial colleague Gerry Brownlee, who asked him, “if a recreational fishing licence was required for salt-water fishing... how many New Zealanders may be denied the opportunity to catch fish on the seashore or on their boat on the ocean?”

The Ministers' exchange leaves no doubt about the Government's position on licensing recreational fishers, but a quick scan of how marine recreational fishing licences work in other comparable countries paints a very different picture to the Ministers' view of licensing.

## **FAO recommends licensing recreational fishing**

New Zealand prides itself on its “world leading” quota management system (QMS) but our management of recreational fishing lags behind the world's best practice as defined by the United Nations Food and Agriculture Organisation (FAO). The FAO's 2012 guidelines for responsible recreational fisheries stress that “recreational fishing should be considered a privilege” and recommend that recreational fishing should be licensed under all types of management regimes. According to the FAO, licensing has three important advantages – it provides a potential funding stream to support management activities, can help ensure biological sustainability, and is a means to account for and study recreational fishers.

## **Using licence fees to support fisheries management**

The use of licence fee revenue to improve recreational fishing experience has helped secure support for licences in Australia.

In Queensland, where recreational fishers don't need a licence, the stakeholder group Queensland Recreational Fishers Network supports licensing so long as all funds are used solely to benefit recreational fishing by way of a trust fund overseen by a stakeholder board. The group's conditional support for licensing is driven by its members' desire to help rebuild Queensland's depleted fish stocks.

In Western Australia, recreational fishing licence fees contribute over \$6 million annually, every cent of which must by law be spent on recreational fishing. Together with a state contribution of \$13 million, the funds are used for projects such as building artificial reefs, restocking depleted fisheries, training future fisheries leaders, researching important recreational species and undertaking surveys. Fifteen per cent of the revenue funds Recfishwest, the peak recreational fishing body, which represents the recreational fishing community in an impressively effective manner.

Western Australia has achieved these results with relatively modest annual licence fees of \$30 for a recreational boat fishing licence or \$40 for a rock lobster or abalone licence (all licence fees are given in the local currency). Children under 16, seniors and beneficiaries are half price and traditional aboriginal fishers are exempt. You don't need a licence to fish from the shore or from a boat without a motor, such as a row boat or kayak.

Licence fees in other Australian states are comparable. In New South Wales \$35 will buy you an annual licence for all forms of fishing in the state's marine and fresh waters, and in Victoria a licence is just \$24.50. Tasmania's basic licence fee is \$51.80 with \$7.40 for each additional licence – so if you already have an abalone licence, for an extra \$7.40 you can add rock lobster. North American licence fees are also surprisingly reasonable – for instance, \$47 in California and just \$17 in Florida. The USA also operates a National Saltwater Angler Registry with a registration fee of \$25, although most state-issued licences automatically register the licence holder on the national register at no additional cost.

North American and Australian states all provide a range of fee exemptions (e.g., for under 18s, indigenous fishers or shore-based fishers) and concessions for seniors and beneficiaries. Many states provide discounted family licences, multi-year licences or lifetime licences and some also issue cheaper daily or monthly licences. Licence applications can typically be made on-line, often with same-day service.

Some licence regimes cover all types of recreational fishing, whereas others apply only to specific fishing methods or species of management interest – for example, you'll need a separate licence to take abalone in California, Tasmania and Western Australia. Some states offer a basic licence with extra “stamps” that can be purchased to harvest particular species.

Differential rates for residents and non-residents are a feature of North American regimes. If you're from British Columbia you can buy a fishing licence for \$22, but the same licence will cost a non-resident \$106. In Alaska the differential is even larger. Interestingly, differential licence fees already operate

## “ Innovative models for recreational fishing rules abound in overseas abalone and rock lobster fisheries ”

in New Zealand's freshwater fisheries, where residents pay \$123 for a season licence and non-residents \$160.

But it's not all about the money – the FAO notes that licensing need not be fee-based in order to be useful. Even licensing regimes with no fees provide important information to help with fisheries management. In Maine, for example, fishers pay a nominal \$1 registration fee, allowing the state to monitor how many people are fishing recreationally in its waters. In California, children under 16 don't need a licence to catch lobster but they must still fill out report cards so that all the catch, fishing effort and gear used in the fishery can be monitored.

### Innovative recreational fishing rules

Contrary to the fears expressed by Ministers Guy and Brownlee, no jurisdictions use fishing licences to deny mums, dads and kids access to marine fisheries. In every example reviewed here, licence fees are set to make a contribution to management costs, not to limit access to fisheries. Where states want to control recreational fishing access or effort they use rules and regulations rather than the granting or withholding of licences.

Innovative models for recreational fishing rules abound in overseas abalone and rock lobster fisheries and, in many cases, licensing enhances compliance with the rules. For example, in California recreational fishers harvest highly valued red abalone by hand picking or free diving. Fishers require both a licence and an Abalone Report Card which comes with eighteen tags attached to the bottom. Each time a fisher takes an abalone they make an entry on the report card and attach one tag to the shell of the abalone. Harvest reporting ensures that fishers comply

with individual annual harvest limits of nine or eighteen abalone, depending on the area. The tags allow enforcement officers to easily see that an abalone was taken legally and to identify who took it. The abalone must remain in the shell and tagged, even if it is gifted to someone else, until it is prepared for immediate consumption.

Distinguishing recreational catch by tagging or marking is also common in Australian states. In Tasmania and Victoria, recreationally-caught rock lobsters are marked by clipping or punching a hole in the central flap of the tail fan. While no licences are required in South Australia, recreationally-caught lobsters must still be marked and recreational rock lobster pots must be registered. In Western Australia, fishing nets and lobster gear are identified with a code unique to the recreational fishing licence holder to help detect illegal fishing.

