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Seafood

NEW ZEALAND



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roughy p07**

Quake update p37

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In this issue

Welcome to the New Year and the first edition of Seafood New Zealand for 2017.

We have started the year as we intend to continue, and that is by being very proactive to counteract any media reports about the industry that stray from the facts. The Herald ran our column disputing Forest & Bird's claim on their Best Fish Guide and the Marlborough Express was happy to run our column disputing recreational fishing's claim to be of more worth to the country than the commercial sector.

It is frustrating and time-consuming to battle this misinformation, but battle we must.

We are also constantly looking for good news and will not be shy about trumpeting it – as we did widely when research published in the National Academy of Sciences rated New Zealand in the top five sustainable fisheries in the world.

There are many more great stories out there. We are an industry that still has challenges to face but a collective will to make those changes. We are making great progress and we need to tell our story.

As we went to print news came in about MPI's plans to move six King Salmon farms to spots in the Marlborough Sounds that offer deeper water and faster currents. This proposal, if it gets over the line, will mean more jobs and better environmental outcomes. It is to be applauded.

In this edition, ocean aquaculture is again under serious discussion with news that Nelson's Cawthron Institute had a team of world class science and engineering people looking at the challenge of making open ocean shellfish farming viable. Cawthron believes that, if successful, the project could significantly increase New Zealand shellfish production and exports by up to \$300 million a year in the long term. That is a remarkable doubling of New Zealand's aquaculture production and it is the first research project of its type in the world to look at developing new shellfish technology suited to the high-energy offshore environment.

In another investment in the future of the industry, we look at a purchase by the International Maritime Institute of New Zealand that will be invaluable to up-and-coming mariners. The Nelson school is buying a state-of-the-art bridge simulator that exposes students to different sea conditions in ports around New Zealand and around the world.

In opinion pieces in this edition, Sanford Chief Executive Volker Kuntzsch examines the Hauraki Gulf Marine Spatial Plan and finds its conclusions less than ideal and Storm Stanley of PauaMAC5 challenges Forest & Bird's call to lock 30 percent of Otago's coast up in no-take marine reserves.

We have a busy year ahead.

Election year will mean the industry's 'business as usual' will be challenged by the agendas of competing political factions.

All sectors of the industry agree that we want a sustainable fishery that is held in high environmental regard. If we work together, achieving that will be easier.

Through science and innovation, we are constantly upping our game and have made huge strides.

We should be shouting that message from the rooftops.

Tim Pankhurst
Chief Executive

Editor seeks more discussion in Seafood NZ

Seafood New Zealand's new editor, Bill Moore, hopes the magazine can become more of a forum for discussion of the many issues the industry grapples with.

A former editor of the Nelson Mail and a long-time port and fishing industry reporter Moore, 63, said the health of any publication can be judged by its engagement with its readers.

"There are many clever and opinionated people involved in all sides of the seafood industry. I'm hoping that plenty will grab the chance to put forward their views to others in the industry and enjoy some frank debate."

He said the magazine maintained a high standard under previous editor Debbie Hannan, who now works for Sealord in Nelson.

"I want to build on Debbie's work. There are lots of interesting stories to tell, and great people to write about."

Moore has been a journalist since 1972 but took a break from newspapers in the late '70s and early '80s, spending four years on North Sea oil rigs and two more in shipyards and on construction barges in Japan, Singapore and offshore Brunei.

"That was in some ways the most exciting and memorable part of my life, and gave me a great appreciation of both the fun and the hardships of life at sea," he said.

Even then he couldn't help himself from putting out a light-hearted newsletter for his offshore co-workers.

He's been a keen boatie and fisherman since joining the Nelson Mail in 1984, and is the current owner of "one and-a-half fizzboats".

Moore believes the industry's public image is out of touch with the reality of 21st-century fishing, and conversely that those inside the seafood world ought to be less suspicious of those outside it.



Bill Moore

"I've met and written about quite a few industry people over the years and been impressed with their professionalism and no-nonsense approach," he said. "Some have been challenging, but it's mainly been enjoyable. I'm looking forward to getting to know more of you."

