

Seafood

NEW ZEALAND

A love of seabirds p27

The true cost of recreational parks p36

Cover Story: Fisheries for the future p15





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

Alternatively contact 0800 THE GRID or 0800 843 4743.

Catch fish... not cables

T R A N S P O W E R



FEATURES

- 15 Cover feature:** Fisheries for the future
- 36** The true cost of recreational fishing parks
- 40 Salt of the Ocean:** Born to fish and be his best

OPINION

- 13** Kermadec Ocean Sanctuary: the global contest to establish large MPAs

REGULARS

- 35 Recipe:** Queenstown chef champions New Zealand seafood
- 43 Event:** Nelson Blessing of the fleet



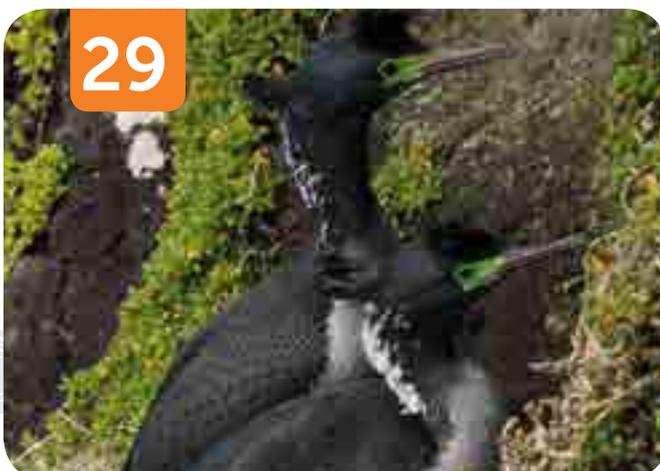
15 COVER STORY



40



27



29



43

EDITORIALS

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From the Chief Executive



One of the country's main daily newspapers used to have a maxim painted boldly above its chief reporter's desk, "thoughts are free, but facts are sacred".

That building, with its reminder to the newspaper's reporters is long gone – it was bulldozed down decades ago.

In recent months mainstream and social media have run with a lot of thoughts and perceptions, not facts drawing on the body of science that tells us our fisheries are performing well. Around 83 per cent of

individual fish stocks of known status and almost 97 per cent of landings are above or well above levels where their sustainability would be a cause for concern.

In this issue we include a centre spread marking 30 years of the Quota Management System (QMS). The contributions from our science partners outline the valuable contributions they make to understanding the status of our fisheries, informing responsible fisheries management and how science adds value to our products.

This disregard for the facts from those who slavishly oppose fishing, is not isolated to New Zealand.

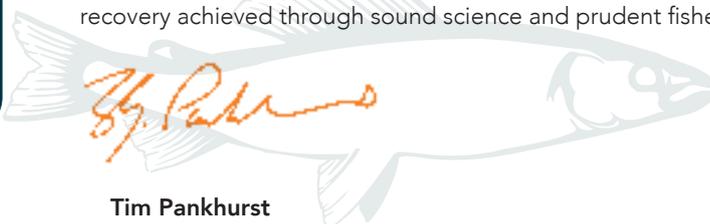
Dr John Connelly, president of the National Fisheries Institute in the United States argues the case for the facts in the case of sustainable fisheries in the face of false perceptions. He says despite the success of America's Fisheries Regulator NOAA many consumers believe the American fishing industry has caught the last fish in the ocean. Consumers didn't dream this up, he says, but rather, skilful manipulation by advocacy NGOs with their distorted facts, and incomplete science, have clouded fisheries management successes to confuse consumers and make them lose confidence in the sustainability of their seafood purchases. Sound familiar?

Dr Connelly promises to be an informed and engaging speaker at our annual conference in Wellington on August 31.

Also in this issue there is a profile of a young skipper who loves sharing the sea with his seabird companions, a report on a partnership with the Department of Conservation to protect seabirds, and measures used by fishermen to prevent seabird capture.

On January 12 this year the Government announced a proposal for recreational fishing parks in the inner Hauraki Gulf and Marlborough Sounds – banning commercial fishing from those areas. Some of those who would be affected in the Hauraki Gulf have shared their stories.

The recipe comes from Darren Lovell of Queenstown's Fishbone Restaurant, a great advocate for the "facts" about the healthy state of our fisheries and the QMS. He has chosen a delicious, but simple recipe for orange roughly, a fish which consumers can now eat guilt free because of the remarkable story of its recovery achieved through sound science and prudent fisheries management.



Tim Pankhurst
Chief Executive

Readers' survey

Thanks to all those who participated in the online survey to find out what you, the reader wants to see in **Seafood**.

We have had some great feedback on

what you like and what you would like to read more about in the magazine.

A clear message came through that you would like more about the "grass roots" people that make up our industry, their vessels and the technology they use. So over the coming issues expect to see more about these and more of

the articles that you have told us you enjoy reading.

We're always on the lookout for good stories about people, vessels, events and technology so if you have any story ideas please email us at editor@seafood.org.nz.



Image: Khumthong, FreeDigitalPhotos.net



Image: John Kasawa, FreeDigitalPhotos.net

SeaDragon needs pure New Zealand hoki oil

Sai Raje

SeaDragon Ltd is yet to source raw material supply of edible-grade crude hoki oil from within New Zealand for its new Omega-3 refinery in Nelson.

The fish oil processor anticipates its main New Zealand product will be from hoki but has not managed to source raw material supply of crude hoki oil for the refinery.

SeaDragon compliance manager Mark Gornall says there are two hurdles to sourcing this supply.

"The first being to source a New Zealand crude fish oil that is suitable for human consumption.

"This gives us access to relatively large volumes of fish oil from New Zealand fisheries.

"The second is for it to be 100 per cent hoki such that we can utilise the sustainability credentials of this Marine Stewardship Council (MSC) certified

fishery.

"Presently we are restricted to the utilisation of hoki livers to produce a New Zealand MSC certified fish oil."

Quite a low proportion of raw material for the company's Omega-3 oil was currently sourced from New Zealand fishing companies, Gornall says.

The company sources its raw material from Fiji, American Samoa and Seychelles.

It processes fish oils and fish livers into purified Omega-3 fish oils, for use in the cosmetic products, or in dietary supplements manufactured by nutraceutical and pharmaceutical industries.

SeaDragon's current range of fish oil products includes - MSC Hoki Liver Oil, School Shark Liver oil, Ghost Shark Liver Oil, and Tuna Omega-3 oil, Gornall said.

"Some of these are manufactured to order and others to stock.

"The products are packed in a range of formats to suit the end users' requirements."

The Global Organization for EPA and DHA Omega-3s (GOED), a worldwide marketing board for Omega-3 oils, forecasts that the worldwide market value for all Omega-3 uses, food ingredients as well as pharmaceutical

products, will increase to \$33 billion USD (\$45.76 billion NZD) this year.

Australia/New Zealand make up about 1.5 per cent of the global Omega-3 market, according to the GOED's recently published 2015 Finished Products Report.

SeaDragon continues to work with New Zealand's major players to establish a supply of edible-quality crude hoki oil, Gornall says.

SeaDragon's new Nelson-based refinery, which employs a staff of four, and has a refining capacity of 5200 tonnes per year, currently operates only a single shift on low volumes of oil. It was completed at a final cost of \$10.8 million, stepping over a budgeted cost of \$6 million in 2013-14 and \$9.2 million in 2014-15.

Sealord, New Zealand's largest hoki quota holder (with 29 per cent of total quota) confirmed that the company has only supplied hoki livers to SeaDragon (34 tonnes since November 2015) and that it processes its entire fishmeal product itself, either at sea or on their land-based facility.

SeaDragon has also produced several batches of New Zealand salmon oil and continues to work closely with the New Zealand King Salmon Company in

this area, Gornall says.

"SeaDragon re-commenced production trials of salmon oil from by-products as we look to invest in new equipment for this.

"The product is available for sale and we have plans for salmon oil production to continue."

New Zealand King Salmon (NZKS) divisional manager Simon Thomas says they have supplied relatively small volumes of edible-grade raw material (heads, frames, skins and trimmings) to SeaDragon as it trials the oil extraction process.

NZKS has a large volume of remaining raw materials available that are currently sent to another rendering facility to produce salmon meal and crude salmon oil, Thomas says.

"This is a low tech low return disposal method.

"The partnership that NZKS and SeaDragon can form utilises product that is currently disposed of in a less than ideal way.

"With additional volume coming on line we are able to provide product in substantial volumes and therefore give SeaDragon confidence in building a business case around the extraction of oil from our King salmon."

SeaDragon's audited financial results, released on June 30, shows it missed its

yearly performance forecast, reporting a net loss after tax of \$5.5 million, including an inventory write-down of \$4.3 million (increased from unaudited net loss of \$4.9 million and writedown of \$3.6 million).

The loss was almost double that of \$2.8 million in the previous year.

On May 27, SeaDragon confirmed its exit from the Omega-2 oil market, helped along by a \$3 million convertible loan from one of its major shareholders Comvita, which holds a 13 per cent stake in SeaDragon. Manuka giant Comvita has been granted further options that would allow it to acquire a 25.2 to 30.6 per cent stake in SeaDragon.

SeaDragon says it agreed to sell the majority of its existing Omega-2 inventory (goods in stock) to "a major international food and fine chemicals company" (for about \$2.5 million).

Due to the low market price for Omega-2 products, the sale resulted in an additional write down in value of \$600,000 to its inventory for the 2016 financial year, bringing the total write-down to \$4.3 million.

In a statement published with its annual report, SeaDragon says as a result of the additional write-down, the company "did not comply with one of its lending covenants set out in its lending facilities with Heartland Bank as

of 31 March 2016 and 30 June 2016."

The company breached a covenant relating to how much working capital it should hold in comparison to its debt.

In July, the company also announced the appointment of a new chief executive - Nevin Amos, who will take over from interim chief executive Richard Alderton in October.

He is currently chief executive at Pacific T&R, and previously worked at SeaDragon's cornerstone shareholder Comvita for about 10 years.

SeaDragon Chairman Colin Groves says Dr Amos' strong links to Comvita will also assist SeaDragon to make the most of the strategic alliance it has formed with its cornerstone investor to add value to New Zealand fish and aquaculture products.

"He has strong leadership skills and a proven record in global business. This includes an awareness of SeaDragon's target markets and an in-depth understanding of supply chain systems and processes. These skills have the potential to add enormous value as we transition to the production and marketing of sustainably-sourced Omega-3 fish oils," Groves says. 🐟

Long service recognised

Long service by fishing veterans Ted Collins (left) and Joe Hebblerley to the rock lobster industry in the CRA 5 (top of the South Island) rock lobster fishery was recognised at a recent meeting of the CRA 5 Rock Lobster Industry Association. The awards recognise their oversight and guidance of the industry over many years. Pictured with them is association chairman Geoff Basher. 🐟



Image: Colleen Kiddie



Image: Primary ITO

Raising awareness of where food comes from

One of the less obvious challenges facing New Zealand's primary sector is that only 14 per cent of the population now lives rurally, and 81 per cent of teens – many of whom will be needed to work in the sector – say they know only a little or nothing about fishing, farming and food production.

A recent Rabobank survey of urban teens found that 72 per cent don't know anything, or know just a little, about how food gets from the sea to plate. Viewed in that light, it's not surprising that there's a lack of knowledge of primary industry career opportunities and false perceptions about what that career entails.

A quality and substantial workforce will be needed to maintain the primary sector's fundamental importance to New Zealand, especially when agriculture, horticulture, forestry, mining and fishing account for 7.6 per cent of GDP (agriculture around 5.0 per cent and processing of primary food a further

2.8 per cent).

Primary ITO Schools Liaison Manager, Derek McCullum, says the challenge is to attract good quality people – for the right reasons – into the primary sectors.

"A more urbanised population does make it difficult," he says.

The fight back

But the primary sector is fighting back with a whole range of co-ordinated initiatives, says McCullum.

"It's clear that primary industries aren't just sitting on their hands worrying."

However, he says it's important to make sure that attracting and informing young people about careers in primary industries is industry led.

"Primary ITO continues to work with industries to establish what skills businesses want for employees because it's not just a question of the right people, but the right people doing the right things for the right reasons.

"We connect employers with students so that everybody is making the right choices. It is as much about knowledge, information and exposure as it is about brokering opportunities and connecting all stakeholders," he says.

For all the talk about diversifying the New Zealand economy, the fact is that primary industry is not only critical to this country, but also New Zealand's role

as an important global food basket now, and in a future that requires a global increase in food production of 70 per cent by 2050.

But it's going to be the young people in the suburban schools of Mt Roskill, Fendalton, Porirua, Ashburton and others that we will be depending on to get us there, McCullum says.

For more information, please contact:

Anna Cox, Primary ITO Communications Adviser anna.cox@primaryito.ac.nz or call (04) 382 2853, or mobile (027) 436 6469. 📞

About Primary ITO

Primary ITO provides NZQA endorsed qualifications and training to people employed in the agriculture, horticulture, equine, seafood, sports turf and food processing industries.

The ITO provides leadership in education and training, develops national qualifications, maintains national standards and provides ongoing support for their trainees and employers.

Primary ITO training is subsidised by industry and Government.

For more information on Primary ITO please go to www.primaryito.ac.nz or call 0800 20 80 20.

New health and safety publications



Sharyn Forsyth

Maritime NZ has developed two new publications aimed at increasing maritime operators' understanding of their health and safety obligations under the Health and Safety at Work Act (HSWA) 2015. The Act, which came into effect in April 2016, places new duties on everyone in the workplace. Maritime NZ is responsible for enforcing the Act in the maritime sector.

"As the regulator we have a responsibility to help operators understand their obligations, and how those obligations apply in a maritime context," says Maritime NZ general manager of maritime standards, Sharyn Forsyth.

"Having a boat or ship as your workplace raises some interesting questions about how to comply with the

Act. These publications answer many of the questions that may be on the minds of maritime operators and their workers," says Forsyth.