New types of possession rules have also been implemented in some states. In Victoria, fisheries officers noticed that large groups of people had been regularly travelling in single vehicles to harvest abalone and shellfish and, although personal bag limits were not exceeded, excessive pressure was being placed on the fishery. In response, the state recently introduced vehicle possession limits of 10 abalone and two litres of other shucked shellfish per vehicle to supplement the standard daily bag limits and possession limits.

Fishing effort in the recreational charter fishing industry is managed under a permit regime in New South Wales and Western Australia. Both states prohibit the granting of new charter boat permits, so new businesses can start up only by purchasing a permit from an existing operator. But the most well developed recreational charter management regime is the

Alaskan halibut fishery, where charter permit holders are able to purchase annual leases of commercial individual fishing quota (IFQ). With this optional commercial quota, known as guided angler fish (GAF), a charter operator can offer customers higher daily and annual bag limits and exemption from slot fishing rules. GAF is subject to end-of-trip reporting and cost recovery just like IFQ.

### What next for New Zealand?

Meanwhile, back in New Zealand, our management of recreational fishing is not looking quite so flash. Although we've had licences for our freshwater fisheries for many years, there are still groups within the recreational fishing community (and at least a couple of Ministers) who aren't even prepared to contemplate an equivalent regime to help manage our marine fisheries.

This article just scratches the surface, but the diversity of licensing regimes reviewed here suggests that it should be possible to initiate a dialogue about a fit-for-purpose regime for New Zealand that doesn't deny anyone access to the fishery. Even a basic, zero-fee registration system would provide a better understanding of how many people are fishing. Add to that a simple reporting requirement, and we'd know what they're catching. Add a licence fee and recreational fishers could have a fund for local projects to enhance recreational fishing experience and a professional, self-funded body representing their interests. Then one day in the not too distant future a Minister of Fisheries might be saying, "I cannot believe that anyone ever opposed bringing in a recreational licence scheme". 🗳️

Image: © Sergey Nivens / Dollar Photo Club.



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## Primary ITO – working with industry to add value

*Daniel Edmonds*

**The seafood industry forms a vital part of the New Zealand economy and the Primary Industry Training Organisation (Primary ITO) has been working hard to develop learning pathways in this exciting and dynamic industry. We provide advice, funding and support to our customers and are the NZQA standard setting body for the industry.**

We offer training and qualifications across all facets of the seafood sector, from aquaculture to vessel operations. So whether you're a salmon farmer in Picton, a mussel opener in the Coromandel or deckhand at sea we have training programmes to help you achieve your career and business goals.

**The sectors we cover include:**

- Basic & Intermediate Seafood Processing
- Vessel Operations
- Seafood Retail
- Mussel Harvesting
- Fish Farming
- Seafood Risk Management

Training not only improves the through-put, profitability and safety of a seafood business but can increase staff morale and empower people to lift their game. Another key benefit of education is improved staff retention and reduced staff turnover rates. Primary ITO can customise programmes to suit the needs of your business, from upskilling

in cleaning and sanitation and understanding microbiology to occupational health and safety.

Training can assist in attracting staff and we are currently piloting a schools-based Gateway Programme in aquaculture

through our ITO schools co-ordinators.

We have an experienced seafood support team at the ITO so please feel free to contact us at any time. We would love to help you grow your career or your business through training.

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Industry Training has been evolving over the last three years, due to changes in government policy.

Through a merger process, Seafood Industry Training is now part of Primary ITO, the largest Industry Training Organisation in New Zealand. Industries serviced under the primary banner include agriculture, horticulture, equine, sports turf and food processing.

Primary ITO operates from a Wellington head office and has 16 hub offices throughout New Zealand, and a large and professional infrastructure.

Footnote: Daniel Edmonds, is Corporate Account Manager, Primary ITO 

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# Foodstuffs adding value

**Foodstuffs North Island's New World and PAK'nSAVE staff are learning to add value to the seafood they sell and minimise wastage.**

Over the past three years 123 seafood retail staff have gone through the annual Seafood Training course, through a training package being delivered by Primary ITO through Nelson's SIS Training and Consulting Ltd.

Since the course was formalised to include either a Limited Credit Qualification (in 2013), or a full National Certificate in Seafood Retailing, Level 2, (since 2014), 101 people have graduated, or will graduate this year from the course. The number in training for 2015 is 44 across the North Island.

The training provides a strong basic knowledge of the seafood industry sitting within a solid framework of Seafood Retailing NZQA Unit Standards, says Dave Jose, Seafood Division Manager, Foodstuffs North Island Ltd.

"Staff need to have a strong basic knowledge of seafood provenance and be able to communicate this clearly with customers to meet an increasing customer expectation around provenance and accountability, particularly around ethical and sustainable sourcing of seafood."

The staff get a hands-on fish processing experience.

"Understanding how to get the most out of each item of seafood is critical. As a business we are focused on keeping

wastage to a minimum so effective processing and handling techniques are important.

"Being able to cater to our varied customer requirements is also key – some may want fillets with bones in, others without, or some customers simply want a whole gutted fish."

Having the ability to deliver to individual customers' needs is critical to Foodstuffs seafood division's success, he says.

"When it comes to handling crustaceans not all crustaceans are equal. What works for one may not necessarily be the right technique for another. Crustaceans are generally a more costly item, so handling and preparing them for sale is important, both to ensure maximum food safety and customer appeal."

SIS' Cushla Hogarth says the staff who have been through the programme say it enables them to build a rapport with customers and understand more about the seafood and how to handle it

"I truly believe comprehensive training is a great way to get staff excited and engaged in what they are selling, and it then naturally flows on through to the customer, Dave Jose says.

Our customers can't help but pick up our passion for seafood, they know we have the freshest, best quality seafood at really competitive prices. For example, it's fresh hoki season at the moment and there are great deals to be had." 🐟

Top, left: Dave Jose on site at a Foodstuffs supermarket fish counter. Middle: Students learn all aspects of seafood, including cooking. Right: Students learn the skill of filleting  
**Images:** Foodstuffs North Island.