Letter to the Editor

Set-netters, especially those who have been loyal suppliers to Sanford and Moana New Zealand, will understandably be outraged at the launch on 15 December last of a "full protection plan for maui dolphins" by these two companies.

Evidently the plan entails putting an end to coastal set-netting within a year along with trawling on the west coast by 2022.

Volker Kuntzsch said in the 15 December release that "the companies understand that the initiatives will adversely affect independent fishers who catch in this area". Coastal means just that so the understanding is all

coasts in area 1.

Volker Kuntzsch outlines the difficulties in which set-netters will find themselves and he seems sufficiently naïve to suggest that they could transition "to more dolphin-safe methods such as long-lining". Has he any idea of what transition would entail? He can be assured that such would be financially impossible for the set-netters would end up with boats, trailers, outboards, and gear that nobody would touch – a quick journey to insolvency.

The companies concerned are looking to Government for support to assist fishers to transition. How naïve can one be? It is hoped that Government will have the wit to note that if ever this crazy proposal came to fruition, there would be a shortening of some species in the markets – flounder

an obvious target, and mullet exclusively caught by set-nets would surely disappear – especially from the bait market. Other species such as kahawai and rig would be casualties too.

In these times of uncertainty in the fishing industry it is regrettable to witness the set-netters enduring what seems to be a let-down by two powerful companies, to which some over many years have been loyal suppliers.

There seems to be something fundamentally wrong when society puts the welfare of dolphins, some of which could become a shark's lunch, ahead of that of humans. Is it already time to examine our scale of values?

Maurice Ashby
Former Chairman AICFA



“I love the industry and the people. This new position feels like coming home.”

New faces at Seafood New Zealand

Experience and youth have been added to Seafood New Zealand’s Wellington team with the arrival of Communications Manager Lesley Hamilton and Communications Assistant Matt Atkinson.

Hamilton has joined from Parliament, where most recently she was Trade Minister Todd McClay’s press secretary for two years. Before that she was press secretary to Prime Minister John Key for eight years.

She moved to Wellington a decade ago from Nelson, where she worked as a broadcaster, journalist, and emcee of events such as Hooked on Seafood, Opera in the Park and the World of Wearable Art Awards.

Hamilton still calls Nelson home and counts many in the fishing industry as friends. She has always had a strong interest in the seafood industry and contributed articles to this magazine for many years.

She said the move to the primary industry sector was a natural one, and she was looking forward to using her extensive political experience, knowledge of the export sector and strong writing skills to good advantage.

“I love the industry and the people.

This new position feels like coming home.”

Atkinson is fresh out of university having completed his postgraduate diploma in journalism through Massey University’s Wellington campus.

Growing up in the Waikato, and with the Coromandel and Bay of Plenty a stone’s throw away, he became a keen fisherman and diver, and said he’d spent many summers “snagging the seafloor and catching more seaweed than fish”.

Atkinson joined Seafood New Zealand in October. His role involves assisting the chief executive and communications manager, and helping execute the organisation’s communication strategy.



Orange roughy being processed for export.

Gold standard for orange roughy

Matt Atkinson

Orange roughy has been given the Marine Stewardship Council blue tick, the gold standard for sustainable fishing around the world.

The announcement, made in London, means three fisheries, two on the Chatham Rise and the third on the west of the Challenger Plateau, now carry the highly sought after sustainability tick.

The three fisheries represent about two-thirds of the total orange roughy catch, a \$60 million annual export earner.

Certification took two years of exhaustive investigation into the fishery by MSC, liaising with all stakeholders, including environmental NGOs which opposed the certification.

The investigation also included environmental and scientific data to ensure there is a healthy fish stock,

protection of the marine environment and effective fishery management.

The one-time poster child for unsustainable fishing in New Zealand has undergone a transformation, the certification process evidence of the turnaround.

Deepwater Group Chief Executive George Clement said the management approach has changed drastically to safeguard the long-term productivity of the fishery.