Health and Safety: A guide for mariners gives an in-depth explanation of health and safety obligations under HSWA. The scenarios in the guide describe how four operators of different sizes and types meet their obligations.

The brochure, *The Health and Safety at Work Act at a Glance*, provides an overview of the new terms and duties that are important for operators to understand.

These publications, along with a series of new guidance documents are available on the Maritime NZ website or you can request a hard copy at HSWA@maritimenz.govt.nz 

Romance of the sea preserved for old salts and their tickets

Steve Rendle, Maritime NZ.

The romance of the sea will be preserved under recommendations by Maritime NZ to allow seafarers to continue to using certificates like Master Small Home Trade Ship, Master River Ship, and Second and Third Class Steam Engineer.

A new certification system called SeaCert was introduced for seafarers in 2014, designed to give seafarers a clear career path and qualifications that are easily used overseas.

It's worked well for seafarers with modern tickets, but the challenge for Maritime NZ was how to handle older tickets that are no longer issued and are a legacy of several previous maritime regulatory regimes.

When SeaCert was introduced, it was envisaged that seafarers with these old

tickets would move into the new system over the following four years. But that transition process would have come at a cost to seafarers and some would have required additional training to move to SeaCert tickets.

Feedback from seafarers with older tickets, some nearing the end of their careers, was that they didn't see the value, in time or money, in moving into SeaCert.

In response, Maritime NZ travelled round the country to consult on changes to the SeaCert rules. It proposed a process called ring-fencing – where seafarers kept their old ticket and could continue using them to do what they had previously been doing.

The consultation process was one of Maritime NZ's most successful with more than 400 seafarers attending meetings around the country, from Invercargill to Gisborne. More than 350 submissions were received and there was overwhelming support for ring-fencing.

As a result of the feedback, Maritime NZ is recommending that the rules be changed to allow seafarers to ring-fence old or legacy tickets provided they have a medical certificate from any GP stating

that they are medically fit.

More information on ring-fencing is available on the MNZ website. Seafarers can check how their tickets are affected by going to www.maritimenz.govt.nz/legacy. (Click "SeaCert" on the Maritime NZ website homepage and use the tool found under "What happens to old tickets").

Maritime NZ is working with the Ministry of Transport with a view to getting rule changes covering ring-fencing in place as soon as possible, hopefully around September 2016.



Keith Manch

Details on progress will continue to be made available on the Maritime NZ website.

Maritime NZ Director Keith Manch says feedback from the industry showed many seafarers simply wanted to carry on doing what they're doing.

"We had a look at the issue and decided it was possible to reduce the regulatory burden on seafarers with some older tickets," he says.

"For a lot of seafarers, there is quite rightly a lot of pride in having these older tickets.

"We are trying to make it as straightforward as possible for seafarers to continue working with the introduction of SeaCert – and for as little cost to them as possible." 🐟

The growing opportunity for food gifting in China

Gifting has long been recognised as an important aspect of Chinese culture and, thanks to a booming economy and rapid social change, the practice is rising in frequency and value. Roger Bourne of Plant & Food reports.

New research by Plant & Food Research has revealed that the convergence of key trends in diet, food safety and health and wellness, plus a thirst for foreign brands, has helped imported foods secure top ranking as the most common gift of choice for wealthy urban Chinese consumers.

This presents a significant commercial opportunity for New Zealand food producers if they can create and market products that fit this highly lucrative niche.

Plant & Food Research's Consumer and Products insight team were already working on Asian consumer food attitudes, so this provided a close research fit. We then brought in global market trend experts Mintel to design and conduct the study.

They gained insights from more than 2000 Chinese consumers via an online survey and focus groups, concentrating on urban, wealthy Chinese as a key target market. The project looked at both the cultural background for gifting as well as hard data on which foods Chinese consumers want to buy and receive as gifts, and at what price.

The study found two very distinct social groups within which gifting takes place in China. The first was an inner circle of friends and family, where

gifting was motivated by kinship and personal relationships. This was the most common gifting group and prices for gifts were generally around NZ\$150, although, within this group, gifts for parents were higher, with an average spend of around \$260.

The second group was an outer circle of relationships more often based on access to resources, opportunities or services. A giftee in this group included teachers, doctors, clients and employers. This group received gifts less often, but prices were higher, often around NZ\$300.

In Chinese culture, gifting acts as a signal of the value of a relationship to both the giver and the receiver, helping to define the expectations each has for the outcomes of the relationship. Eighty-seven percent of those surveyed agreed that reciprocity is a Chinese tradition and the higher the price the more dignity and respect a gift represented.

How a gift looks was often cited as a key element in its value. Words like 'classy' and 'good taste' were frequently mentioned, and 'exquisite packaging' was considered a must.

Food has long been a traditional gift in China, particularly during important festivals, and while today it must compete with fashion goods, alcohol, cigarettes, cosmetics and consumer electronics, it remains the top choice by a wide margin.

Ninety-eight of the survey respondents said they had bought food as a gift in the past 12 months and 93 per cent said half or more of all their gifts were food. They told us they gifted food mainly because it was useful and suitable for everyone.

Respondents said an ideal food gift should look healthy and nutritious (67 per cent), be safe (59 per cent), have a well-known brand (55 per cent)

and have exquisite packaging (50 per cent). Chocolate might be the most popular gift, but 82 per cent of our survey agreed that health food gifts are growing in popularity. "It will never go wrong when you give them health," said one focus group member.

While price, brand and packaging were the top three reasons quoted for assessing the value represented by a food gift generally, when we asked specifically about imported foods this shifted to brand, nutritional value and country of origin. New Zealand fared well in the list of countries our survey group had purchased food gifts from. Twenty-nine said they had bought a kiwi food gift in the past year.

Brand awareness and food safety were the most commonly quoted reasons for choosing New Zealand food as a gift. 🐟

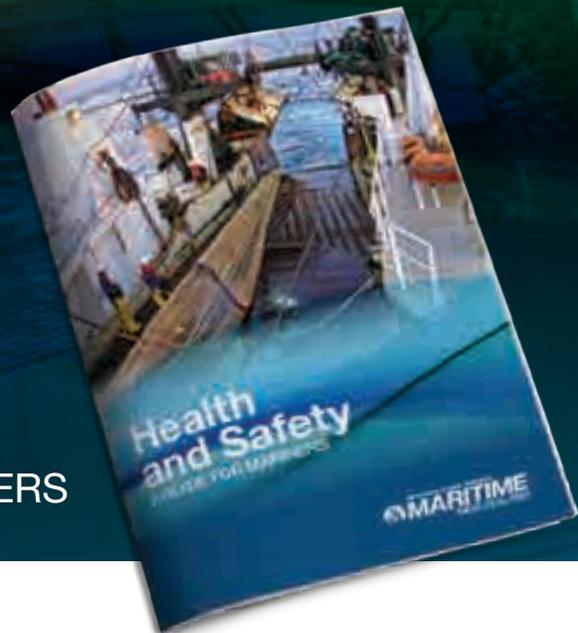
For more details and access to this research or other Plant & Food Research-led studies on Asian consumers, contact insights@plantandfood.co.nz





GET ON BOARD WITH THE
**HEALTH AND
SAFETY AT
WORK ACT**

Learn more about how the Act
applies to the maritime sector with
Health and Safety: A GUIDE FOR MARINERS



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HSWA@maritimenz.govt.nz

Or you can view it on our website:

www.maritimenz.govt.nz/hswa

newzealand.govt.nz

Nō te rere moana Aotearoa
MARITIME
NEWZEALAND

The power of reputation and sustainability

Debbie Hannan

Understanding the connection between sentiment and what consumers are prepared to pay for is becoming increasingly relevant for the seafood industry.

International research shows the growing value of industry reputation and sustainable business practices. People want to buy food from trusted and sustainable sources.

The global Consumer Goods forum has said that food safety and consumer trust are two of the most important subjects for consumers and companies today.

As the CEO of the retail giant Walmart, Doug McMillon recently tweeted, "customers want food they can trust".

A survey of 3,043 consumers around the globe by SGS, one of the world's

largest certification companies, shows that 91 per cent say it is important to know where their food comes from – 40 per cent say they would pay more for better information.

A 2014 sales analysis by the Nielsen research company showed that brands with a demonstrated commitment to sustainability grew over four per cent, while those without saw less than one per cent growth.

A more recent global online survey conducted by Nielsen found that 66 per cent of respondents say they are willing to pay more for products and services that come from companies which are committed to positive social and environmental impact, up from 50 per cent in 2013.

Nielsen polled 30,000 consumers in 60 countries across the globe and asked them to indicate what factors had the most influence on their purchasing habits. The most important factors among those surveyed were brand trust, natural ingredients and health and wellness benefits.

"Brand trust and reputation are paramount," says Carol Gstalder,

Nielsen's senior vice president, reputation and public relations solutions.

"An excellent reputation makes it far more likely a company will be welcomed into new communities, partner with respected non-profits working on issues consumers care about most; and be a go to source for products and services. And what we know for sure is that sustainability is playing an increasingly significant role in decision making."

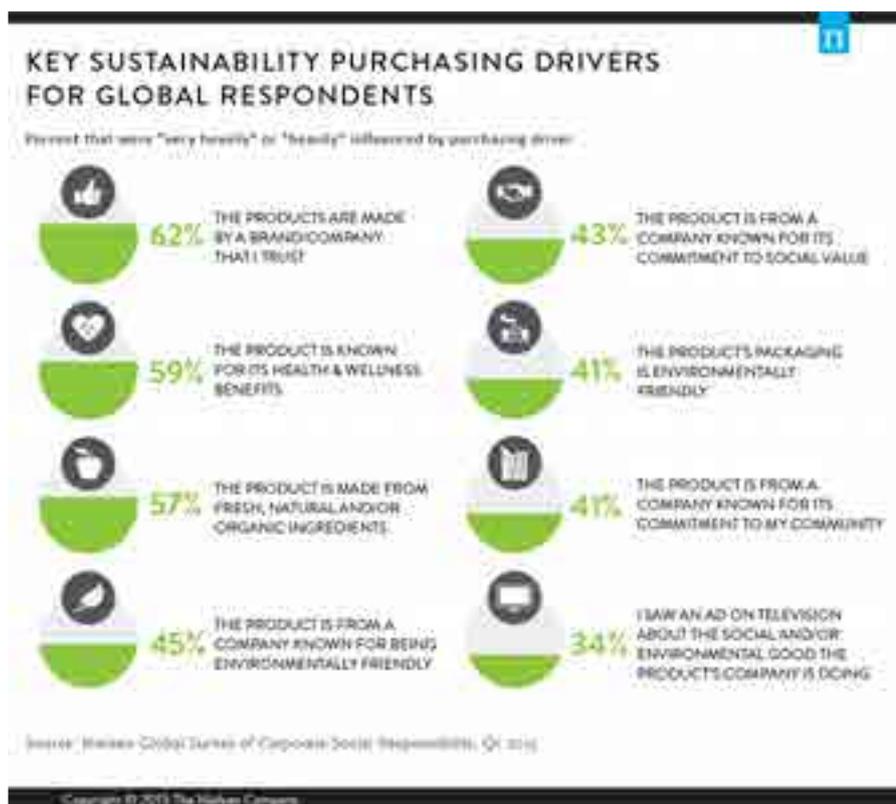
The New Zealand seafood industry's work to gain accreditation for its fisheries through the internationally recognised not-for-profit Marine Stewardship Council, is a good example of this, says Seafood New Zealand Chief Executive, Tim Pankhurst.

A survey by SenateSHJ in late 2105 of 150 business leaders across Australia and New Zealand showed that 96 per cent of respondents say reputation is one of their primary assets, compared with only half 10 years ago.

More than half those surveyed also agree that reputation is harder to manage than other forms of risk. Six out of ten say there has been an increase in the risks affecting reputation over the last three years ago and it is more important to manage now than it was three years ago.

Achieving social licence and the right to operate is critical to the ongoing success of the seafood industry, says Pankhurst.

Seafood New Zealand has been working with Nielsen for the past two years to better understand the New Zealand public's perceptions of the seafood industry. A third annual survey into the industry's reputation is being held later in 2016. An overview of the 2015 survey can be found in the April 2016 Seafood magazine. [➔](#)



Auckland University catch reconstruction – is it science?

The release of a report on the reconstruction of catches from New Zealand's marine fisheries, lead authored by Glenn Simmons of Auckland University, was released in May this year. Its findings have been questioned by the seafood industry. Tom Clark, seafood industry policy adviser, provides his insights into the paper.

The New Zealand reconstruction was part of a worldwide initiative to estimate the total extractions from the world's seas by the Sea Around Us, a marine research institute based at the University of Columbia, Canada. While the United Nations Food and Agriculture Organisation (FAO) has collected international catch statistics since 1950, that reporting is based only on commercial landings. The Sea Around Us project sought to estimate total extractions, landed and caught, commercial and recreational, through a series of country-based estimates.

The Sea Around Us reconstructions used official statistics where they existed and, where necessary, estimated other catches and landings. Where data was missing, the reports generally used country or international research to supplement the information.

The New Zealand Re-construction

The re-construction estimated that New Zealand's catches for the 1950-2010 period were 2.7 times (a total of 38.1m tonnes) the amount reported to FAO (14.0m tonnes). To put this in context, of the 247 catch reconstructions, New Zealand's reporting integrity ranked fifth to last, with only Haiti, Guinea-Bissau, French Guiana and Cambodia behind it and with nations such as Zaire, Somalia, Ghana, ranking ahead of it. For a nation which prides

itself on the sustainable management of its fisheries and was ranked fourth best on the Corruption Perceptions Index produced by Transparency International, how did such a result arise?

Some of the answers lie in what is and what is not reported in the FAO statistics and some of the answers lie in the reliability of the Simmons estimates.