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The new research facility due for completion in late 2016.

# New Nelson research hub to support seafood industry

**Plant & Food Research has signed an agreement for Port Nelson to develop a purpose-built facility for its seafood research as part of a new collaborative industry hub.**

The new 2,300 square metre facility, next to Plant & Food Research's existing Maitai finfish building that opened in 2014, will give office and laboratory space for 38 research and support staff, bringing the total Plant & Food Research staff at Port Nelson to 52 people.

Construction is expected to begin before the end of the year and be completed in late 2016, with staff moving from the Institute's current site at Wakefield Quay in early 2017.

The new facility is part of plans by Port Nelson to convert the area into a science and technology Seafood Precinct. The new Plant & Food Research development will include shared business amenities, such as meeting spaces, designed to promote collaboration between co-located organisations.

"Seafood is a core sector for Plant & Food Research, holding great promise for New Zealand's export sector," says Danette Olsen, GM Science Seafood Technologies at Plant & Food Research. "A modern fit-for-purpose facility will enable us to deliver additional impacts to industry over and above what we are able to do with our existing facilities, and support the seafood industry's targets for economic growth and environmental sustainability." 



Juvenile snapper at the \$2.8 million finfish Plant & Food Research Maitai facility. The custom-designed facility is capable of producing significant quantities of juvenile snapper. Over the past year 20,000 snapper juveniles have been raised there. **Image:** Plant & Food.



# Top chef takes his hat off to New Zealand sustainable fishing

Debbie Hannan

**Award winning Wellington chef Jacob Brown is a working advocate for the sustainable harvest and quality and of New Zealand seafood – adding value to it from nose to scales.**

Seafood features largely on the menu of his Miramar restaurant, The Larder.

You can expect to be surprised by Jacob's "nose to scale" approach to cuisine where nothing is wasted.

"I feel very strongly that if we are going to kill animals to eat them we should honour every part – not just the prime cuts."

He has partnered with fish supplier Yellow Brick Road to showcase this approach at the Red Herring event as part of this year's Wellington on a Plate food festival with nothing wasted, including the scales, which Jacob says are delicious.

"It's amazing, they turn from something slimy and unpalatable into something that is crispy, fun and invigorating to the palate."

When we spoke to Jacob he was working out how to incorporate a fish offal into the dessert course, but he wasn't sharing anything about what that involved till the dinner on August 19.

Originally from Dunedin, Jacob has been cooking since he was a young child – inspired by his mother.

"My mother was my first inspiration for cooking – she is a fantastic cook."

His Dunedin childhood has given him a life-long affection for lemon sole, blue cod and Bluff oysters.

Jacob's career started in Sydney as a kitchen hand at Sean's Panorama.

"One day Sean asked me if I would help him cook eggs for a Sunday brunch – the rest is history."

From there his career progressed to working in in some of Sydney's top restaurants, Fuel (part of MG Garage), Tabou and Bennelong at the Sydney Opera House.

When he returned home to New Zealand he worked at Wellington's Boulcott Street Bistro for a year before opening The Larder.

Jacob has a string of awards for his work at the Larder. The restaurant has picked up the One Chef's Hat award each year in the Cuisine Good Food Awards since the award came into effect three years ago and has been a finalist in the Cuisine Top Restaurant Award. He won Best Chef in the Wellington Capital awards last year.

In Sydney while he was at Tabou the restaurant received One Hat Award from the Sydney Morning Herald for a number of years – as well as Sydney's Favourite Bistro.

And he always made sure New Zealand seafood was on the menu, sourced from the Sydney Seafood Market. "My focus was always on the freshest product – which was predominantly from New Zealand. I like the way it is treated and respected after it is caught and that there is a serious commitment to sustainable fishing in New Zealand."

He also gave demonstrations at the Seafood School attached to the market.

Jacob says he loved everything about the market.

"There was something new and interesting to inspire me with my food. I especially loved the energy of the people – the families that worked there."

He loved the Sydney Seafood Market so much he and his partner Sarah would take their young children there on his days off.

"It was great to wander around with them and look at all the amazing seafood available. Often we would then have fish and chips on picnic tables outside with the pelicans." 🐟



# Grilled Octopus with Taramasalata, Olives and Soft Herbs

## Ingredients

1.5 kg octopus, cleaned  
(head and beak removed)  
6 cups water  
2 cups white wine  
2 cups red wine  
1 large onion, roughly, chopped  
3 cloves garlic, crushed  
1 leek, washed, and sliced  
2 celery, stalks, chopped  
2 bay leaf  
½ bunch fresh parsley  
1 Tbsp peppercorns

## Marinade

⅓ cup extra virgin olive oil  
1 Tbsp red wine vinegar  
1 lemon, juiced  
2 cloves garlic, minced  
2 tsp dried oregano  
¼ cup fresh parsley, chopped  
¼ tsp freshly ground black pepper  
Salt

## Method

1. In a large pot, combine all ingredients, except octopus and bring to a boil. Add the cleaned octopus and gently simmer uncovered for 45 minutes–1 hour or until octopus is tender. Remove octopus from liquid and cut into separate tentacles.
2. In a separate bowl combine all ingredients for the marinade.
3. Add octopus pieces to the marinade. Let stand for 15 to 30 minutes.
4. Preheat grill to high.
5. Grill octopus for 4 to 5 minutes. Turn to brown evenly.
6. Serve with crispy potato wafers, parsley purée and a salad of fresh herbs and olives.

# Fishing sector takes Health and Safety seriously

Maritime NZ is also serious about your health and safety. About 1/2 of you know the fishing sector is a risky sector, but “don’t think it will happen to me”.

To help make your workplace safer download our handy **Fact Sheet** and start talking about these results to your managers and workers. Or read the whole serious 200 page report.

Whether you’re a small tight crew, on a large vessel, or in a fish factory, there will be some surprises – but basically both employers and workers can do better.