"For every 100 adult orange roughy in New Zealand waters, we harvest fewer than five each year, leaving at least 95 to ensure that these stocks remain healthy for the future," Clement said.

Significant investment has been made by quota holders since the 1980s when catch limits were too high and stock numbers were hit.

The changes include creating the world-leading multi-frequency Acoustic Optical System, used to assess the stock size of orange roughy - a difficult task for a fish living 1000m below the surface.

Primary Industries Minister Nathan Guy said the long awaited third party verification was exciting. "What it means

for all our international consumers, and domestic as well is, that they now know that our fishing stocks here in New Zealand are well managed. It's about sustainability, traceability and making sure that consumers know that we are doing a huge amount in terms of looking after our fishing species and stock sustainability.

"We can put our hand on heart and prove to the world that we are managing our fishing stocks sustainably, and this is really exciting news."

MSC Asia Pacific director Patrick Caleo said: "This certification signals to the world that collaboration among industry, Maori iwi leaders, government, scientists and other interest groups has the power to improve the health of fish stocks and ensure their sustainability.

"We believe that rewarding positive change through our certification programme and ecolabels is essential if we are to ensure healthy oceans."

Orange roughy joins hoki, hake, southern blue whiting, albacore tuna and ling as part of the sustainably-certified group.

Laser a winner for this bright spark

Matt Atkinson

A high school student from Balclutha has invented what could be a game-

changer for the paua industry.

Mitchell Hollows, 17, recently won the ASB Bright Sparks competition with his Koru Paua Tool.

The tool uses lasers to tell a diver the length of paua without having to prise them off the rocks.

Hollows said he had the idea after being out on a dive trip when a friend

explained that paua are haemophiliacs.

"He said about how important it was to be careful when you take them off the rocks.

"The more diving I did I noticed, in some cases, you just had to take them off the rock in order to see if they're legal or not. There is no getting around it.

"When you do, quite often you're damaging the tongue on them."

With that in mind he came up with his idea for a simple tool to measure the paua, Hollows said.

"The diver sets the Koru Paua Tool to the measurement he is looking for - so you have the minimum measurement of 125mm.

"Or if he wants the 10 biggest in a bunch, he can set it to 150mm and then go around scanning the ones above that, and that way he has a healthy catch."

With an idea in tow, Hollows just needed a push in the right direction.

"I was making it for my design manufacturing class and then I saw the posters [for the ASB competition] around school and thought 'Oh heck, I'll enter the competition'."

But before he could press on, he had to spend long hours on the internet upskilling on various software and electronics.

"First I learnt how to do CAB modelling, using auto-desk software to design 3D printable parts and then using Arduino UNO micro controller to program lasers and sensors and switches to essentially make this tool that measures paua and works perfectly."

This wasn't his first attempt at some good old Kiwi DIY. Hollows had already proven he had a knack for design by helping his grandfather out on the lawn mower.

"He needed a reversing sensor.

"He couldn't turn around because he was at that older age.

"I thought I would have a go at making a distance sensor that displayed how far away he was from the trailer. So that was really my first experience."

Hollows is teaming up with design manufacturing companies in Christchurch to help create the tool on a larger scale, with the goal to create two models - one for commercial divers and



Mitchell Hollows - A bright spark with a clever idea.

a lower-priced easy access tool for the recreational sector.

The Bright Spark winner will head to Canterbury University this year to study mechatronics.

King Salmon farms may be on the move

The Ministry for Primary Industries has announced a proposal to move six New Zealand King Salmon farms to new locations in the Marlborough Sounds.

Five of the proposed relocation sites are in Pelorus Sound, with the other being in Tory Channel.

Minister for Primary Industries Nathan Guy said the move is about making the best use of existing aquaculture space.

"The proposed sites are further from residential properties, and are positioned in areas with stronger water currents, which would reduce the environmental effects on the seabed," Guy said.

"Moving these farms would allow the company to implement the environmental guidelines it has agreed with the Government, the Marlborough

District Council, scientists and the community."