FAO Reporting

FAO requires the reporting only of those catch statistics where the information is robust. Commercial sector landings have been reported by fishers in part or in full for the 1950-2010 period and were reported to FAO. For much of the review period, New Zealand only reported landings by vessels operating under New Zealand registration. Landings in New Zealand waters from vessels from other flag states were reported by those flag states. Catches by the recreational sector and non-landed catches are not robustly reported to New Zealand and are not reported to FAO. The FAO reported catch for New Zealand was only part of the total catch in New Zealand waters.

The Sea Around Us datafiles indicate New Zealand reported 9.1m tonnes of commercial catch and other flag states reported catches of 5.9m tonnes.

Other Landings and Catches

The following figures are derived from the Simmons report and the Sea Around Us datafiles but there are inconsistencies between the two information sources. The report indicates a reported catch of 14 million tonnes, unreported catch of 9.2 million tonnes and an unreported discard catch of 14.3 million tonnes.

The estimated invisible landings and unreported commercial catch together exceed the reported catch. But how robust are the figures for invisible landings and discarded catch?

The report does not provide a robust detailed description of the methodology that was used to inform those estimates. Unlike other country analyses which use available scientific information or international studies and

rather than using scientific estimates such as the NIWA estimates of non-landed catch from the deepwater and midwater trawl sectors, it appears the Simmons methodology relies heavily on a "critical reality" approach based on 308 interviews with a range of "expert" stakeholders including academics, fishing company executives, vessel officers and crew, former Government officials, former industry representatives and scientists and confirmed by other supporting material where possible.

The technique is a valid social science methodology commonly utilised where objective statistics do not exist. The approach depends on the representativeness and knowledge of the interviewees and the depth of material supporting the results.

A figure of 308 interviews sounds impressive but the expert factor becomes less robust when over 200 of the interviews were with Foreign Charter Vessel (FCV) crew members, less than 50 were actual fishers and few if any experts are currently employed in the seafood sector. Rather than prove the representativeness and experience of the interviewees, the report paints a fanciful multi-hued picture of the New Zealand fisheries - littered with excerpts from the interviews including references to fishermen's cats eating unreported catch, fish traded for sex, dumping when the Government's observer's attention was diverted and so on – all entertaining hearsay but hardly the stuff to support the estimates in his report. The report contains lengthy passages on a wonderfully wide range of topics such as conversion factor fraud, on-board consumption, black market landings, damaged fish, oversized fish, undersized fish, lack of hold space and quota restrictions – all designed to demonstrate the knowledge of the authors but sadly lacking a factual basis that might result in robust estimates of unreported catch. The report also includes findings from a small number of Ministry for Primary Industries (MPI) compliance investigations into specific issues. There is a great deal of verbiage but very little fact.

The Simmons estimates of

New Zealand catch have then been attributed to fishing nations, fishing sectors and species. Recently Sea Around Us provided an updated attribution. Those attributions have included:

- Changes to the level of catch for species, years and nations previously reported to FAO;
- An annual average of 110 tonnes of orange roughy catch attributed to the recreational sector since 1950;
- An annual average discard of 20,000 tonnes of commercial orange roughy catch since 1950 compared with an annual reported catch of 10,000 tonnes;

- Changes to the levels of reported catches between iterations; and
- Changes to species caught.

The FAO does not report recreational or customary catch or discards.

No-one would deny that unreported catch occurred in the past and to a lesser extent still occurs today but are the Simmons' results credible or not? Making an allowance for recreational and customary catch, the Simmons report indicates that unreported catch for the commercial sector has been in the order of 57 per cent of the fish caught for the period from 1950 to 2010 and 65 per cent in the last 20 years of that period. By contrast, NIWA which routinely analyses unreported catch

for the major deepwater fisheries, calculates that, for the same 20 year period, discarded catch formed less than seven percent of the fish caught in the major deepwater fisheries which together make up 80 per cent of the New Zealand's reported catch. Which to believe – the scientific or the pontificated?

Simmons refers to using a critical reality approach to the estimates. Until Simmons releases his methodology and the material he used to inform the estimates, we can only assume it relates to another reality but certainly not the New Zealand reality. Or maybe there were recreational fishers in 1950 catching 123 tonnes of orange roughy? 🐟

Kermadec Ocean Sanctuary: the global contest to establish large MPAs

Nici Gibbs

When Prime Minister John Key announced to the United Nations General Assembly that New Zealand would establish a large no-take marine protected area (MPA) around the Kermadec Islands, he adopted the language of a competitor in a global contest to close off the largest possible areas of ocean.

John Key claimed that the 620,000 sq km sanctuary would be "one of the world's largest and most significant" and would cover an area "twice the size of our landmass and 50 times the size of our largest national park in Fiordland" including "the world's longest underwater volcanic arc and the second deepest ocean trench". Other nations

are also enthusiastic contestants – the UK, for example, trumpets its plan to protect the oceans around its overseas territories as "the biggest conservation commitment by any government ever, pledging to protect an area of ocean three-and-a-half times the size of Britain".

The Kermadec Ocean Sanctuary is one of at least 21 'large MPAs' or MPA networks recently proposed or established in the world's oceans.

What's driving the contest?

The Kermadec Sanctuary was heavily promoted by US-based Pew Charitable Trusts, reflecting the global trend of wealthy US and UK-based environmental NGOs campaigning to establish large MPAs in other countries. At the same time, NGOs are advocating for the protection of 30 per cent of global ocean habitats from all extractive activities (the current target is 10 per cent). With targets of this magnitude, it's not surprising that many governments are readily persuaded that a larger MPA is a better MPA.

It's also not surprising that – as illustrated by Pew with the Kermadec islands – small islands with large Exclusive Economic Zones are frequently targeted as candidate sites



Johnston Atoll, a former US military air base is also the site of the world's largest MPA.

for large MPAs. Distant northern hemisphere nations such as the United Kingdom, the United States and France are busy establishing large MPAs around their remote ocean territories and claiming these areas as their national contribution to global marine protection, while leaving their own coasts available for utilisation. The focus on remote islands also means that MPAs are established not in areas where they might be needed to manage threats to marine biodiversity – but in areas like the Kermadecs that are relatively pristine and where biodiversity is not threatened.

Given these pressures, Pacific states such as New Zealand are particularly vulnerable to MPA campaigns. In a global context the Pacific is grossly over-represented in large MPAs – of the established MPAs, 97 per cent by area are located in the Pacific Ocean.

With a few exceptions, motivations for establishing large MPAs seldom relate to protecting representative or special areas of marine biodiversity (although biodiversity protection may be a side-benefit). Instead, MPAs are often adopted as a substitute for effective fisheries management – reflecting the failure of Regional Fisheries Management Organisations to agree on management measures and the lack of domestic fisheries enforcement capacity in small island nations.

It's no coincidence that islands within large MPAs are often of strategic military importance to the designating government. It serves the interests of these governments to establish large

areas of ocean in which vessel traffic can be constrained and closely monitored. Examples include Johnston and Wake Atolls (the two largest no-take MPAs in the world) which are administered by US defence agencies, Ascension Island which hosts a mid-Atlantic airfield shared by UK and US forces, and the Chagos Archipelago in the Indian Ocean. The UK-designated MPA surrounding the Chagos Islands was overturned by a United Nations Convention on the Law of the Sea (UNCLOS) arbitral tribunal in 2015, but not before leaked cables between UK and US officials revealed that the MPA was a ploy to prevent the return of the Islands' original inhabitants who were displaced in the 1960s to make way for a US military base.

Who's winning?

When announcing the Kermadec Ocean Sanctuary, John Key may not have realised that New Zealand was already leading the pack. The largest

established MPA networks in the world are New Zealand's Benthic Protection Area (BPA) network (1,718,765 sq km) and the US's Pacific Remote Islands Marine National Monument (1,269,065 sq km). If the Kermadec Sanctuary is established as proposed, it will be the single largest MPA as well as the largest 'no-take' MPA in the world. However, it won't increase New Zealand's contribution to global MPA targets as the Sanctuary, in its entirety, overlies an area of ocean already protected by the BPA network.

Unfortunately for the planet's oceans, the competition to establish the world's largest MPA has little to do with marine biodiversity protection. Effective marine protection requires clear biodiversity protection objectives and targeted management of the real threats to biodiversity – attributes that are cheerfully discarded when the global contest is framed around the simplistic measure of the size of MPAs. ➡

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“ This programme of work is about refreshing and improving our fisheries management system, not replacing it ”

The QMS now and for the future



The Minister for Primary Industries Nathan Guy

Hon Nathan Guy, Minister for Primary Industries.

The 30th anniversary of the Quota Management System is a good opportunity to celebrate the success of New Zealand's seafood industry, and at the same time look ahead to future opportunities.

Recently the Ministry for Primary Industries released their Situation Outlook for the Primary Industries, which shows seafood exports have reached nearly \$1.8 billion for the year to June 2016 – a rise of 15 per cent from the previous year.

As a Government we've set a goal of doubling the value of primary sector exports by 2025. It's an ambitious target but one that has been adopted by many industry groups, including the aquaculture industry which is targeting \$1 billion in sales by 2025.

Achieving this goal is all about adding value to what we produce, because we clearly can't just double the volume of what we take from the sea.

This is why the QMS has been

so important to the success of the seafood industry. Not only does it allow for sustainable management, but it demonstrates to markets and consumers that we are managing our resources wisely.

It is an important part of the industry's social licence to operate - producing our products sustainably, bringing the community with us, and earning their respect and understanding.

A good example of this is Precision Seafood Harvesting, a \$48 million joint project in which industry and Government has been developing revolutionary new net technology. Undersized fish escape through specifically designed slots and fish arrive onboard in pristine condition. Any unintended catch can be returned to the sea with a much higher survivability rate.

This is part of the Primary Growth Partnership and involves Sealord, Sanford, Aotearoa Fisheries Limited and MPI. The programme is expected to deliver around \$44 million in economic benefits per year by 2025, and it has already won numerous accolades including Supreme Innovator award at the New Zealand Innovators Awards in 2014.

Earlier this year 'Tiaki' was launched as a result. Customers around the world will know when they see this label that the fish has been sustainably caught and carefully selected, and will also be able to use their smartphone to see where and how their fish was caught via a specially designed traceability app.

As well as the economic benefits, 'Tiaki' will have real benefits for New Zealand's reputation as a producer of premium, high quality, sustainable products.

Social licence is also a driver for MPI's rollout of monitoring equipment on commercial fishing vessels to increase public transparency. By and large, the industry has recognised the importance of this and shown leadership by driving the installation of cameras on the Seapper 1 trawl fleet.

Work is already underway on installing electronic monitoring and cameras on all commercial fishing vessels across New Zealand, and earlier this year I signalled to my officials that this work should be fast-tracked.

This increased monitoring will provide greater transparency and improve public and market confidence that our fisheries are being well managed.

While the QMS has been recognised as world leading, this is no excuse for resting on our laurels. Last year I announced an operational review of our fisheries management system to ensure it is up to date and working efficiently and fairly.

While the fundamentals of our QMS are sound, the review will look at possible changes to fisheries management processes, regulatory change, and amendments to the Fisheries Act.

This programme of work is about refreshing and improving our fisheries management system, not replacing it. The long term aim is to deliver greater net value to all sectors – commercial, recreational and customary, while enhancing the sustainability of our fisheries.

The review won't undermine existing rights and interests of commercial, customary and recreational fishers, Treaty settlements or core elements of the QMS. It also won't be getting into the detail of things like bag limits or quotas. The current sustainability rounds and other work programmes by MPI will continue.

Later this year the Government will release a public discussion document on any proposed changes to our fisheries management system, and I'm looking forward to everyone's feedback on this.

We should all be proud of the QMS. While it is considered a world leading system we need everybody's input to continue to drive the economic and environmental sustainability of the seafood sector. 🌊



“ As someone who has been involved with the QMS since its inception, I have personally observed great progress in New Zealand’s fisheries management and innovations in science to support this ”

Celebrating 30 years of sound science and prudent fisheries management

George Clement, Chairman Seafood New Zealand

This year New Zealand celebrates 30 years of the Quota Management System (QMS), a fisheries system that was world-leading when it was established, and continues to stand the test of time.

Prudent stewardship of our fisheries, underpinned by sound science are the cornerstones of the QMS.

As John Connelly, President of the National Fisheries Institute, United States of America, says good fisheries decisions start with good science.

The Ministry for Primary Industries has decades of peer-reviewed science

that show steady and increasing levels of abundance in each of our main fish stocks. Of the 157 stocks of known status in New Zealand, 83 per cent are above the sustainable limits set by Government. This is 97 per cent of our annual catch of more than 420,000 tonnes.

As someone who has been involved with the QMS since its inception, I have personally observed great progress in New Zealand’s fisheries management and innovations in science to support this.

Hoki as a good example of how fisheries stocks fluctuate, how science can be used to monitor and model these changes and, in combination with responsive management, how this results in a productive and sustainable fishery. The hoki fisheries were the first in New Zealand, and the first white-fish fishery in the world, to achieve the prestigious Marine Stewardship Council (MSC) certification for sustainability in 2001 and has remained certified for 15 years.

Over the following pages you will read more about the science and fisheries management measures that sit behind the success of the QMS.

But this isn’t about resting on

our laurels, while celebrating our success, we are very focused on the future and constantly bringing in new improvements. Industry and the Ministry for Primary Industries are developing improved trawl harvesting techniques, improved scientific assessments, improved monitoring methods and improved assurances for our customers, so that they can continue to buy our sustainable seafood with confidence. In 2015 Industry accepted the Government’s aspirational goal of doubling export revenues by 2025 and we are on the growth path to achieve this. 🌱

Footnote: George Clement played a key role in the development and implementation of New Zealand’s Quota Management System (QMS) between 1983 and 1987 while working in the Fisheries Management Division for the former Ministry of Agriculture and Fisheries (MAF).