The 2014 survey captures the health and safety attitudes and behaviours of 514 workers and 147 employers in the commercial fishing sector.

## MARITIME NEW ZEALAND

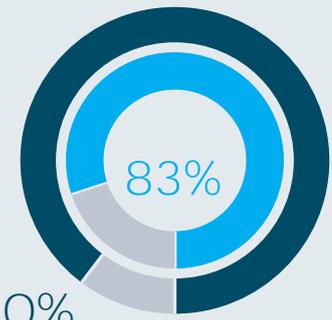
**KNOWLEDGE** OF MARITIME NZ IS HIGH AMONGST THE COMMERCIAL FISHING SECTOR.



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90%

83% OF WORKERS AND 90% OF EMPLOYERS WERE **SATISFIED** WITH THE EXPERIENCE WHEN THE MARITIME OFFICER LAST VISITED

## H & S IS A PRIORITY?



BUT THIS COULD TRANSLATE INTO SAFER BEHAVIOR.

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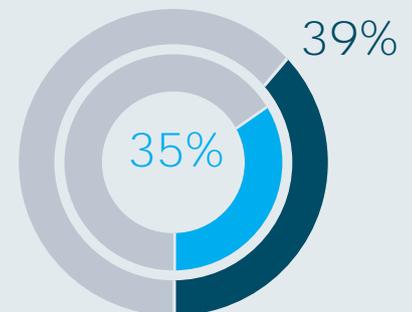
## WHO IS RESPONSIBLE?



EMPLOYERS (85%) AND WORKERS (79%) FELT WORKERS HAD A **VERY BIG RESPONSIBILITY** AND THAT IMMEDIATE BOSSES – SKIPPER OR BOAT MASTERS – A **VERY BIG RESPONSIBILITY** FOR HEALTH AND SAFETY AT WORK.



JUST OVER HALF THOUGHT TOP MANAGEMENT HAVE A **VERY BIG RESPONSIBILITY** AND FEWER STILL THOUGHT GOVERNMENT, INDUSTRY BODIES OR UNIONS SHOULD PLAY A BIG ROLE.



OF THESE 35% OF WORKERS AND 39% OF EMPLOYERS FELT **VERY SATISFIED**

Download the Fact Sheet and read the fishing sector report at [www.maritime.govt.nz/hse](http://www.maritime.govt.nz/hse)

WorkSafe surveyed New Zealand’s other high risk sectors – agriculture, forestry, construction and manufacturing. You can see all 5 reports here [www.business.govt.nz/worksafe](http://www.business.govt.nz/worksafe)

## Success at sea with a little help from his friends

**Kyle Cotton didn't come from a fishing family. Leaving school at 13, his life soon fell off the rails and he became, in his own words, a 'troubled teenager', Chris Carey reports.**

**"The old lady got me out of that hole I was in. She knew 'Black Pete' [Pete Coulston] and asked him to chuck me on a factory boat to keep me out of trouble."**

So Kyle went to sea out of Timaru on the *San Discovery* as a freezer man and machine operator.

"It was kind of boring but it got me out of trouble; back on the right side of things. I saw some big pay cheques too, which for a 15-year old was pretty damned good."

But Kyle couldn't settle and after two years and unsure of what he wanted, he came ashore.

"Not a good move, but I didn't want to go back on the big boats, they just weren't me, so I started looking around and scored some 'fill in' work on the inshore boats working out of here [Timaru]."

When a job with Phillip Drake on the *Ronida* came up he took it.

"It was on my first trip I earned \$600 one day and I thought this is alright especially for someone like me with no education and all that!"

Kyle worked for 'Old Drakey' for the next five years when Anthony Hopkins and Alistair Ward took over.

"Hoppy and Al would do two weeks on, two off. It was pretty seasonal work, doing the hoki in Cook Strait then off down to Bluff for blue warehou, then back up to Timaru for the elephants, red cod, 'cuda and all that stuff."

"It was good but I didn't want to be a deckie for ever so I realised I'd have to step up my game. I also didn't want to be a 'Slipper Skipper' like on the big boats.

I enjoy the physical side of it, so the inshore was where I belonged."

Kyle began studying towards the Inshore Launch Master Certificate of Competency by correspondence through Graham Turner in Dunedin, but barely able to read and write, it certainly wasn't easy.

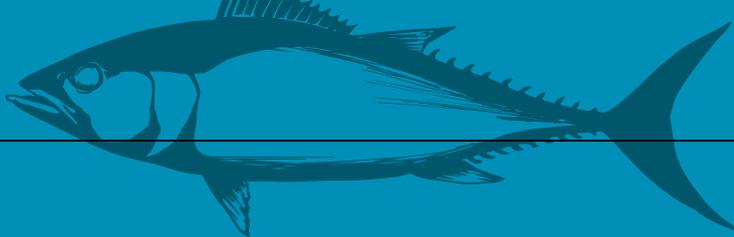
"Thirteen years or so at sea I had the right 'boat knowledge' but I couldn't get that down on paper in a way it could be understood so I needed help from a lot of people to get through it all. It was very hard."

Eventually with sufficient sea time, Kyle sat his Offshore Watchkeepers CoC and his engineering ticket.

"I dragged that out over a few years by correspondence because I still wasn't the best at reading or writing. If I needed help I'd hit up one of the other skippers and they'd explain things, though the



Kyle Cotton.



“ **It’s a big step up from deckhand to mate where despite the added responsibility you’re comfortable in the knowledge that the buck stops with the ‘Old Man’** ”

engineering ticket wasn’t too bad, more practical. It really helps to have good people around you.”

Kyle was into his eleventh year on the *Ronida* and it was while he was mate that the opportunity arose for a few weeks ‘filling in’ on the *Magane* owned by Alistair Ward.

“It went alright, it’s a comfortable, tidy wee boat and I thought; I could see myself running this one day.”

As luck would have it, in February 2015 that door opened and Kyle jumped through.