NZ King Salmon chief executive Grant Rosewarne said when the farms were set up 30 years they did not know as much about growing the species.

"You just can't grow that many salmon there, you have a higher impact on the sea floor and we would rather not be doing that," Rosewarne said.

"You can get an OK result, but you can't get a world's best practice result out of those sites.

"If it is possible to relocate them to the conditions that we now know are ideal for the species, we can get a stunningly good outcome for everybody concerned, including the environment."

The relocation is expected to cost over \$40 million, but could triple production and create another 300 jobs, Rosewarne said.

Marlborough District Council Mayor John Leggett said the time has come to move the farms for the sake of the industry's long-term future and for the environment.

"The ultimate aim is for us to be

assured that the effect of salmon farming on our Sounds environment is being well managed," Leggett said.

"We want to see a strong, sustainable aquaculture industry which contributes to our local economy but we also want to protect the Sounds."

Three resource management experts will make up an independent panel to review research reports and written comments, and hold public hearings.

The panel will be chaired by former Environment Court judge Professor Peter Skelton, and also includes Ron Crosby and Alan Dormer.

If the relocation is approved, the Minister for Primary Industries will make regulations under section 360A of the Resource Management Act 1991 to change the Marlborough Sounds Resource Management Plan to enable the relocation.

Submissions on the proposal opened on January 26 and will end on 27 March. Visit mpi.govt.nz to make a submission.



Kiwi 'water baby' to study in Japan

Samantha (Sam) Collings knew from a young age that she wanted a career related to the sea.

A self-confessed "water baby" she grew up around the sea and fishing with her whanau. She is Ngapuhi and grew up in Auckland.

Collings' long-term vision paid off last year when she was awarded the 2017 Global Fisheries Scholarship, jointly

administered by Te Ohu Kaimoana (the Maori Fisheries Trust) and Nippon Suisan Kaisha (Nissui) in Tokyo.

The Global Fisheries Scholarship is awarded to Maori seeking a career in the seafood industry and the successful scholar spends a year in Japan at Nissui learning aspects of the seafood industry from aquaculture to processing, food safety to food technology, sales and marketing.

Collings has undergone training in Japanese culture and language and will be given further intensive language training when she arrives there in late February.

But that wasn't a problem for Collings

as she had been prepping for applying for the scholarship since secondary school when her mother Karin spotted a story about it. She learned Japanese at school and kept the clipping. She attended Auckland University gaining a conjoint degree in commerce and marine biology, always with a career around the sea in mind.

By coincidence her secondary school Japanese teacher was the same teacher for the lessons provided for her in New Zealand as part of the scholarship.

When Collings returns to New Zealand at the end of the year she will be looking for a role in the seafood industry.

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Stick to our guide says Seafood NZ

Seafood NZ has challenged Forest & Bird's 2017 Best Fish Guide, saying it is ideologically-driven and not science-based.

Chief Executive Tim Pankhurst said the Forest & Bird guide, released in December, is doing consumers a disservice.

"Most seafood would be off the menu if you followed this list – no snapper, no Bluff oysters, no bottom-trawled hoki, no whitebait, no groper, no flounder, no rig. We can't all eat tofu."

He said a more credible authority is the Ministry for the Environment which said in its 2015 environmental

stocktake: "Our commercial fisheries are sustainably managed and overfishing is decreasing."

Fish stock assessments are overseen by Ministry for Primary Industries and National Institute of Water and Atmospheric Research scientists, Pankhurst said.

"They are internationally respected for their work and this country is at the forefront of fisheries management.

"The great majority of stocks are in good heart, they are sustainably fished.

"The small number of stocks that are deemed to be overfished have management plans in place.

"The trawl and dredge imprint, which seems to be a key influencer in F&B's thinking, is also reducing."

Seafood NZ launched its own updated Best Fish Guide well ahead of the Forest & Bird release.



This lets seafood buyers see for themselves just how sustainable and healthy New Zealand's fish stocks are, backed by solid, science-based fisheries management, Pankhurst said.