He had a direct involvement with the development of the original concepts, the policies and legislation, was the lead person in consultation with industry and with the implementation and early operation of the QMS, both within government and subsequently in

Tough decisions led to fisheries' good health

Shelton Harley, Manager Fisheries Science, Ministry for Primary Industries

Fish eyes the size of grapefruit are probably my most vivid recollection of the time before the QMS came in – my father was fishing East Cape on the *Sunniva*. I recall watching them unload their catch including bass with heads like letterboxes.

With this heritage it is not surprising that fisheries have played a big role in my family. I embarked down the path of marine science while my two younger brothers each spent a decade within fisheries – one as a fisheries officer and the other as a commercial fisher.

Fisheries science has taken me to the Gulf of Alaska, Atlantic Canada, and around more than a dozen Pacific Island countries, but my heart has always been for New Zealand fisheries and those people who rely upon them – whether it be for employment, enjoyment, food or cultural significance.

From this journey I am convinced that the current good health of the majority of New Zealand's fisheries can be attributed to some very tough decisions (around the introduction of the QMS) and an investment in great fisheries science, scientists, and fisheries managers over the past 30 years. Before the QMS was introduced New Zealand had too much fishing capacity and if we had moved to more traditional methods of capacity or effort limitations I believe we would now be experiencing many of the issues seen elsewhere in the world, such as fishing seasons measured in days or even hours!

Today more than 95 per cent of the stocks that we can assess have no sustainability concerns at the Quota Management Area level. We have good news stories about stocks that have recovered or are recovering since the

introduction of the QMS – especially our rock lobster and snapper stocks. Orange roughy now has several stocks rebuilding to levels that are globally recognised as sustainable. Our system can work, but it takes time and robust science. We are always looking to improve and a current focus within MPI is to develop innovative ways to better assess and manage some of the 'next-level' stocks which significantly contribute to our overall fisheries picture.

Public interest in the New Zealand marine area has grown dramatically – as a country we care deeply about making sure there are enough fish in the sea for the future. Globally people who consume New Zealand seafood are more interested in questions of sustainability.

One of the ways this is manifesting is increasing calls and expectations around an "ecosystem approach to fisheries management (EAFM)" and local community engagement in fisheries issues.

I would argue that New Zealand's fisheries management regime is not just a "single-species management system", but incorporates the key elements of an ecosystem approach. We have conservative catch limits for some forage species and specific management plans around the impacts of fishing on the seafloor, sharks, seabirds, and marine mammals. The current fisheries review MPI is undertaking provides the opportunity to ensure that New Zealand fish stocks and their broader marine ecosystem are globally recognised as sustainably managed.

New Zealanders are increasingly articulating expectations for what they expect from fisheries, e.g., why am I catching less fish in my favourite fishing spot. As a scientist a key role in the process is to transform these



Shelton Harley

expectations into levels of abundance which reflect targets (i.e., abundance of fish we want in the water) and limits (i.e., lower abundance of fish we don't want to get close to) that can be used to help manage these stocks. I look forward to being involved in discussions such as those occurring with the Guardians of Fiordland, 'Te Korowai' Coastal Guardians of Kaikoura, and within the Hauraki Gulf.

My top two science needs for the future are smart people, and more easily accessible information. I genuinely believe we need as many good minds working in fisheries science as we can get and we need to increasingly reach out to universities and other researchers. Students need to be involved working on real problems with real data.

We need to fully embrace electronic tools for collecting and verifying fisheries data. Considerable resources are spent entering, reviewing and correcting data – not only is this inefficient, but it also leads to delays in the availability of the information to inform fisheries management and the public. Rolling out electronic reporting solutions for New Zealand's fisheries as part of the Integrated Electronic Monitoring and Reporting (IEMRS) project will have real benefits for New Zealand fisheries.

I look forward to working with scientists and other stakeholders to continue to build upon the strong international reputation that New Zealand has for our fisheries. 🐟



Ian Doonan. Image: Dave Allen

Counting our fish for a sustainable future

If we want fisheries to be sustainable, we need to do the maths. In the third of a series of articles marking the 30th anniversary of the Quota Management System, NIWA explains how its scientists use statistical models to produce the best advice for maintaining or enhancing New Zealand's wild fish stocks.

As fisheries scientists we gather a lot of information about fish. We collect and analyse data on how many of each species are caught, where, how often, what size or age they are, and how their abundance changes over time.

All this information is fed into population models, statistical approaches that enable us to understand complex interactions, such as how varying levels of catch or birth rates of young fish affect population size. They also allow us to predict what is likely to happen in the future under different catch scenarios.

We are looking to define the most desirable stock status. We know that in an unfished state, fish populations exist at the carrying capacity of the system they live in and mostly consist of older,

slow growing individuals that are not very productive, as is the case for a mature forest. Younger populations with more fast-growing fish, allow for higher levels of production and sustainable harvests.

However, if abundance gets too low, the sustainability of a fish stock may be at risk. In New Zealand, we regard a fishery with an abundance below 20 per cent of the original unfished stock size as overfished and in need of a formal rebuilding plan. Below 10 per cent it is regarded as collapsed and may need to be closed to ensure its recovery.

Fisheries management programmes aim to keep abundance well above the 20 per cent level and usually within a target range of 35 to 50 per cent.

CASAL population models

NIWA assesses the status of many of the fish stocks around New Zealand as part of its work for the Ministry for Primary Industries (MPI). CASAL, the main assessment model we use, was developed by NIWA about 15 years ago and uses statistical integrated analysis methods to assess the status of individual species. There is a wide range of data that goes into a typical stock assessment.

Scientists use data on catch levels; biological information such as growth rates, age at sexual maturity, and natural mortality; changes over time in age and length structure of the population,

trends in commercial catch rates; and scientific survey abundance estimates.

Senior fisheries modeller Dr Ian Doonan says while CASAL was ahead of its time when it was developed more than a decade ago, it has been overtaken by recent developments in assessment methods.

"Casal2, is the newly-released and highly augmented next generation version of this assessment model that will allow us to assess multiple species and stocks in multiple areas simultaneously. We can now also incorporate a range of ecosystem dynamics into the analyses, including predator-prey interactions, finer spatial scale processes, and environmental change."

Hoki population trends

Hoki is one of New Zealand's largest and most valuable fisheries, with a current annual catch of about 150,000 tonnes and an export value last year of more than \$200 million.

The fishery was developed in the mid-1980s when the Total Allowable Commercial Catch (TACC) was increased from 60,000 to 250,000 tonnes. There are two stocks: a western stock which spawns off the west coast of the South Island, and an eastern stock which spawns in Cook Strait.

Key information going into the population model includes trawl surveys in the two main non-spawning areas

“ We collect and analyse data on how many of each species are caught, where, how often, what size or age they are, and how their abundance changes over time ”

and acoustic surveys in the two main spawning areas, and catch-at-age from the trawl surveys and the four main commercial fishing grounds. One of the trawl surveys, on the Chatham Rise, also provides valuable estimates of one and two-year-old hoki that are not yet available to the fisheries.

The population model produces estimates of annual population size over time for both stocks. The initially larger western stock experienced an extended seven year period of poor recruitment from 1995 to 2001, which may have been related to warmer sea temperatures during this period. In conjunction with fishing levels at the time, this caused a decline in abundance in the mid-2000s. Significant reductions in the TACC (from 250,000 tonnes down to 90,000 tonnes) and catches and better birth rates since 2002 have resulted in a rapid rebuild of the population so that it is now above the upper end of the management target level. The current TACC has increased to 150,000 tonnes. The future also looks promising with estimated high birth rates of fish spawned in 2011 and 2014.

The hoki fishery is a good example of how wild native fisheries can fluctuate due to both environmental and fisheries influences,

how science can monitor and model these changes and, in combination with responsive management, how this results in productive and sustainable fisheries.

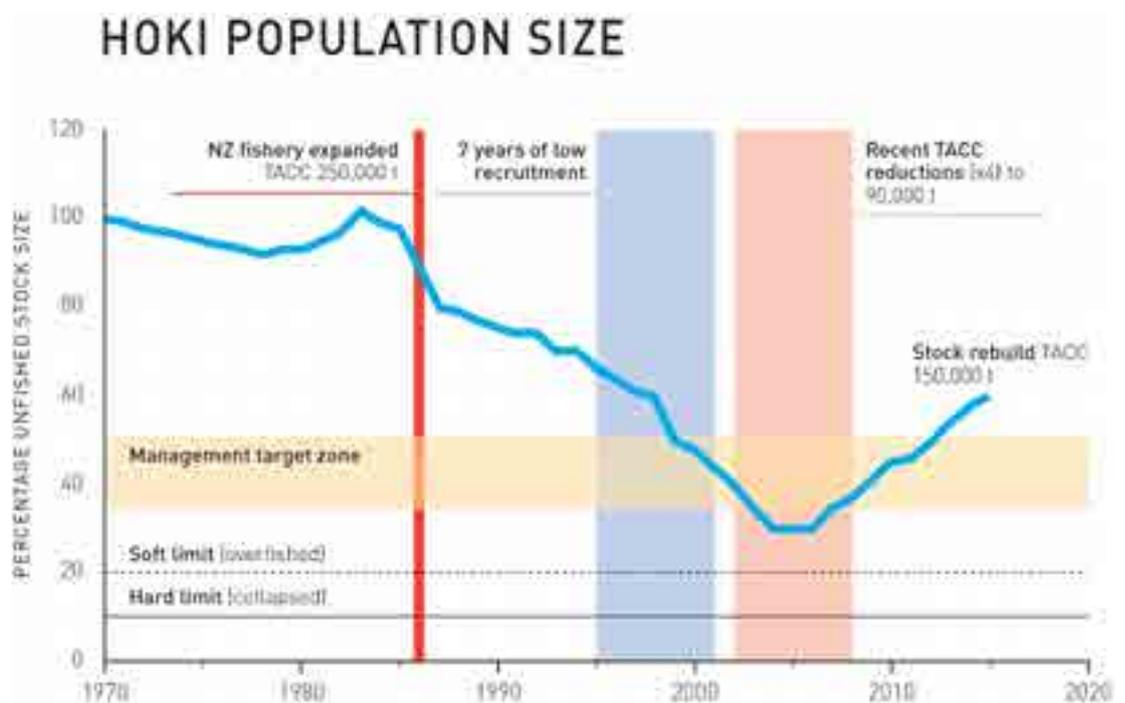
This fishery was the first fishery in New Zealand, and the first white-fish fishery in the world, to achieve the prestigious Marine Stewardship Council (MSC) certification for sustainability, in 2001.

But what about smaller or less valuable fisheries for which relevant data may be limited?

Internationally, there has been increased attention on developing methods to assess and manage fisheries that may have limited data, or resources, to carry out detailed statistical

modelling. For example, we may have no information on abundance or an incomplete picture of how much has been caught. Nevertheless, estimating the population status of these species is still possible, even though it may be less certain.

When information is limited, we need to make stronger assumptions about how biological populations function and we often need to use much simpler models. For example, a CASAL model may include information on maturity, mortality, and growth, whereas a simpler model may combine these into a single parameter called 'productivity'. NIWA is currently developing a range of approaches to provide assessments for these type of situations. 🌐





Danette Olsen. Image: Plant & Food

Seafood and science – in it for the long haul

As we review the past 30 years of the Quota Management System, Danette Olsen, former General Manager Science, Seafood Technologies Plant & Food Research reflects on the important role that science has played in the development of the New Zealand seafood industry.

Crown Research Institutes like Plant & Food Research (PFR) and its predecessors provide science-based solutions that support sustainable growth of our primary industries.

More than 50 seafood researchers at PFR are focused on providing solutions that will help the seafood sector grow. Our focus is full resource utilisation - making more of what we have, and making more from what we have, underpinned by a robust food safety programme.

We seek to gain a deep understanding of New Zealand seafood species, and use that to help us design new production systems, new harvest systems, and new products. We take a

whole value-chain approach, from harvesting the fish through to the final product (be that a fillet or a nutraceutical) – we are interested in using our skills in genetics, physiology, microbiology, chemistry, engineering and food science to develop new technologies that support growth of the sector.

Through a deep understanding of the biology and chemistry of animals we work with, we develop science-based solutions for seafood companies to evaluate. Our role is to remove enough risk and uncertainty so that industry can see the potential, and then co-invest in the development of new technologies that will increase the value of our seafood resources.

The history behind the development of the Modular Harvest System (MHS), currently being commercialised through Precision Seafood Harvesting (PSH), perfectly illustrates this interplay between science exploration and industrial development.

The PSH technology had its genesis in research being undertaken in the 1990s when scientist Alistair Jerrett was looking at post-harvest storage solutions for hoki. This delicate fish was being damaged through the harvest process, and access to undamaged fish was needed for research. Chinook salmon were selected for tank-based studies, but these fish also suffered damage during the handling process. Jerrett and his team developed a fish anaesthetic (AQUI-S) that enabled fish to be handled without stress so that the researchers could explore the effects of pre-harvest exercise on post-harvest flesh. The team found significant improvements in fish quality and shelf life when rested harvested practices

were used.

While rested harvest concepts are easily incorporated into aquaculture practices, bringing these to the commercial fishing fleet posed a challenge. How do we harvest fish so that the benefit of rested harvest can be realised? To answer this question, the team developed cameras to place inside the trawl, and upon seeing the fish stressed and exhausted, the “aha” moment struck – there must be a better way to catch these fish.

With support from Sealord, government science funding and Seafood Innovations Ltd, the team embarked upon a series of research projects devoted to redesigning the industrial trawl environment around the needs of the fish – the objective was to create underwater conditions that enabled the fish to swim normally, without stress and without damage. Prototypes were developed and tested on Sealord vessels – and ultimately the benefits of a new modular harvest system were demonstrated to the broader industry.

Three innovative fishing companies, Sealord, Sanford and Aotearoa Fisheries (now known as Moana New Zealand), saw the opportunity presented by the prototype MHS technology – and agreed to co-invest along with the Ministry for Primary Industries in a Primary Growth Partnership (PGP) that is seeing this new technology being commercialised today.