“The first trip was a bit stressful. I’d gone to bed for three hours and said to the boys to give us a call if there’s any problems. Well one of them woke me up and said we’re doing 7½ knots! What! Towing! So we hauled and there was no gear on whatsoever. Oh my God, that’s about \$50,000 sitting on the bottom! It was my first trip, and I’d dropped a set of gear! Not good! I think it got bogged and snapped off but I’ve never seen both sides letting go, normally it’s just the one.”

Fortunately the catch sensor was giving out a signal so Kyle had a good idea exactly where it was.

“I had no grapple so I just made up a length chain with a heap of half shackles and hammerlocks and everything. It took half a day but we got it back which was a huge relief because I thought I’d probably get the boot otherwise.”

During Kyle’s second trip a fight broke out between his two crew. It’s a big step up from deckhand to mate where despite the added responsibility you’re comfortable in the knowledge that the buck stops with the ‘Old Man’. Step into the skipper’s shoes and suddenly it becomes serious; everyone’s looking to you for their paycheque.

“Here I am starting out as skipper and all this bullshit is going on. I don’t need this! I was pretty stressed out, in fact I’ve never smoked so much since I’ve been on here.”

The *Magane* carries 650 bins, enough for two to three day trips; five days out and the crew are looking sideways at you. It was his sixth week as skipper that Kyle broke the *Magane*’s record bringing in a whopping \$57,000!

“I was stoked! Summers can be pretty good because the fish is there but wintertime can be hard and I’m starting to struggle a bit now. We’ll chase elephants and gurnard around Christmas and if the red cod comes on

you chase that; basically anything that goes in the bin and trying to keep away from the species you haven’t got.”

Is it hard getting crew?

“It’s virtually impossible for a young fella to buy quota but there’s nothing stopping you from starting off as a deckie and working your way up. There is a good life out here. You don’t have to have a good education, you’ve just got to be prepared to work hard. Unfortunately there’s not many out there without any baggage that can do it, or even want to step up to the game.”

Kyle is engaged with two children and would eventually like to get another skipper and operate on a roster system but says it’s hard to find someone who is also prepared to work on deck.

“As skipper you still have to do the hard yards, to work on deck; it’s one of the things I like about the job.”

I asked Kyle what he thought of inshore fishery?

“I’ve noticed that some years one fish will drop off and another one will come on. That’s just fishing, it’s up and down with each year but it is sustainable. Like this year’s been a bit of a struggle; there wasn’t really a cod season as such. Some years you just have to grind away at it, others, well it’s pretty easy.”

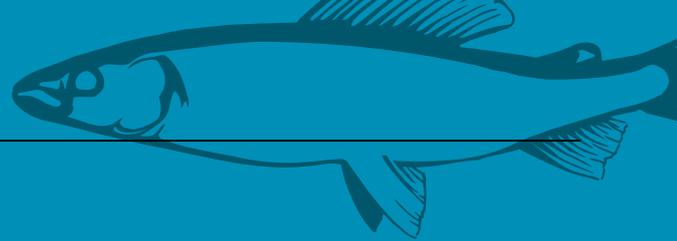
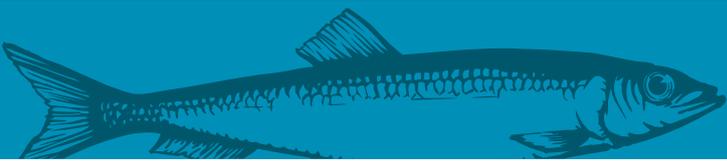
Kyle fishes the *Magane* 24/7 when he’s at sea; no rest for the wicked.

“I’m out there to work. If there’s bad weather or we’ve had a really good trip or there’s boat maintenance to do then I’ll stay alongside for a day or two and the crew can go home. Fatigue plays a big part; if you’ve had a hard trip you’ve gotta have time to recover because the brain’s not working at its best. I’ll come down and do things on the boat that need doing, but I can’t expect them [the crew] to be down here 24/7. I think they appreciate that.”

Coming home with the boat full, or sometimes just coming home if it isn’t full after a hard trip, Kyle is always keen to get out despite being seasick when he first sails.

“Depending on the swell, 25 knots is probably where I’d start looking at getting out of it. Ten, 15 tonne is a pretty good sized bag, but five tonne is about the average tow. One or two ‘lifts’ is ideally the best, but there’s nothing quite like seeing a big bag of warehou or hoki burst to the surface, woo hoo!”

“We’re running with a Marport net monitor and catch



“ **Doing these tickets has helped me with my reading and writing which all goes to prove if you want something bad enough there really isn't any reason why you can't achieve it** ”

sensor so no more towing blind unless you get a bag of dogs and it's choked off up the bag further. I've only run into a couple of bags of "dogs" so far this year which has been pretty lucky. The worst thing about the Canterbury Bight is "dogs"; if you can keep away from them you're doing all right."

Was there any time in your career where you thought do I really want to do this?

Yes and no, like any job really. I'm quite happy running a boat, I don't really want to own one. I've got enough responsibility as it is now. I went away from fishing and I wasn't happy because I was coming home each night having tea then doing the same again the next day.

Fishing gives me a lot more quality time with my family and I'm earning more."

"Doing these tickets has helped me with my reading and writing which all goes to prove if you want something bad enough there really isn't any reason why you can't achieve it."

"Timaru is a good place to work out of. There's a lot of fishermen here willing to help each other out if there's any problems. It's a big ocean out there after all, so we work together. But there really needs to be more young people coming through because at the end of the day it's a good life style if you want it bad enough; they've just got to have the urge to do it." 🐟

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# Investing in the Chathams' riches

*Tim Pankhurst*

## The Chathams are on a roll.

A new fish factory is under construction at Waitangi within sight of a proposed \$52 million breakwater and wharf rebuild.

Aotearoa Fisheries Limited is spending \$3 million on the new facility on the Petre Bay waterfront in a major boost for the island.