As well as providing the sustainability credentials of all our commercial fish species, the Seafood NZ online guide has tips for buying fresh New Zealand seafood, and some great recipes, he said.

Browse our Best Fish Guide on bestfishguide.co.nz

Royal Society honours Bruce Campbell

The Royal Society of New Zealand has awarded Plant & Food Research Chief Operating Officer Dr Bruce Campbell the Thomson Medal for 2016.

The medal recognises outstanding contributions to science and technology.

It was presented to Campbell for his leadership in agricultural and horticultural sciences over 35 years.

The medal selection committee said he'd had a positive impact on the New Zealand economy, including innovations in the forages, wine, kiwifruit and avocado sectors.

"He has fostered new science talent and linked science closely with business and the wider community," the committee said.

It noted his scientific leadership during the response to the kiwifruit bacterial disease Psa when it was discovered in New Zealand in 2010.

Campbell leads a team of more than 600 scientists across New Zealand,

delivering research and innovation to support the sustainable growth of the plant and marine-based food sectors.

He has worked highly successfully to build relationships and research programmes based on shared understanding of how science can partner with industry to achieve targets for economic, environmental and social sustainability, with a close alignment between science and business strategies. This has extended recently to building much closer links with Maori food businesses and the Maori economy.

Campbell has championed the development of the Plant & Food Research Summer Studentship Programme, which to date has seen more than 250 young scientists spend three months undertaking a research project.

He has fostered the creation of scholarships that support young Maori and Pacific Island students in furthering their science education and careers, and was instrumental in establishing the Joint Graduate School in Plant and Food Science with the University of Auckland and the Joint Graduate School of Horticulture and Food Enterprise with



Dr Bruce Campbell

Massey University.

Plant & Food bases the majority of its seafood research in Nelson, where it has 37 research staff. It also has a team in Auckland working on food safety.

Its marine-based research focuses on maximising value from the whole catch, including new harvest and post-harvest technologies, and novel processing and extraction technologies.

Campbell said the seafood industry had significant growth potential for New Zealand's food industries, and science had an important part to play.

He said it had been a great privilege to work with the seafood industry.

"I look forward to building on this successful relationship into the future."



Scientist Richard O'Driscoll aboard the research vessel Tangaroa with an acoustic towed device. Picture Steve Beatson, MPI.

Fisheries technology meeting coming up

Up to 120 marine scientists from around the world are expected to attend a ground-breaking conference in Nelson from April 3-7.

It will be the first time the triennial combined meeting of the International Council for the Exploration of the Sea (ICES) Working Groups on Fisheries Acoustic Science and Technology (WGFAST) and Fishing Technology and Fish Behaviour (WGFTFB) has been held in the southern hemisphere.

WGFAST chair and meeting convenor, NIWA Principal Scientist, Fisheries, Dr Richard O'Driscoll,

said the Nelson meetings will be a valuable gathering of world fisheries science experts that will showcase New Zealand's fishing industry, science and successful fisheries management.

"This will facilitate sharing of knowledge and help create linkages between New Zealand and international organisations."

The joint workshop at the Rutherford Hotel will focus on up-to-date research and emerging issues in fisheries science and technology, and the benefits that flow through to management, regulation, conservation and fostering sustainability.

There will also be topic group discussions at NIWA, Nelson, on the weekends before and after the main meeting.

ICES is a network of more than 4000 scientists from over 350 marine institutes and 45 countries.

Its mission is to advance

understanding of marine ecosystems and provide information and advice on the sustainable management of human activities affecting and affected by marine ecosystems.

O'Driscoll said ICES frequently collaborates with industry stakeholders as well as various intergovernmental and non-governmental organisations.

"New Zealand has been a world leader in developing acoustic methods for assessing deepwater fish species like orange roughy, and in collecting data from industry vessels. We are looking forward to showing off some of our technology, and also discussing the latest international developments in fishing gear research."

The meeting is supported by NIWA, Sealord, Ministry for Primary Industries, Simrad, Echoview, and Zebratech.