Although it is still early days, the companies involved are already starting to see the benefits in terms of fish quality and value. Fish caught using the gear are landed alive, swimming in water and in pristine condition. There is also the potential for undersized or unintended catch to be returned to the sea with a much higher survivability rate. The recent launch of the Tiaki Way will provide consumers with the ability to select fish caught with PSH gear and so access premium quality sustainable New Zealand seafood.

A similar story could be told in the development of a marine products industry in New Zealand. PFR scientists have been working with a number of

SMEs over the past 15 or so years, developing a range of high value marine products from seafood resources. Mussel powers and oils, hoki collagen nanofibres for filtration systems, new biomaterials for cosmetic application - these are just a few examples. During that time, seafood companies have waxed and waned in terms of their commitment to investing in marine products, but PFR scientists like Dr Sue Marshall and her team have continued to explore the chemistry of marine molecules to support the development of new marine products, knowing that at

some point the industry would be ready. And it seems as if that day has come.

We are starting to see an increasing interest from major seafood companies who have seen the gains that countries like Iceland have made from their marine resources, and they are beginning to see the opportunities for their own businesses.

The seafood sector has enormous potential to gain from new innovations, but a long-term view is needed. As the PSH and Marine Products stories show, good things take time. To provide the solutions industry needs today, we

need to rely on decades of science that have gone before. The PSH programme was more than 20 years in the making, funded through a variety of sources including PFR internal funds, government, industry and Seafood Innovations Ltd.

A key role for CRIs is to take that long-term view – providing the science today that will support the needs of industry tomorrow. Sometimes our ideas are ahead of their time, and industry is not ready, or other settings are not in place, but if we are tenacious and patient, the time will come. ➔

Arguing the case for a balanced view on fisheries management

A keynote speaker at this year's seafood industry conference, John Connelly, President, National Fisheries Institute, USA argues the case to work towards a more balanced view on fisheries management.

Your Honour,
I stand before the Court of Public Opinion to argue the facts in the case of Sustainable Fisheries Facts v. Ceded Perceptions.

Even my opposing counsel must stipulate that:

- NOAA, America's fisheries regulator, uses an ecosystem-based approach that relies on sound-science to inform managers' decision-making to create one of the world's most sustainable systems. For the record, Maria Damanaki, former EU Commissioner for Fisheries and no supporter of the fishing community, has stated, "I want to pay tribute to the U.S. for their great achievements in managing fisheries in accordance with the best available science and ending overfishing, based on the Magnuson-Stevens Act. The

U.S. has shown us the way on sustainability."

- Second, that a large portion of U.S. fisheries are managed under a Quota Management System. There is a clear tie between rights-based management and reduced overfished stocks.
- Third, that the U.S. spends nearly a billion dollars on fisheries management. NOAA Fisheries budget for 2016 is \$971 million – much of it on research. NOAA has six science centers and more than 20 laboratories.
- Fourth, NOAA has less than 10 people dedicated to communicating through traditional and social media and to the public about the agency's successes.
- Fifth, NOAA's system is transparent and multi-stakeholder system, inviting participation from anyone interested in sustainable fisheries. Academics, industry, government, and non-governmental organizations comprise the 139 appointed Council members, 189 Science and Statistics Committee members, and 773 species plan team members that form the decision-making process.

However, despite NOAA's successes, we can also agree it is of deep concern that many consumers believe we've caught the last fish in the ocean, or are on track to do so. Just as importantly, large retailers, restaurants, and hotel

chains are confused about the status of seafood sustainability and continue to put out misguided information about fish being wiped out by 2048.

Consumers and institutional buyers did not dream these issues up. Rather, skillful manipulation by advocacy NGOs, on the other side of the Court, distorted facts, promoted incomplete science, and clouded fisheries management successes to confuse consumers and make them lose confidence in the sustainability of their seafood purchases. It should be pointed out that for many of these organisations the goal is not sustainable fisheries but a world in which consumers simply eat less fish. The argument they make to the Court is fewer fish on the plate, more fish in the sea.

I am an advocate, though, and must point out their flaws. As stipulated, any party can participate in the fisheries management process and influence decisions.



John Connelly

“ On the opposite side of the Court of Public Opinion, some advocacy groups have little (if any) science, dedicate a vast majority of their budget and resources to fundraising, communications, and marketing ”

Many of these groups though, choose not to do so. They choose to try their case in the Court of Public Opinion, where the rules of evidence are fewer and less stringent than in the harder Courts of Science. They promote a quasi-science while criticising the government for not doing enough. Campaigns focused on letter-writing, picketing, and boycotting simply obscure the facts rather than embrace the science.

We stipulated that little

government resources are invested in communications, so my argument to the Court about sustainability successes becomes more challenging. With little proactive traditional and social media efforts, consumers remain uninformed about the true story of seafood sustainability.

There's a communications adage that says you may have the best wheelbarrow in the world, but if you don't tell anyone about it... you just have a wheelbarrow. I fear in this case that adage applies to

NOAA Fisheries. With a \$970 million budget, strong research, distinguished scientists and demonstrable success, NOAA's product is among the best in the world – they have a “high tech, 21st century wheelbarrow.” What they need is to add a printing press. On the opposite side of the Court of Public Opinion, some advocacy groups have little (if any) science, dedicate a vast majority of their budget and resources to fundraising, communications, and marketing.

NOAA, and other governments, have a responsibility to proactively discuss fisheries sustainability in a way that resonates with consumers. In a digital world with messages hitting people constantly, it is not enough to just rely on the science. Results must be communicated. Absent that communication, governments have abdicated a responsibility and ceded to opposing counsel the entire Court of Public Opinion.

In summation, your Honour, we agree that good fisheries decisions start with science. And that science includes input from many stakeholders. And that consumers have a muddled view of the status and future of fisheries because of the lack of communications from government. Your Honour, it is essential that we work to achieve a more balanced view in this Court of Public Opinion. 🗣️

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Protecting our ocean companions

Tim Pankhurst

There have been great strides taken by the seafood industry over the past couple of decades in protecting the rich diversity of seabirds that we share our oceans with.

New Zealand is home for more than one third of the world's seabird species. The seafood industry takes its responsibility to ensure they survive very seriously.

Over the past 14 years industry has been working with the Department of Conservation (DOC) and Ministry for Primary Industries (MPI) and the NGO sector through the Southern Seabird Solutions Trust.

As the Trust's Convenor Janice Molloy says, on the face of it, it is an unlikely coalition; fishing industry leaders, government officials, conservationists, eco-tourism operators, scientists and researchers. Through this disparate group there has been a continued collective commitment to improving the conservation status of New Zealand's seabirds.

Through the Trust a number of measures have been achieved that include workshops for fishers encouraging a "seabird smart" approach to fishing, hosting events with a focus on seabird mitigation and rewarding industry efforts in protecting seabirds.

Industry works with the trust on a wide range of projects around the country. For example, in the north the Black petrel/Taiko Working Group, that includes Moana (Aotearoa Fisheries), Sanford and Leigh Fisheries working together to protect the endangered black petrel.

The National Plan of Action (NPOA) - Seabirds 2013 that recognises New Zealand's unique place in the world for seabirds and our desire to be at the leading edge of international seabird conservation has industry's full and active support.

A wide-range of industry-led initiatives to prevent seabird capture have been developed including, for example, the requirement for surface long-line fishers to use tori lines (lines with bright streamers to scare the birds away), night fishing, extra weights added to the lines to drop them quickly out of birds' reach, and dyed baits to confuse the birds.

Industry has also been involved with trials of on-board cameras to monitor and reduce seabird captures on longlines. The ability to collect better information on seabird interactions with fishing vessels will better inform management decisions that best protect seabirds.

A recent industry collaboration with DOC worked on the improvement of

tori line materials and performance on small coastal long-liners.

To ensure our members are well informed about seabird mitigation industry jointly funds, with DOC and MPI, seabird liaison officers for deep water and coastal fleets.

Fishing vessel owners are constantly looking for innovative ways to prevent catching seabirds while fishing. Late last year, for example, Sealord, as part of its refit of the deep water vessel, Ocean Dawn, fitted a new "bird baffler" to repel birds, and it is working.

All of these measures that have involved considerable investment in time and money over the past decade are paying off. The 2015 Ministry for the Environment Environment Aotearoa report shows the significant progress in reducing seabird capture, which estimated it had fallen by around 40 per cent since 2002.

Given that commitment, it is doubly disappointing when there is the odd case of a skipper failing to do the right thing. Such incidents are in the minority but they unfairly tar all those in the industry. That is why there is a common feeling that anyone convicted deserves whatever sanctions come their way.

The ultimate aim is to get to the point where we can say there are no seabird deaths as a result of fishing. 🌊



Dave Kellian (right) Alastair Kennard, Electric Navigation

Seabird smarts rewarded

Dave Kellian of Whangaripo, north of Auckland, was honoured by his peers at this year's New Zealand Federation of Commercial Fishermen's Conference for the work he has done for the environment.

He was awarded the Electronic Navigation Shield award that each year recognises selfless service.

Kellian has been fishing commercially for over 30 years in New Zealand, Australia and South Africa.

He has been on the management of the Southern Seabirds Solution Trust since 2002 and has been responsible for

initiatives to mitigate and reduce the number of albatross and petrels being harmed by longliners. He has also been part of the Hauraki Gulf Marine Park, Spatial Plan working group.

"Dave's concern for the environment and the impact of commercial fishing practices on it, particularly on seabird populations, led to the design and development of seabird mitigation solutions. Dave has worked as a liaison officer, spreading the word of 'seabird smart' fishing practices with fellow fishermen at home in New Zealand and overseas," his award citation said. 🌊



Cape pigeon. Image: Barry Baker

A love of seabirds

Debbie Hannan

For Gisborne skipper Matt Howden there is no more beautiful sight than a flock of cape pigeons.

Matt knows a lot about seabirds and enjoys their company while at sea.

He is a passionate advocate for educating his crew and the wider fishing community on the importance of protecting seabirds.

He grew up in Kaikoura, renowned for its seabirds, a region described as offering probably the best and most accessible pelagic birdwatching in the world.

Matt's first job was on a fishing charter vessel out of Kaikoura.

"I was always being asked 'what is that bird or where do they come from', so I thought I had better start remembering some information about these seabirds so I could confidently answer questions from the passengers," Matt says.



Matt Howden

He's now based in Gisborne, fishing on the Pearler (owned by Gisborne Fisheries and Richard Kibblewhite) from Portland Island to Lottin Point, targeting a range of seafood from rock lobster to inshore species by set netting and lining.

Over the years, he has seen some amazing seabird sights.

"My favourite would have to be steaming home one evening, and as far as the eye could see were cape pigeons feeding on whitebait outside a local river mouth," Matt says. "There would have been thousands!"

The cape pigeon (which is in fact a petrel) is a particular favourite of his.

"I like this bird because for their size they are bloody cheeky, swooping in and stealing food out from under the nose of much bigger birds like the wandering royal albatross," Matt says, with a smile.

This love of seabirds makes him acutely aware of the need to prevent their accidental capture.

"Danger times vary on what technique of fishing we are using, but the danger times are mainly setting of the nets and hauling of the dahn (vertical drop) lines," he says.

"When it comes to netting, it's all about getting the net off the boat and under the surface as fast as possible.

"This is done by multiple short nets and heavy weights on each end.

"There is very little danger (to seabirds) in lining for us.

"We usually use dahn lines, as opposed to long lines because the

practice is more suited to the bottom structure and species being targeted.

"It also limits the amount of time the baited hooks are within striking distance of the birds.

Matt has some simple advice to other fishermen wanting to prevent bird captures.

"It doesn't need to cost a lot of money or the use of fancy equipment," he explains. "It's just about being smart about what you do.

"For example, be aware of what's going on, especially at times of heightened bird movement, like windy conditions.

"With longlining, the use of tori (bird scaring) lines is a simple and effective practice used when shooting (releasing) a line.

"Motivating my crew on seabird protection is all about explaining the massive role they have in our marine system.

"A little bit of insight into their importance seems to go a long way."

Matt is also a keen recreational fisher.

"When it comes to seabird safety, the key point is still the same – it's about being smart and aware in what you're doing," he says.

"From what I've seen the fishing industry can take pride in its efforts of looking after our seabirds."

He says several of his colleagues are taking all practical steps they can to ensure the sustainability of seabird populations.

"As long as we continue to educate I can see a great future for seabirds." 



A tori line showing its best side - this tori line's height, bright-coloured streamers, and effective aerial extent mean it works well to deter birds.
Image: David Goad

No-tori-ous but still one of the best

Johanna Pierre, DOC seabird bycatch co-ordinator and Director JPEC Ltd

Decades after they were first used, tori lines are still one of the best ways to reduce seabird bycatch in longline fisheries. Recent media has reminded us all that the law is clear – tori lines are required on every set made by bottom longliners over seven metres long and surface liners. But how can tori lines be made to work best, for fishers and seabirds?

Some skippers swear by their designs, while others are coming to grips with a good one. Either way, tori lines are a core component of the seabird mitigation tool box. They look basic, they are basic, and there is a set of simple ideas that helps them work best.

Light is right: A light backbone material and light streamers are kept in the air with less drag weight. So, the lighter the tori line is, the more aerial extent will be achieved. This helps keep the tori line away from fishing gear for a greater distance astern and protects the hooks better from seabird attack.

Height: Deploying a tori line high also keeps it above the fishing gear further astern. This reduces the risk of tangles and makes the tori more effective. A pole will be needed to attach tori lines high enough on some smaller vessels.

Weak link: Adding a short loop of rope with lower breaking strain than the tori line backbone means you know better where it will break in case of a tangle.