The iwi-owned company is the single largest employer on the island and its investment signals a long term commitment to the community of 600 hardy souls.

"It's a long standing relationship and one we value that will also further strengthen our ties with our iwi shareholders, Hokotehi Moriori Trust and Ngati Mutanga," AFL chief executive Carl Carrington said.

"We're also pleased we can provide an excellent working environment for our employees and contribute more to the local economy in supporting services like Air Chathams."

The wharf replacement was approved in this year's Budget and will take three years to complete. Chathams Mayor Alfred Preece views the project as overdue payback for the wealth the island has created in fishing returns.



George Day on the site of the new AFL factory.  
**Images:** Tim Pankhurst.

Internal Affairs Minister Peter Dunne sees the investment as enhancing economic opportunities for the Chathams and strengthening community resilience in the face of tough conditions.

It was a different story in the mid 1980s when Rogernomics was in full flight and the Chathams was on its knees.

The cray boom was a memory and in the age of user pays the heavily subsidised meatworks and the Holmdale shipping service were on the line.

The works did close but sheep and cattle are now shipped out live and there are two competing shipping lines.

The ships arrive far more frequently but are unable to berth at the rundown, exposed wharf at the main settlement of

Waitangi for as many as 70 days a year.

That is why the Government has elected to safeguard the island's lifeline with such a major investment.

The wait for suitable weather often lasts several days. The Rangitira holds the unhappy record of 14 days riding it out, in 2000.

Nearly 30 years prior on my first visit, my assignment was to report on the island's future for the Sunday Times.

**“The Chathams paua fishery is by far the country’s richest, producing a third of the total 1000-tonne catch...”**

That led to the Holmdale’s shipping agent, 75-year-old Wilfred Day, better known as Bosun. In 57 years he had left the island only twice.

“I’m not a great traveller,” he said with remarkable understatement. Besides, there was plenty to do on the island. He also had a second job as tally clerk for the county council on the wharf.

It is Bosun’s son George who manages the fish factory.

He remembers the story on his father and said the clipping was among Bosun’s possessions when he died 10 years later in 1996, aged 84.

Born on the island, George worked as a fencer until asked to lend a hand at the fish factory loading crays tails in 1981.

He has been there ever since, rising to be the boss.

The original factory built in 1966 was used to prepare pelts before crayfish took over.

The initial market was for tails and the bodies were simply dumped on farmland.

A steam boiler was set up and compressed air used to blow the invaluable meat out of the legs. With the advent of the live lobster trade, paua and cod processing have taken over.

On the low hill above the factory site in the Chatham Islands Council office, chief executive Owen Pickles is a happy man.

On a whiteboard in the meeting room a large number of completed or approved projects are listed. They include water supply for the settlement of Kaingaroa, neighbouring Pitt Island barge and port development, a sanitary



George Day with the clipping about his father Bosun.

landfill, fast broadband, septic waste disposal, social housing and the big port development.

The “to do” list is almost as big again – a transfer station, mobile telephone connection, water supply upgrade, a new civic complex, runway upgrade.

While the Chathams may have felt neglected, more than 90 per cent of the council’s \$11 million budget comes from the Crown.

Local rates raise \$500,000 and another \$260,000 comes from an import/export charge. Fishing remains the island’s mainstay and stocks are in good heart.

Even so, paua divers have elected to again shelve 10 per cent of their catch for the next fishing year. The Chathams paua fishery is by far the country’s richest, producing a third of the total 1000-tonne catch, but quota holders have again opted for caution.

MPI shellfish working group chair Julie Hills says the resource is in a very healthy state but it may be the right thing to set a high bar.



Jeff and Ces Clarke...“this is me”.

## “Visitors are welcome, the Chathams is a friendly place”

The original massive biomass has been fished down to a sustainable level but the days of barely getting wet to harvest paua piled on top of each other are over.

Paua Industry Council chief executive Jeremy Cooper says increased use of data loggers – electronic units attached to the divers’ suits that allow close monitoring of catch effort – will provide a much clearer picture of paua populations and environmental factors.

The impact of the introduction of scuba tanks is also being assessed. The Chathams is the only paua fishery in the country where divers are allowed to use scuba tanks as a safety measure against now protected great white sharks.

Divers descending and ascending frequently are more vulnerable, although the majority of the 25 divers continue to snorkel their quota.

A few also have rights, peculiar to the Chathams, to dive some rock lobster quota. The total annual lobster catch of 370 tonnes in the Chathams area designated CRA 6 has remained unchanged since 1998 and the catch per unit effort is steadily increasing, a key indicator of a healthy stock.

At the height of the cray plunder in 1969, nearly 6000 tonnes was landed by 186 boats. A third of the country’s blue cod catch also comes from the Chathams.

A Marine Department survey of the country’s fish stocks at the turn of last century was prescient. There is no doubt these rich fishing grounds will, in a short time, become one of our most important sources of fish supply, the 1907 survey reported. A catch of 860 blue cod on handlines was made in three and a half hours.

The vessel Nora Niven also caught crayfish in its trawl but there was no demand and therefore no interest in them.

There is one constant – the weather.

Sustainable quotas have reduced competition but it is not always possible to fill them.

A succession of swells up to seven metres and 50 knot winds have kept boats at home into early winter, according to CRA 6 chair Jeff Clarke, who fishes

eight tonnes of his own cray quota and 20 tonnes of leased blue cod.

Jeff’s wife Ces is contracted by the fishermen to complete catch returns, ACE transfers, registrations and permits filed to MPI and also collects water samples measuring ocean acidification.

Ces came from crowded Manila in the Philippines to the Chathams 23 years ago and immediately decided she wanted to stay.

“This is me,” she thought, admiring the open space.

The contrast with a heavily populated, polluted Asian mega city where it took two hours to get to work could hardly be more extreme.

Despite the improved air and shipping links and a more buoyant future, the Chathams remain remote and enigmatic.