For more: <https://www.niwa.co.nz/events/ices2017>

News Digest

New Zealand makes the top five

New Zealand has joined the world's five best-managed fisheries in a new study.

In the survey of 28 countries, including the 20 that landed the most fish, a strong correlation was found between the state of the country's fish stocks and the quality of its fisheries management.

The research by Michael Melnychuck, a scientist at the School of Aquatic and Fishery Sciences at the University of Washington, and three co-authors was published by Washington's National Academy of Sciences.

Seafood New Zealand Chief Executive Tim Pankhurst said the study was pleasing but not surprising.

"New Zealand's Quota Management System is already recognised as one of the leading fisheries management systems in the world and it is good to have that reaffirmed in this paper out of the United States.

"It is consistent with annual reviews of New Zealand fish stocks assessed by Ministry of Primary Industries (MPI) scientists, which show 96.8 percent of our catch is from stocks that are sustainable."

In the US study, the three characteristics that were found to be of particular importance to a thriving fishery were the scientific assessment of the stock, limiting fishing pressure, and enforcing regulations.

The United States, Iceland, Norway and Russia were also in the top five healthiest fisheries in the world.

Ferry propeller finding

A tail shaft fatigue fracture caused the loss of a propeller from the Cook Strait ferry Aratere, the Transport Accident Investigation Commission has found.

The passenger and freight ferry lost its starboard propeller in November 2013 while en route from Picton to Wellington.

Divers confirmed that the starboard propeller shaft had broken off in its tapered section near the forward end of

the propeller. New propellers had been fitted more than two years previously when the ferry was lengthened.

The TAIC found that fretting on the shaft taper was likely caused by a "sub-optimal fit" of the new propeller on to the the existing shaft. It said there was a significant lack of documentation around the fitting of the propellers and has urged KiwiRai to address this. It said uneven thrust between the individual propeller blades contributed to the failure, and favours an international review of manufacturing standards.

Coming microbead ban welcomed

Seafood New Zealand has welcomed the announcement that the Government will ban the use of microbeads in make-up and other beauty products, citing their impact on oceans and marine life.

Environment Minister Nick Smith's announcement of a ban on microbeads was good news and one the industry was fully behind, Seafood New Zealand Chief Executive Tim Pankhurst said.

"These small plastic particles, which do not biodegrade, are a well-known hazard to the environment," Pankhurst said.

The microbeads are used as exfoliants but can be replaced by other less damaging products.

"Research has shown that fish may eat the particles, rather than natural food sources, and they either die of starvation or their growth is stunted before they reach maturity.

"The minute beads are a hazard and are causing needless damage to New Zealand's waterways and seas.

"The ban is effective July 2018 but it would preferable for that to be brought forward."

Sealord well positioned said departing board member

Exciting times lie ahead for Sealord, according to Matanuku Mahuika, who after five years is stepping down from the Sealord board.

"I think Sealord's in a very good state," said Mahuika, who served as chairman of the board for more than four years, until February last year. "We've had to make quite a

few changes to the business and its direction but I think that as a consequence the company's well positioned to move forward."

The order for a \$70 million new deepsea vessel, due to be delivered in 2018, was vindication that Sealord is forging ahead on the right track, he said in the latest issue of the group's newsletter, The Catch. "To know that the business is in a space with the confidence to make a commitment to that level of investment is very pleasing. I don't think it would have been in this kind of position just two or three years ago."

Warm water species signal headaches

Scottish fishermen have added squid to the menu of marine creatures they regularly pull from the sea, British newspaper the Guardian reports.

Thirty years ago, squid was a rarity in the North Sea. Today, boats bring back thousands of tonnes a year – though cod and haddock still dominate catches.

Red mullet, sardines and sea bass have also appeared with increasing frequency in North Sea fishermen's nets in recent years. All of them are associated with warmer waters and their appearance is seen by many scientists as a sign that climate change is beginning to have a serious impact on the planet's oceans.