Drag: The hardest bit of tori line design is getting the drag right. Got sag? Need drag! If a tori line is sagging, adding more drag will help, for example, using a heavier object at the end of the tori line. Floats and

cones can work well. Or, if tangles are a concern, adding a length of thick mono or rope at the end of the tori line could be better. If the tori line is still sagging, it's worth adding even more drag and thinking about how to reduce the weight of the tori (or setting it higher above the water).

Backbone: A rope backbone with 30kg breaking strain is a good start. That way, the tori line backbone will break before the main longline if there is a tangle.

Streamers: Light and bright is the way to go. Beauline International have some new tori material that is \$1.50/m and specifically designed for small vessel tori lines. It's light, bright, takes ages to fade, and will snap before the mainline does. That helps reduce issues if there is a tangle during setting. Also, streamers should run from the tori line backbone to the sea surface.

Reducing seabird bycatch is a part of every fisher's core business. It's not always easy, but no-one does it better than fishers themselves. 🐟



Chatham Islands Shag. Image: DOC

DOC and seafood industry working together for seabirds

Leigh-Anne Wiig

The Department of Conservation (DOC) is this year embarking on new research into six species of vulnerable Chatham Islands seabirds, with funding from the seafood industry.

The industry contributes around \$2 million each year through levies to the Conservation Services Programme. The money from the CSP levy pays for research on seabird and other protected species populations' mitigation measures and for observers to monitor the fishing vessels.

New Zealand waters and offshore Islands are home to many unique and small populations of seabirds which are vulnerable to getting caught on fishing lines.

Because fishing is one of the biggest threats to our seabirds, part of DOC's effort is to ensure information is available to help the fishing industry take steps to mitigate the damage.

DOC Director General Lou Sanson says "It's a win-win situation because as well as reducing harm to seabirds, working together with fishing companies means we can also help their industry become more sustainable. This is important for the seafood industry internationally."

This year \$120,000 will be spent on new seabird research on three species of albatross on the Chatham Islands as well as northern giant petrel, Pitt Island shag and Chatham Island shag. Half of the research money comes from the industry through the CSP levy, with the rest funded by the Crown.

In the case of the Chatham Islands

albatross, DOC researchers will be looking at doing population estimates to determine how many breeding pairs are nesting. This will give a better idea of how big the breeding population is, and whether there has been any decline or growth of the population.

"This monitoring is essential to ensure we have a baseline to assess the impact of fishing on seabirds and whether more work needs to be done," Sanson says. "If the seafood industry wants to have a sustainable fishery, it needs information about what impact their fishing is having on wildlife."

The nationally at risk Chatham Islands albatross currently only breeds at one site, The Pyramid, a small outcrop south of Pitt Island. This restricted breeding means they're at increased risk from any type of threat.

"That's why establishing a second breeding colony on the Chatham Islands mainland is so important," says Sanson. "There is some great success through working with the Taiko Trust and landowner Bruce Tuanui on an albatross



Chatham Islands albatross. Image: Sam O’Leary



Mike Bell with albatross decoys. Image: Lou Sanson



Chatham Islands Shag. Image: DOC

transfer project – it’s only the second albatross transfer project in the world.”

It’s the second year the Taiko trust has relocated about 60 chicks to Point Gap on the Chatham Islands mainland, with the hope they’ll return as adults and breed there. The local fishing company, Chatham Island Food Co has also got behind the project, donating four tonnes of fish and squid a year to feed the albatross chicks. Without this contribution, along with freight sponsored by Air Chathams and local fishing company Cannister Fishing providing their skipper and boat to ferrying albatross between islands, the Taiko Trust say this work wouldn’t be possible. All of this sponsorship and support highlights a successful partnership with local business, fisherman, landowners and conservation community groups to achieve good outcomes for conservation.

The Department has also supported this work through the DOC Community Fund which granted funds for the predator fence to protect these wonderful birds.

As well as research into individual

bird species, the Conservation Services Programme levy also covers the cost of fisheries observers employed by the Ministry for Primary Industries. DOC purchases some of their time to observe seabirds and other protected species interactions.

“These observers are important because they tell us how well individual fishing vessels are adhering to seabird mitigation regulations, plus they document bycatch and monitor seabird abundances. They are also a vital source of information about what extra and innovative efforts crews are taking to reduce bycatch risk,” Sanson says.

“My staff are always looking at ways to enhance existing mitigation techniques which include developing practical and effective tori lines and streamers to deter birds diving for baited hooks or hitting trawl warps. They’re also researching and developing new mitigation methods, such as devices to shield and sink hooks out of the reach of birds during setting.”

Another success of the Conservation Services Programme is the deployment of seabird liaison officers. Since 2013 DOC has run a liaison programme

where liaison officers provide ongoing in-person contact with fishers to help address questions, resolve issues and foster a more collaborative approach to implementing bycatch mitigation measures.

The advice ranges from helping fishers write seabird management plans, to showing crews how to test tori lines on their vessels. The liaison officers can help operators tailor seabird bycatch mitigation features to their individual vessel because what works for each boat can be different. They also explain what birds are important from a conservation point of view and provide updates on research to vessels.

Lou Sanson says “Through this liaison programme we have been able to achieve an understanding of why it’s important to work together. It’s been particularly successful with the snapper and bluenose fisheries in the Hauraki Gulf and the East Cape.”

“Seabird bycatch is a serious issue, and I’m delighted at the relationship forged with the seafood industry which shows you’re taking this issue seriously and doing something about it.” 

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The Kawatea

Okains Bay Seafood-telling our New Zealand story

Okains Bay Seafood is built on the principle of care of people and place, and all business decisions are made based on the impact they'll have on New Zealand's open spaces.

Greg Summerton, Founder of Okains Bay Seafood, says customers really value the way the Okains team place great importance on looking after New Zealand's environment and natural resources for current and future generations.

"The world is waking up to the need for sustainable seafood. It's not just about showing our fish come from the clean waters of New Zealand. We need to demonstrate that we are looking after our sea and fish for future generations.

"All fish are caught using hook and bait long lining, meaning we can target high-value species and leave other fish undisturbed. This has low impact on the seabed and produces better quality fish because they are less stressed in the catching process. We've also invested in a bio diesel fuelled fleet to reduce our carbon footprint.

"Kaimoana is a gift from the sea. We are very mindful of the need to treat this valuable resource with respect, harvesting it sustainably and adding value with sophisticated processing,

logistics and marketing. For us this is about kaitiakitanga. We're proud of our role as guardians of this place, we understand the traditions of hunting and value water as the source of all life.

"Our story and our emphasis on kaitiakitanga particularly resonates with the Chinese market. They really value the idea of having a long term view. It's not just your lifetime or their lifetime, it's for future generations. Just like us, it comes from the past and travels to the future, and you're only one little piece along that journey," says Summerton.

Operating in a competitive global marketplace means Okains Bay Seafood has to distinguish itself from other seafood companies dotted around the world. Telling the rich and unique story of Summerton's Whakapapa has been vital in differentiating the business.

Summerton can trace his Maori ancestry back to Rakaihautu, who arrived in New Zealand during the great migration from Polynesia. Since 1840 all his forebearers have been commercial fishermen and this has formed the basis of the compelling New Zealand Story he tells customers.

"Customers are looking for honesty and integrity. Our whakapapa gives them that. It's who we are and where we've come from and is our guiding light into the future.

"Most fishing companies around the world know how to produce fresh, high quality fish. The only difference we have is the New Zealand brand and our whakapapa. It gives buyers a certain amount of satisfaction that we have a clear desire to look after our



Okains Bay Seafood Whanau

environment and business for future generations. We have a conscience that runs deep, a conscience that comes from our whakapapa, and it goes on past us to the future.

"We supply one of the world's largest supermarket chains in the United States, which is a real coup for us. The way we got in the door and brokered the deal was by explaining our story and our brand. Brand is key and it was quite a simple process because it's real. By telling the story of who we are, where we've come from and what we stand for customers have a clear understanding of what they are buying," says Summerton.

The intertwining of traditional fishing methods and advanced technology gives Okains Bay Seafood its competitive advantage. This fresh, outward-looking way of thinking about the industry has delivered real benefits for Okains, but it's been vital for Greg Summerton to find ways to tell every customer.

Summerton has long told customers face-to-face about the benefits of long line fishing and the heritage that comes from his Whakapapa. But decided to take a different approach to ensure this story translated through to every customer, with every product.

"Our QR code system was an industry first. Major buyers have been blown away by the system. It means each customer can use their smart

phone to find the status of the fisheries, how it has been harvested, where we caught it, when we caught it, when it was processed and how it was shipped.

“More than just proving the provenance of our product, the QR code system leads into the whole Okains Bay story, the environment these fish come from, the Whakapapa and the sustainability of the fisheries. It allows our customers to connect with us on a

deeper level,” says Summerton.

Okains Bay Seafood is one of many New Zealand exporters who share their unique New Zealand Story to help market and differentiate themselves internationally. The NZ Story is a free government initiative whose purpose is to enhance New Zealand’s reputation beyond natural beauty. It does this by explaining New Zealand’s unique story and enabling exporters and businesses

to make it their own.

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To find out more about the New Zealand Story visit: www.nzstory.govt.nz



Greg Summerton with Ngai Tahu kaumatua the late Rik Tau (Henare Rakiihia Taua) at the blessing of the company’s new vessel Kawatea

Founder & Owner of Okains Bay Seafood

Greg Summerton

Greg Summerton is the founder and owner of Lyttleton-based Okains Bay Seafood, one of New Zealand’s largest privately owned long-line

fishing companies. Since 1840 all of Summerton’s forebearers have been commercial fishermen. When he left school he swiftly followed this tradition and learnt about the fishing industry from the ground up. Summerton has progressed from his early days fishing for flounder in a rowboat, to now employing more than 50 people and exporting his products around the world. www.okainsbayseafood.co.nz

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Queenstown chef champions New Zealand seafood

Sai Raje

New Zealand seafood is best in the world, sustainable and something to be very proud of, according to acclaimed Queenstown chef Darren Lovell of Fishbone Bar and Grill.

It is this diverse variety of fresh seafood that Lovell loves dishing up at Fishbone, where he is chef, gardener, chicken keeper and owner.

Fishbone was awarded a One Hat Rating in the 2016 Cuisine Good Food Awards announced in early August. Chefs Hats are awarded for outstanding restaurants and range from one hat through to three hats. Fishbone will feature in the Cuisine Good Food Guide to be released in September.

"Our fishermen are our secret to success. We have access to the freshest seafood in the world. New Zealand has the best seafood in the world. And it is sustainable," Lovell says. We should be so proud.

Lovell and his business partner Mark Godden bought Fishbone in May this year. They wanted a restaurant that told the story of what it was like to grow up in the South Island of New Zealand.

"And growing up here means fishing and collecting seafood, whether it's wriggling for clams with your toes, diving for crayfish or spending a Saturday morning floundering."

Lovell, was born in the United Kingdom, and raised in Australia close to the coast. He spent every bit of free time he had fishing and caught his first fish – a flounder – when he was four.

His favourite seafood memory is catching fish on the beach with his mates from school, lighting little fires made of drift wood, and cooking the fish then and there on the beach.

"Magic. I would love a wood fired grill at Fishbone.

"I love the challenge of sourcing fresh seafood and then making interesting dishes that complement the subtle almost elusive flavour of fish," he says.

Fishbone's menu changes daily to make the best of the fresh catch.

But there are firm favourites that often find a place on the menu such as fish in crazy water (a traditional Italian dish with a whole fish poached in tomatoes, chili and herbs), when cherry tomatoes are bursting with flavour during summer.

Despite the late nights running his restaurant, Lovell speaks to his suppliers in Bluff, Greymouth, Motueka, or Port Chalmers as early as 6am about the day's catch and what is being fished later that week.

With the exception of North Island sardines, all of Fishbone's seafood is sourced from the South Island, caught using a variety of methods.

"We have our favourites - groper, blue nose, flat fish, gurnard, blue cod, monkfish and now, of course orange roughy.

"We try and offer as much variety as we can (brill, sardines, turbot, flounder) apart from showcasing the big, popular ones.

"It wasn't until I bought Fishbone with Mark that I started cooking fish. We laugh because now I couldn't consider cooking anything else, Lovell says. 🐟



Chef Darren Lovell, owner Fishbone Bar and Grill, Queenstown.

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Orange Roughy with Capers, Lemon and Caramelised Butter

Serves 4

This is Fishbone's take on serving fish with the classic sauce grenobloise.

"It is also one of our favourite ways of serving fish.

"This dish works particularly well with the smooth silkiness of orange roughy, but feel free to try it with other if orange roughy is unavailable. If the terrine is too much work, a creamy mash works perfectly well as do capers straight from the jar," Lovell says.

Ingredients

For the Caramelised Butter

1 block, unsalted butter

4 x 180g portions of orange roughy

A really good lug of olive oil

Your favourite greens, we use tender broccoli stems

4 slices of potato terrine (www.seafood.co.nz/recipes)

1 lemon, peeled, white pith removed, and thinly sliced - you should have about 8 slices
125ml caramelised butter

2 tablespoons capers, drained well, and deep fried till crispy

Chopped parsley or if it's summer a mix of soft herbs.

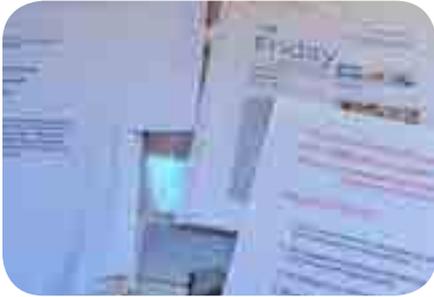
Method

Caramelised butter

1. Burnt butter is a wonderful thing to have on hand and to master in the kitchen. It makes everything taste great. You need to make a large quantity at a time but it keeps and can be used on so many things, including drizzled on pancakes or in mash potato instead of straight up butter.
2. Take the block of unsalted butter and place in a clean, dry saucepan over a low heat. The butter will melt, the milk solids will sink to the bottom. Meanwhile get a metal sieve or strainer and a heat proof jug big enough to hold the butter ready at the side. The butter will start to brown and a foam will cover the top. Turn the heat off and smell it. The butter probably smells sweet.
3. Leave for a few minutes and check the aroma again. Is it smelling nutty or like ginger crunch? If not, turn the heat on again to high and heat the butter for a couple of minutes. It will froth up again. Be very careful as it is extremely hot and also be careful now not to burn the butter. Smell. As soon as it smells like toasted hazelnuts strain through the sieve into the jug. (It is very hot) Once

the butter is done prepare the rest of your ingredients and have it ready to go. Of course you can make this way in advance and just melt to serve. It will keep for weeks in the fridge, as long as it is covered.