The number of tourists is still tiny, less than 2000 a year.

The society is robust and the hard drinking Hotel Chatham remains the community focal point. There you can meet the assertive woman at Thursday ladies’ darts night with her name tattooed on her neck, “Hellbitch”.

Or Stan, the cray fisherman who demands double tequilas in the bar, invites himself to dinner, imbibes freely and then sets off in the pitch dark for the long drive home on a gravel road.

Visitors are welcome, the Chathams is a friendly place but there has been the odd stoush in the bar. “There’s not much I can do about it,” says publican Toni Croon, also a noted horsewoman. “I stay behind the bar and the boys sort it out.”

Her parents, Val and Lois, have settled for a quieter life on 80 hectares of family land they are redeveloping out on the Port Hutt road.

Their Admiral gardens are an oasis of restored native vegetation surrounded by rampant gorse on an environmentally degraded, windswept, wild and yet beautiful island.

The gardens, complete with sculptures and duck pond, are a constant surprise, like a series of rooms, and are open to the public.

There are numerous other unexpected turns on this intriguing outpost, like the massive shed Jim Muirson has built on his farm to house the fuselage of a Sunderland flying boat that was holed and sank in the Te Whanga lagoon in the centre of the island in 1959.

The Chathams, 800 km east of the mainland and, paradoxically, 45 minutes ahead, may remain mysterious to most but they are not forgotten and their fisheries continue to occupy a special place in the New Zealand seafood industry. 📍



The Hotel Chatham at Waitangi, the social hub of the community.



Tea time at Val and Lois Croon’s magical gardens.



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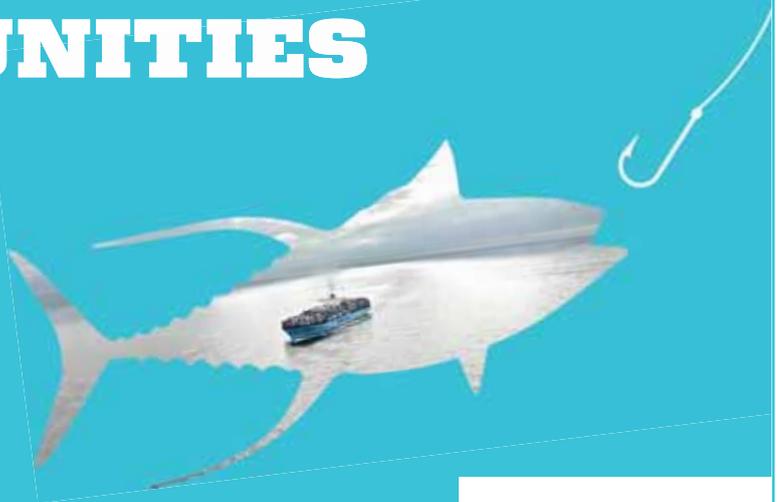
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## ACE FOR LEASE

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BCO1,8	RCO2
FLA1,2,3,7	SPD1,3,5,7
GUR1,8	SPO1
JDO3	SQU1J
LIN4,6	

## QUOTA SHARES FOR SALE

FLA1
GUR8
PAD1,5,7,8
SCA7
SPD3
STN1

## INFLATABLE RIBBED BUOYS - CLEAN OUT SALE

AO - Red x 60	White x 30	\$20/buoy + GST
A1 - Orange x 50	Green x 4	White x 60
PA/R2 Orange x 14	Red x 30	Yellow x 38
	Yellow x 24	Blue x 10
		\$50/buoy + GST

These special prices will not be repeated again so get in quick as we have limited stock left!!!

## QUOTA SHARES WANTED TO PURCHASE

FRESH WATER EEL - ANG12, 13, 14	HORSE MUSSEL - ALL AREAS	PAUA - ALL AREAS	SNAPPER - SNA1, SNA2, SNA7, SNA8
CRAYFISH - ALL AREAS	KAHAWAI - KAH1, KAH8	PACKHORSE - PHC1	SPINY DOGFISH - SPD1, SPD5
BLUE COD - BCO3, BCO4, BCO5, BCO7, BCO8	LONG FINNED EEL - ALL AREAS	PORAE - ALL AREAS	RIG - SPO2, SPO3, SPO7
FLATFISH - FLA3	LING - ALL AREAS	RED COD - RCO3	KINA - SUR5, SUR7A
GREY MULLET - GMU1	MOKI - ALL AREAS	SEA CUCUMBER - ALL AREAS	SWORDFISH - SWO1
GURNARD - GUR2, GUR3	PADDLE CRAB - PAD2, PAD3	SCHOOL SHARK - ALL AREAS	TARAKIHI - ALL AREAS
	PARORE - ALL AREAS	SHORT FINNED EELS - ALL AREAS	

**DOMINIC PREECE**  
Managing Director

PHONE (03) 383 7282 | FAX (03) 383 7288 | MOBILE 027 406 0419 | [quotabroker@extra.co.nz](mailto:quotabroker@extra.co.nz) | [www.aotearoaquota.com](http://www.aotearoaquota.com)  
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## ACE WANTED