For Scottish lovers of fresh squid, this is good news, the newspaper said. However, in many other parts of the world, rising sea temperatures – triggered by climate change – are providing fishing industries and governments with major headaches. Fish are moving hundreds of miles from their old grounds, sometimes out of zones that had been set up to protect them. In other cases, fish are simply disappearing from nets.

Explosion prompts \$12,000 payout

An engineering operator was ordered to pay \$12,000 reparation to a worker seriously injured when the fuel tank on a tourist launch exploded during welding.

Kent Leppien of L I Engineering was also ordered to do 100 hours of community work.

The science - much of it carried out by the fishing industry - supports sustainable management and by working collaboratively, the parties have come to an agreement that will minimise impacts on the fishery and ensure that the biodiversity objectives are also achieved by shifting the fishing effort away from more sensitive and ecologically important coastal areas.



Lou Sanson

Collaboration has worked for the Ross Sea

The Ross Sea Marine Protected Area shows the value of government agencies, scientists, the fishing industry and environmental organisations working together, says Department of Conservation Director-General Lou Sanson.

It has been very satisfying to see that DOC's support along with MFAT, MPI and fishing industry of the CCAMLR initiative to establish a Marine Protected Area (MPA) in the Ross Sea has helped the effort come to reality.

There has been a long gestation getting to this historic high point for marine protection and now we have the world's largest MPA on our doorstep. New Zealand – through the efforts of the CCAMLR delegation, can feel justifiably proud of its achievements. It could not have been done without the close working relationship between the fishing industry and others that has led to an MPA designed to achieve the objectives of all interests.

From the outset, this has been a collaborative process involving government agencies, industry, scientists and environmental organisations. Within the process there are key elements for success: high levels of engagement, the willingness of the various parties to compromise,

finding solutions and work together with differing objectives but the same desired outcome. Darryn Shaw, Deepwater Fleet Manager for Sanford, agrees that we must continue to work together for the future, where our collective interests benefit us all.

There is a level of passion that comes from commitment to a cause and I have observed a fishing industry that believes in giving something back. It has been doing this by contributing to understanding of our ocean resources so that we can ensure our interactions with that environment are sustainable and within environmental limits. I spoke to NIWA's Dr Stuart Hanchet about the toothfish tagging programme initiated by New Zealand fishing vessels in 2001. There would be very few examples elsewhere in the world where fishermen have voluntarily tagged and released a fish worth \$1500 in the interests of science.

The science - much of it carried out by the fishing industry - supports sustainable management and by working collaboratively, the parties have come to an agreement that will minimise impacts on the fishery and ensure that the biodiversity objectives are also achieved by shifting the fishing effort away from more sensitive and ecologically important coastal areas. At the same time, access to key existing fishing grounds has been preserved and new ones further north will be opened to account for displaced fishing effort from within the boundaries of the MPA.

CCAMLR's international reputation, with a strong mandate for conservation, is strengthened by the agreement of this MPA by demonstrating its ability to both deliver on conservation objectives and manage sustainable fisheries. This is one organisation that has teeth and this process will ensure the security of its role in international governance. New Zealand CCAMLR fishing vessels with their consistent high performance, have a reputation internationally as trusted responsible vessels. The benefit of that trust supports New Zealand fishers' access to other fisheries as well as enabling us to promote wider adherence to the high standard our industry sets.

At a local level, this collaborative approach whether offshore or at home, has shown us a way forward – we are all part of New Zealand Inc and it makes sense to work together on these issues. We have reached accommodations in the Sub-Antarctic, on the West Coast of the South Island and we are working together on the Otago coast and the Hauraki Gulf.

MPAs are a compromise but one that ensures sustainable futures for biodiversity and fishing industries alike. That's the value of working together collaboratively.

- Lou Sanson has been DOC head since 2013. He was previously chief executive of Crown entity Antarctica New Zealand.



IMINZ offers advanced training in Nelson

"We don't really adhere to the academic semesters, it's more meeting the demands of the industry and when they need the training."

- Stuart Whitehouse, IMINZ head



Students from overseas getting life raft training at IMINZ in Nelson.