4. Preheat the oven to 200C. Take a heat-proof pan and add some oil and cook the fish fillets, 2 minutes on one side before turning and popping into the oven. Don't forget a little sprinkle of salt. Warm the caramelised butter - a microwave is fine.
5. In a pot of boiling water (or the microwave) cook your greens. After 5 minutes the fish should be done, depending on thickness. Test with a skewer, it should pass through easily. Try not to overcook the fish, although orange roughy can handle an extra minute or two.
6. Place a fillet of fish on top of the terrine, returning the now empty pan to the heat when done. Add the butter, lemon and capers to the pan, trapping up any fish bits. Cook until hot - just a few moments, add the chopped parsley then pour over the fish.



Petition in Piako Pete's



Gail Thorburn picks lemons provided with the flounders for sale at Piako Pete's



Gail Thorburn and Piako Pete.



Brian McMillan



Rex Smith



John Ridings

The true cost of recreational fishing parks

On January 12 this year the Government announced a proposal for recreational fishing parks in the inner Hauraki Gulf and Marlborough Sounds – banning commercial fishing from those areas. The idea for the parks surfaced out of the blue in the 2014 election campaign, announced by the Prime Minister without any consultation. Not even the recreational fishing lobby supports it. Debbie Hannan, spoke to some of those who would be affected in the Hauraki Gulf.

Driving down State Highway 25, it's very easy to miss a small sign at Waitakaruru that says Canal West Road.

We did the day we visited because it had fallen off the lamp post on the side of the road.

There was certainly nothing there to suggest that about 100 metres down that unsealed road was a small launch ramp making a significant contribution to the local economy and the country's export earnings.

There's nothing too fussy about the fishermen fishing out of there – there are no flash signs to say this is the centre of the Waitakaruru dory fishing fleet.

There to meet us were Brian McMillan, Rex Smith, Rob Billings, John Ridings, Daryl Parker and Russell Pierce. They were there to share their story and talk about the impact the Government's proposal would have on them, their families and the local community.

Brian McMillan has organised the gathering. He's been fishing for almost 40 years. Flounder is his mainstay, mostly out of Waitakaruru but he also targets snapper, kahawai, rig, and mullet seasonally. He lives just out of Paeroa about 30 kms from Waitakaruru.

Rex Smith has been fishing since the mid-1970s, and has fished almost exclusively in the area his entire fishing life.

Rob Billings has been fishing since the late 1970s. He fishes exclusively in the immediate area around Waitakaruru. He lives close enough that he rides his pushbike to go fishing in the boat he designed and built for local conditions (a catamaran shaped vessel with a V bottom to channel the water to the centre line of the boat so that in the shallows the propeller still has water).

John Ridings lives in nearby Ngatea

about 10 kms away and has been fishing since the mid-1970s.

Daryl Parker, who is in his mid-40s lives in Paeroa. He's the "new guy" who started fishing about 1990 and has just returned to fishing in the past year after working as a greenkeeper for seven or eight years.

With them was Russell Pierce of Schnapper Rock Seafoods who sells their fish on the domestic and export markets. He is based in Auckland.

The fishermen are all agreed that the Government proposal will put them out of business. Fishing is all they know and at their stage of life it would be hard to find another job. Some still have kids at school – others are closer to retirement.

"I think I'm unemployable. Fishing is all I know," says McMillan whose family has fished in the Firth of Thames since the early 1900s.

As well as being concerned for their livelihoods, their families and the local community they fear the proposal may be the first of more recreational fishing parks around the country.

"If this rec park happens here there will be a push for more around New Zealand," says Rob Billings.

"I think the worst outcome will be that it will deprive the poorer income people of their source of cheaper

seafood," he says.

To a man they are all agreed, the proposal is not grounded in the truth of the actual state of the local fish stocks.

They all say the Quota Management System has built a strong local fishery – one that was under stress before the introduction of the QMS 30 years ago.

There's plenty of fish out there now, they say, including the prized snapper.

"Fish stocks remain at healthy levels, given that flounder stocks are influenced by seasonal conditions more than fishing pressure and they seem to fluctuate as they have throughout my entire fishing life. Kahawai are as abundant as they have ever been and the snapper seem to be increasing to levels I have never seen, so I'm not convinced that the proposed recreational fishing park can be based on any sustainability issues," McMillan says.

The proposal is about capturing the recreational fishing sector's votes. The only explanation they have received from government was through their local MP who told them it would enhance the recreational experience, he says.

"I have one question. How?"

The Waitakaruru commercial fishing community has no quarrel with recreational fishermen, although it's rare

to see recreational fishermen in their part of the Firth of Thames.

This small un-prepossessing boat ramp punches well above its weight in terms of what it brings to the economy.

The Waitakaruru yellow belly flounder is being served up in Australia, the United States and Hong Kong. Schnapper Rock Seafoods has exported \$2.16 million worth over the past three years and sold \$120,000 worth into the domestic market last year.

Like Rob Billings, Russell Pierce is worried about the impact the loss of the fish species being caught off Waitakaruru will have on Aucklanders' access to local, modestly priced fish.

"The New Zealanders of Maori, Asian and Pacific Island ethnicity within our communities are consumers of mullet, kahawai and flatfish.

"This is a staple part of their weekly diet and is a lower cost protein option. As recreational access to these fisheries is difficult logistically, they rely on commercial supply from supermarkets, local specialty stores and open air markets.

"A reduction of fish in their diets would lead to exacerbating their already documented health issues.

"The input to this market from

Waitakaruru is minor, but in the sense of the overall Hauraki Gulf area, highly significant."

The Waitakaruru fishing community is one of several spots around the Firth of Thames and Thames Coast employing full time fishermen.

Just down the road on State Highway 25, there's a small sign that leads down to another canal and a popular stop off for tourists and bach owners travelling to the Coromandel, Piako Pete's.

Pete Thorburn, another local fisherman, and his wife Gail run the fishing/small retail business out of their home on the side of the canal.

Fishing's in Thorburn's blood – his family started fishing out of Thames before the Signing of the Treaty of Waitangi. He quit his job as a timber machinist 20 years ago and went fishing. Gail left her job as a legal executive and went fishing with him for a year. She now runs the very popular shop selling Pete's catch.

The Government announcement in January this year that it was proposing to establish a recreational fishing park in the Gulf couldn't have come at a worse time. January is their busiest time.

The pair decided to appeal to their customers for help in lobbying



Peter French



Doug Pullford



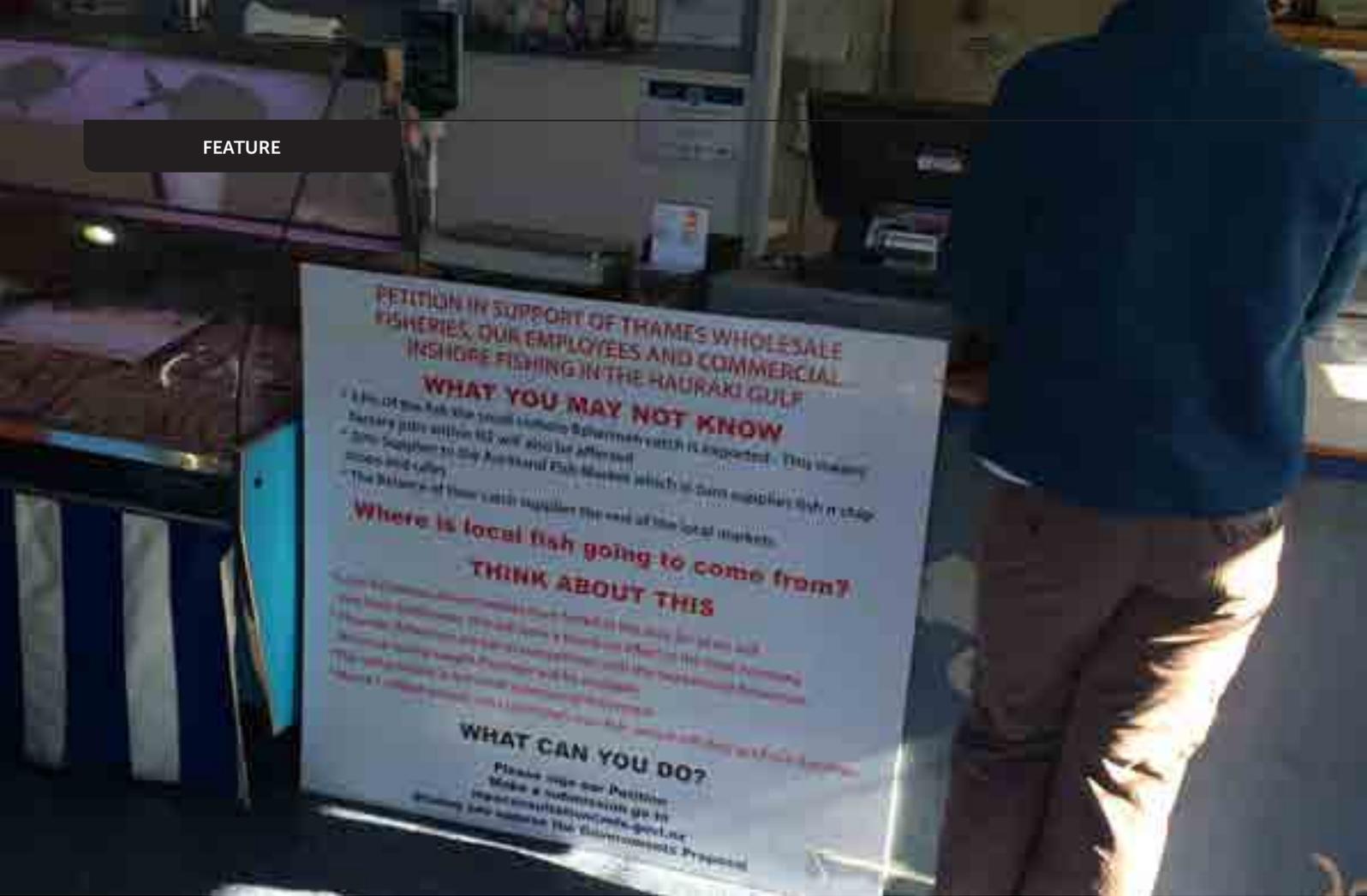
Russell Pierce



Rob Billings



Thames Wholesale Fisheries patrons



Thames Wholesale Fisheries petition

Government and quickly drew up a petition form – within two weeks they had over 400 signatures. That petition was quickly joined by one being run out of Thames Wholesale Fisheries. Their support base is growing daily at both outlets.

For the Thorburns, this was the business that would see them into retirement. Now those plans are up in the air.

They are cynical about any compensation they might receive. Pete never banked the cheque for \$58.25 they received in compensation in the early 1980s when the Government took 500 kilos of the 750 kilos of kahawai quota they had paid \$3000 for.

For all of the fishermen and their families there is uncertainty and concern for their future. They aren't reinvesting in their businesses. And the uncertainty means some are delaying going through the Maritime Operator Safety System (MOSS) and paying for other business costs.

The trickle down impacts wider than the fishermen – their suppliers are losing business.

Mark Brame of the fishing gear suppliers, Cookes, whose sales territory

stretches from Hamilton to Houhora in the north (including the Coromandel), says the proposal is already having a big impact.

Orders are down because of the uncertainty, and the company is now running conservative stock levels as a consequence.

"It's a huge concern. The impact on the netting sector is massive".

He questions why the ban on set netting would be exclusively for commercial fishers and not include recreational fishers.

Brame is concerned about the pressure the proposal would have on the nearby Kaipara and Manukau harbours.

"It will put phenomenal pressure on them."

He's worried the proposal will drive prices up in the local fish and chip shops.

In Thames, the popular Thames Wholesale Fisheries relies on local fisherman Doug Pulford for his daily catch. On a winter's Friday customers were queuing for a meal of freshly caught fish – we had the snapper. Others came from other Coromandel

towns like Waihi and as far afield as Wellington, as well as some young backpacking tourists.

The business has been running as a fish and chip shop with an adjacent café for the past five years, but has operated as a fish retail and wholesale fish shop on the wharf for many years.

Owners, Janene Wolfe and Caroline Dally, say their unique fresh local fish offering is a big drawcard. People make a point of stopping in Thames for a meal on their way through to other parts of the Coromandel.

As well as the retail trade Thames Wholesale Fisheries also supplies a number of wholesale customers within the Coromandel area.

The pair are right behind the fishermen and have a large sign you can't miss at the counter calling for support to sign their petition to stop the proposal going ahead and as a result have had thousands of signatures in support. Wolfe and Dally say many of their customers, particularly the elderly, aren't able to catch their own fish.

They say it will be a sad day when a fish and chip shop in a coastal town like Thames can't serve fresh locally caught fish.

“We have a large elderly population here that don't have the mobility or resources to go fishing on their own but who like to enjoy fresh-caught fish.”

“If the proposal goes ahead it will affect the supply of fish all around the country and drive prices up, making it less affordable for the average family.

“We are proud to say our fish is caught locally. We don't want to have to be in a position to tell our customers all our fish now comes from the South Island instead of being locally caught.”

Thames Coromandel Deputy Mayor Peter French is concerned about the impact on his community if the proposal goes ahead.