To Lease or Buy

### 2015-2016 Season

Area 1-2 HPB/GUR/SNA/KAH/TAR/KIN  
Area 4 CRA

Contact Office on 027 318 7495

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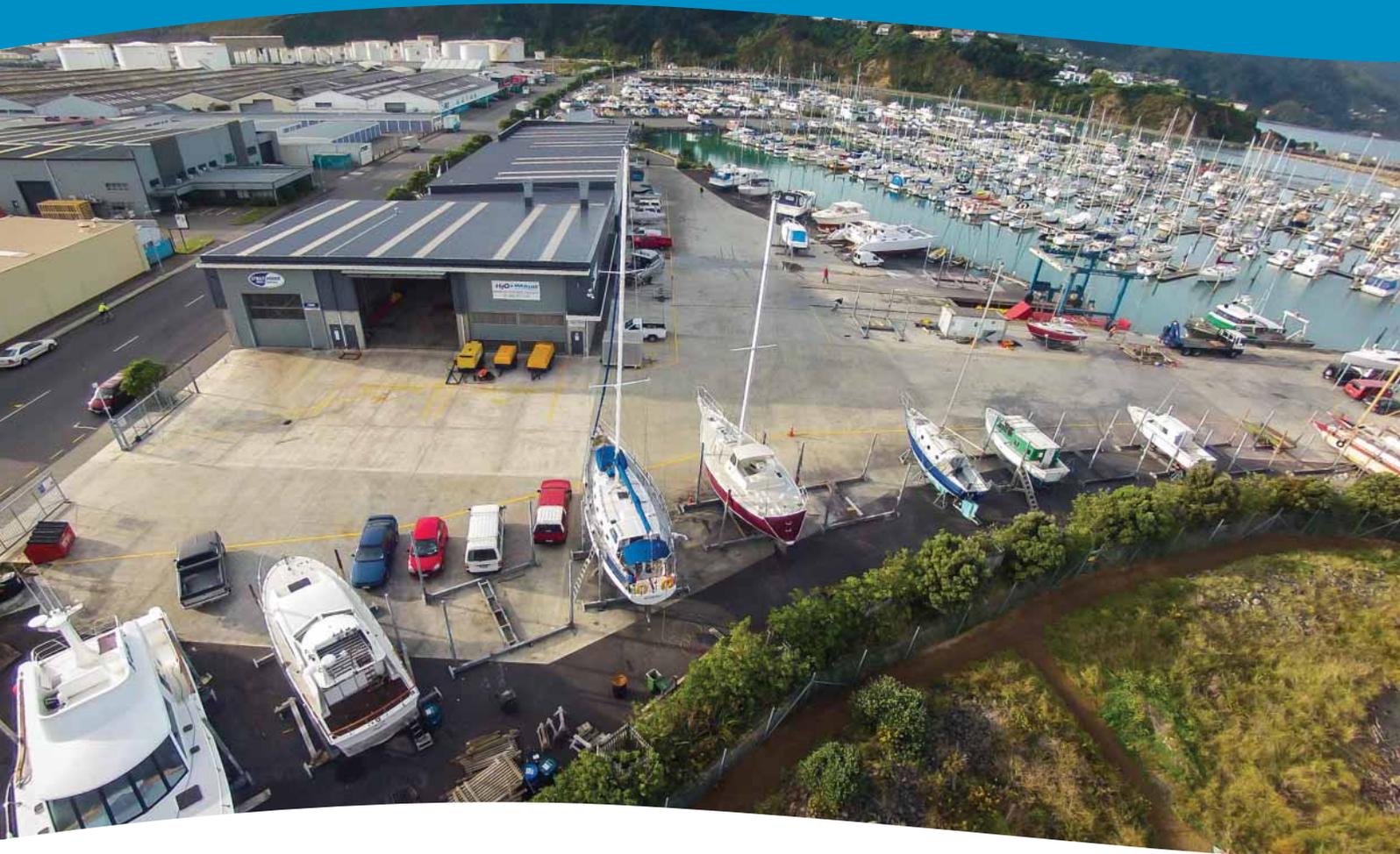
## QUOTA SHARES FOR SALE

HPB7	5,500kg
RCO7	18,400kg
TAR7	4,600kg
TRE7	7,100kg

Expressions of interest, contact Sonya Tuerlings  
Ph: (+64) 021 930 172

Email: [sonyatuerlings@porttaraokohe.nz](mailto:sonyatuerlings@porttaraokohe.nz)

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## #4752 HARD-CHINE CRAY/LINE VESSEL 14M

McManaway Marine built Picton 1996 Timber/Fibreglass. 530hp Series 60 MTU new 2012. ZF 2.5:1 gearbox. 11/15 knots. 6kVA gen-set 2000L fuel. 4.5T fish-room with chiller pipes 4 berths. LPG stove/oven. HWS. Toilet/Shower. 2 station power-hyd steering. S/S anchor winch Furuno electronics. Coastal VHF limits survey. First time advertised for original owners.

**\$220,000**

## #4750 KAURI TRAWLER/TROLLER.

12.2M X 3.9M. Tibble & Parson Nelson 1956. 170hp Detroit 6/71 6000hrs on O/haul when listed. 4:1 g/box. 6.5T bulk or 102 bin ice-hold. 2500L fuel. Split winches carry 200m x 14mm wire. Net-roller. 4 berths. diesel stove. toilet/shower, fridge, HWS. Uses 12L fuel per hr trawling & 6.5L trolling. Offshore 100 mile survey valid to May 2017. Well respected trawler with interesting history.

**\$99,000**



## #4768 WESTCOASTER IN GOOD CONDITION

14.62M Volvo TAMD 162 610hp, ZF 2:1 gearbox. Northern Lights 5kVA genset 3 station steering. 2,000 litre fuel Max 21 knots, service 14 knots. 2 berths Diesel stove. Toilet/Shower near new Australian style pot hauler. Good Electronics In MOSS August 2014. Limits 50 miles All new LED lighting

**SOLE AGENCY \$300,000**



#4664 COASTAL TRAWLER  
15.6M. Kenton built in Kauri  
1956. 176hp 8LXB Gardner  
3:1 hyd box. 8kva gen-set.  
7T/150 bin chiller hold.  
Alloy truck deck.  
All trawl gear.  
Excellent value at  
amended price  
**NOW \$98,000**



#4754 STEEL L/LINER 16M  
Wanganui Steel Boats 1969  
170hp 6L3B Gardner  
3:1 Twin-Disc box  
15T ice-hold. 2500L fuel.  
12-13 LPH. 4 berths,  
Diesel stove. Toilet/shower  
100 mile survey to 2020.  
In Moss.  
**\$150,000 - OFFERS**

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