“Even small job losses can have a much more significant impact in our smaller rural communities than they would in a big city. We struggle to keep young people and families here. This Council is working with employers to promote opportunities for youth,” he says.

French says his Council has a strong interest in promoting sustainable economic development on the Coromandel.

“Recreational and commercial users of the waters off the Coromandel Peninsula are an important component. We are surrounded by the sea and it forms an important part of what's special about the Coromandel.”

He's also concerned about access to locally caught fresh fish.

“The local commercial fishery provides fresh caught fish sold locally. We have a large elderly population here that don't have the mobility or resources to go fishing on their own but who like to enjoy fresh-caught fish. This resource is also important to our visitors nationally and internationally.”

French questions how the

Government's proposal fits with work already under way on the Hauraki Gulf Marine Spatial Plan.

“We would like to see the process for establishing recreational fishing parks, as envisaged by the proposed Marine Reserves Act, align more closely with the Hauraki Gulf Marine Spatial Plan and the key stakeholders involved in that.

“The final plan is to be delivered soon. Why not wait and see what comes out of that collaborative process that involves all of our district stakeholders, including commercial fishers?”

His council is working to provide the infrastructure, such as wharves and roads needed for industry, including fishing, aquaculture and seafood processing – as well as boat ramps and wharves for the recreational and charter fishing sectors.

“That's why we're working on upgrading the marine infrastructure in Coromandel Harbour – with a view to providing adequate and safe wharves and boat ramps.”

Fishing, aquaculture and seafood processing are an important part of the Coromandel economy contributing \$23.6 million dollars to the Coromandel's GDP - that's 2.6% of the total, French says.

Combined, seafood processing and fishing and aquaculture make up the biggest exporter from the Coromandel, with about 30% of total exports.

About 450 people are employed in fishing and aquaculture and seafood processing, accounting for about 4% of the District's total employment.

“We've got a concentration of both these sectors in the Coromandel because of the district's comparative advantage - lots of coastline with access to good fishing grounds and good locations for aquaculture, a skilled workforce, and a lifestyle that is attractive to employers and employees.”

Footnote: We will share stories in our October issue of Marlborough Sounds fishing families who would be impacted by the proposal.



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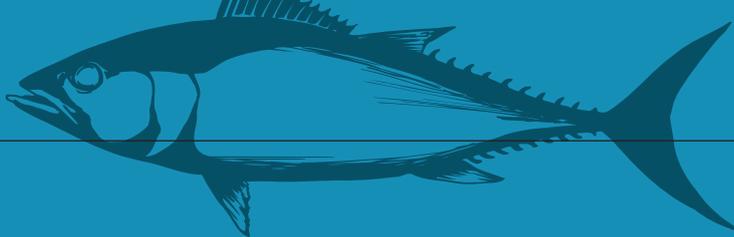
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Aroha arrives in Motueka. Image: Lex Bloomfield

Born to fish and be his best

Jake McFedries was 14 and still at school when he went out with Chris West for a day of scalloping on the Rongatea. Chris Carey recently spent some time with Jake.

Chris West could see that Jake was different to the others.

“He’d work away at the table sorting from dawn to dusk; never complained; never stopped for smoko unless I told him to.”

Fishing during the holidays wasn’t enough for the young McFedries. He had found his calling and school, well that was just a place to eat your lunch. His father, Brett McFedries had been a fisherman and did not want his son to go fishing.

“I remember when Dad turned up at



Jake McFedries



Anna Marie

footy practice gave me a dressing down; you’re not going fishing and all that and I said well that’s what I want to do. I’m not interested in doing anything else. When he realised I had my heart set on being a fisherman he started changing his tune and he’s been my biggest supporter.”

With his 15th birthday just around the corner and a scallop season looming, McFedries jumped on the Okarito owned by Grant Roberts scalloping out of Tarakohe and Pelorus Sound but when the season finished Jake found himself at a loose end until a fortuitous phone call from Lex Bloomfield offering him a job on the Anna Marie.

“A top bloke. We were pair trawling snapper and when his nephew quit I

got to stay on her fulltime scalloping, oysters, pair and single trawling.”

During the winter when the boat was tied up McFedries crewed on the Galatea with Steve Potter as well as the odd trip with Pat Bloomfield on the Hemnestral.

McFedries believes that loyalty - working for someone you respect goes a long way especially if you’re looked after.

“I think his Dad wanted him to get an apprenticeship, but no, Jake had a one track mind. All he wanted to do was run a boat,” Bloomfield says.

“He soaked up knowledge like a sponge and he soon knew the boat inside and out; how to shoot and haul, how to catch fish, mend a net, set up

doors and all that.”

It was 2009, and with the oysters ‘gone dog’ over winter, McFedries jumped on the Marconi to crew for Ross Coppell.

“We had a bit of drama down at Jacksons when we ended up on the beach. After I helped Ross bring the boat back up to Picton to get fixed Lex offered me the Anna Marie. He’d put the single gear on and said, well, off you go and sent me on my way. I was 18 and stoked. I got a mate of mine to crew for me and we filled her in two days.”

With Lex Bloomfield looking after all the compliance and quota paperwork Jake was free to catch fish. Coincidentally about that time Jake’s Dad became partners with Lex Bloomfield buying shares in the Anna Marie.

“He fished much the same areas as I did but he also roamed around a hell of a lot more. He took the Anna Marie away ‘tuna-ing’ once and three days later pops up 100miles off Kawhia. I thought what the hell’s he doing out there? He wasn’t afraid to go anywhere.”

You could squeeze 90 cases into the Anna Marie so the 140 cases of tarakihi, ghost shark and ‘other stuff’ that Jake landed into Picton had Bloomfield a bit wary.

“I asked him how he did that and he said I left them out of the cases and when I got in I put them back in. He was casing up as they were unloading” said Bloomfield.

It was a 14hour round trip from Picton to Cloudy Bay for two, hour and a half tows and with a 12 hour wait to unload and if you lost the weather window it was hardly worth it. Bloomfield and Brett McFedries realised they needed a bigger boat.

“It was coming up to Christmas 2012 and I was in the ‘Strait’ doing a bit of tarakihi when they called me in to unload. I’d just got into Mot before I was on the plane to Christchurch because the old man and Lex had just brought the Te Aroha off Tony Threadwell.”

After six years on the Anna Marie, McFedries was given the Te Aroha but

things didn’t going quite as smoothly as expected and the vessel changed hands.

McFedries senior and Bloomfield decided to sell her and a handshake with John Brown, Operations Manager for Westfleet, sealed the deal. Te Aroha would have a new home in Greymouth.

“Brownie bought her on condition I went with her and while it was kind of sad to leave Lex because I’d worked for him for eight years I was pretty keen to go with Westfleet.”

McFedries describes Westfleet as a company that’s all about catching fish - getting the boats out as soon as they can while providing the skippers and crews with the support they need to achieve their goals.

“Brownie contracts to Westfleet so we’ve jumped on the band wagon with the way Craig Boote runs his boats instilling this work ethic with the Skippers and the crews. It’s about having pride in our boat and we keep her looking immaculate because everything has to be presented nicely from the masthead right down to the fish you land.”

Jake and the Te Aroha do between 35 and 40 trips a year.

“We usually sail on the 30th December to go ‘tuna-ing’; maybe a trip into Onehunga then do another trip into Nelson if it’s still happening up there. That’s one of the good things with working out of Grey, it gives you a break with trawling. This year we didn’t start until the second or third of January because we got a bit of a hiding getting up there but we’ve ‘tunad’ right up until April which is the longest we’ve done.”

For two to three months, Jake takes the Te Aroha back through the Strait, to his old stomping grounds chasing tarakihi and cod and landing it in Nelson. The rest of the year is spent down ‘the Coast’ working in with the other Westfleet vessels.

“We work around what the Galatea is doing and because she’s been doing the roughy, the Jay Elaine and us do the tarakihi and the boof (stargazer) for the fresh market fish. After that we’ll go back on to the flats (flounder and sole), gurnard, rig and the elo’s (elephant

fish).”

McFedries says the inshore fishery is in good health.

“It’s come back real good; boof, rig, gurnard, elo’s. You’re chasing your tail trying to keep away from it at times. Westfleet will give you a shopping list, a bit of this, a bit of that so you’re moving around a lot but it’s all good and there’s no trouble catching it. Of course some seasons it’s up and down. The snapper up in Tasman Bay, well that’s just unreal. That’s really come back big time. The first year I went pair trawling we had 40 tonne to catch and never caught our quota. The next year we started in November and by January we’d got it. The following year we’d caught it by Christmas. Two years later we’d set up for eight days fishing and six days later we’d landed 38-40 tonne.”

The industry offers lots of opportunities for young people, he says.

“There’s nothing to stop a young bloke or girl who wants to go fishing from doing it. It just takes hard work and like anything really, if you want it you’ve got to work for it. Simple as that. And there’s still good money to be made, especially if you’re young and if you’re like me even with no qualifications from school.”

He prefers hiring a younger crew because he can train them up how he wants things done and that makes his job a lot easier, he says.

“I’ll always say to the new ones, especially if they’re young, that fishing can be a lonely place at times but you do get over it. You might be tired and wet and cold and getting a hiding every other day but there’s nothing like a big bag of fish hanging out the back to get the old blood pumping. It’s about getting your head straight and just working your way through the hard stuff. Leave your baggage at home.”

“Westfleet is all about young and upcoming fishermen; skippers and such. Craig and Brownie have really looked after me. They give you the drive to do well; to go out and catch fish and to be the best you can be.”

Fisheries challenges require specialist advice

By Murray Gillies

The Government's recent decision to allow a limited number of foreign fishing vessels to fish in New Zealand waters has raised questions about the sustainability of the fisheries and the impact on local fishermen. It is a move that has been widely criticised by the fishing industry and environmental groups.

The Government's decision, which allows up to 100 foreign vessels to fish in New Zealand waters, has been widely criticised by the fishing industry and environmental groups. It is a move that has been widely criticised by the fishing industry and environmental groups.

The Government's decision to allow a limited number of foreign fishing vessels to fish in New Zealand waters has raised questions about the sustainability of the fisheries and the impact on local fishermen. It is a move that has been widely criticised by the fishing industry and environmental groups. The decision has been widely criticised by the fishing industry and environmental groups. It is a move that has been widely criticised by the fishing industry and environmental groups.



Murray Gillies, Otago Fishermen's Association

Mr Gillies says the Government's decision to allow a limited number of foreign fishing vessels to fish in New Zealand waters is a move that has been widely criticised by the fishing industry and environmental groups. It is a move that has been widely criticised by the fishing industry and environmental groups.

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Moira McLeod and her grandchildren Lily (4) and Nate (8) Chamberlain-Marks and Tyler Simmons (8) give the thumbs up to the fish and chips.



Steaming hot mussels were on sale.



The Motueka Brass Band performs for the crowd.

Images: Debbie Hannan and Maritime NZ

Honouring those who have lost their lives at sea

Debbie Hannan

Nelson people braved a chilling south-west wind for the annual Blessing of the Fleet at the Seafarers' Memorial at Port Nelson in July.

The annual event, now in its sixteenth year, honours those who have lost their lives at sea.

It had its beginnings in 1996 when the Seafarers' Memorial Trust's current chairman Mike Smith was working in marine insurance. That year 23 fishermen died at sea.

The Seafarers Memorial Trust was formed involving leading members of the Nelson fishing industry to build a memorial to remember those fishermen lost at sea. When it was completed Smith said to Sir Peter Talley that the trust should hold an annual event

around the memorial, Sir Peter said make it happen and so the Blessing of the Fleet was born.

This year's event kicked off the night before with a fireworks display, lighting up the Nelson skyline.

Local clergy and the Mayor of Nelson, Rachel Reese and Tasman Mayor Richard Kempthorne officiated.

A lone piper, Ian McEwan played *Amazing Grace* as Graeme Bennett, whose son Paul Bennett died last October on the FV Jubilee off the Canterbury Coast, threw a memorial wreath into the water.

Volunteers were up early that morning preparing the fish meals and setting up their stalls for the annual event.

The Rotary Club of Nelson was offering fish and chips (with fish donated

by Sealord and chips from Talley's), while at the next marquee, steaming hot barbecued mussels were on offer from the event's major sponsor, Talley's. Together the stalls sold over 2000 meals, raising money for the Seafarers' Memorial Trust.

Entertainment was provided by a Nelson Christian Academy children's choir, a male choir and the Motueka and Salvation Army brass bands.

Concluding the ceremony Bishop Richard Elena acknowledged those who had been lost at sea.

"Today we're so intensely aware as we gather, of the families who have lost sons and husbands, wives and daughters in accidents at sea. The sea might look relatively safe today but that can change in an instant and the boats are so incredibly vulnerable," he said. 🐟

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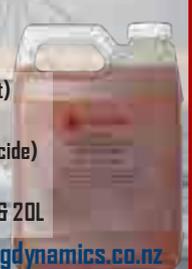


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wayne@chilltainers.com
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SYDNEY FISH MARKET



WE'RE AUSTRALIA'S HOME OF SEAFOOD. We're the southern hemisphere's largest seafood market and Australia's premier destination for chilled seafood.

350 BUYERS... AND COUNTING! 14,000 tonnes of seafood is traded through our wholesale auction and direct sales facilities annually. Our large buyer base consists of wholesalers, retailers and restaurants attracted by the variety and quality of product on offer.

WE'RE COMMITTED TO SUSTAINABLE SEAFOOD. We support and encourage responsible fishing practices, environmentally responsible farming practices and responsible fisheries management based on rigorous and sound science.

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

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

WE DO MORE THAN JUST SELL SEAFOOD. We develop and maintain best practice seafood handling and quality systems. These systems ensure our suppliers and our buyers are able to maximise their returns from their catch or seafood purchases.

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☎ Call +61 2 9004 1105 to discuss opportunities with our Supply Department
✉ supplydept@sydneyfishmarket.com.au 🌐 www.sydneyfishmarket.com.au