Maritime school gears up with latest technology

Bill Moore

Investment in a state-of-the-art bridge simulator is going to put the International Maritime Institute of New Zealand in Nelson at the head of its class.

Updating the current setup and complementing the school's existing engine simulator, it will be part of the most advanced training system in the country and equal to the best of what's on offer overseas.

The full mission class A simulator and two class B versions will simulate a range of ports in New Zealand and around the world, and all kinds of sea conditions.

It's the latest innovation that has taken IMINZ from a fishing school at the old Nelson polytechnic offering basic training courses in the 1970s to a world-class maritime training institute.

School head Stuart Whitehouse said simulation had become a key part in maritime training at all levels.

Entry level students can experience standing a watch in darkness, fog or

rough seas while student skippers can prepare and execute a pilotage plan.

"For many years the bridge and engine teams have trained separately," he said.

Simulation covers not only the physical implementation of tasks such as complying with collision regulations and steering rules, but also the management of crew resources on the bridge or wheelhouse and engine room.

"We look at what human factors have a part to play – communication, culture, fatigue – and students get real-time experience managing situations."

The school can see opportunities for shore-based groups such as corporate teams to simulate pressure situations where they have to plan, communicate and execute tasks, with an odd emergency thrown in to test their flexibility. It's all recorded for playback during the debrief.

"How better for shoreside managers to get an understanding of the pressures and responsibilities of the vessel's crew without going to sea for a month?"

The maritime school, a division of the Nelson Marlborough Institute of Technology, is also talking with harbour authorities about using the simulator for pilot and tug crew training.

Whitehouse said the hardware was only as good as the data that goes into

it, and development work is underway to input tidal flow data and modelling to enable more realistic harbour entrance conditions in various sea and weather states.

The simulator has been signed off by the NMIT board and is due to be installed by the middle of the year, with a supplier to be decided by a tender process.

When it was in place it would provide "the most advanced and integrated setup in the country", Whitehouse said.

"We can't really be a maritime school at the level we want to be at without that."

Simulation is embedded in all the IMINZ programmes, from superyacht crew training to qualifying to skipper fishing vessels heading for the Southern Ocean.

The simulator will allow the school to offer officer of the watch training for those wanting to enter the merchant navy as navigation officers. Students with relevant sea time can qualify within a year as an MNZ Watchkeeper Deck – Unlimited, studying in conjunction with those pursuing MNZ's Super Yacht Deck Officer qualification, Chief Mate Yacht.

IMINZ also offers training in super yacht crewing and for Skipper Restricted Limits, Skipper Coastal Offshore, Watchkeeper Deck Near Coastal and Able Seafarer Deck tickets.



COVER FEATURE

IMINZ head Stuart Whitehouse on a training exercise at Port Nelson.

Its specialised fishing industry training includes Mate Fishing Vessel (limited and unlimited), Advanced Deckhand Fishing and Skipper Fishing Vessel (limited and unlimited).

It also runs many short courses at basic, advanced and refresher training levels, running from half a day to a few days and arranged to coincide with mariners' shore visits.

Nelson is New Zealand's premier fishing port and Whitehouse said the school recognises how big the industry was in the local community.

"It's a hard industry, partners are away for long periods, and that also creates challenges for the training, because there's going to be times when they'll be available to come to school, then you get busy times like the hoki season when it's all hands to the pump.

"We don't really adhere to the academic semesters, it's more meeting the demands of the industry and when they need the training."

He said New Zealand fishing companies were very professional and recognised that with the increasing complexity of fishing vessels, extra training will bring big cost savings.

IMINZ already draws a significant number of overseas students, particularly for marine engineering, with India providing many. It has also trained more than 360 fisheries officers for

Pacific island nations.

Whitehouse said in order to justify the additional investment in the new simulator it will be looking at widening its international marketing.

"We're investigating the Philippines, China, Saudi, and I've got a master plan to get students over from the UK, offering somewhere as a destination to come and study."

He said the maritime industry offers great opportunities from deckhand to skipper level for people willing to put in the time and do the hard work and study.

Globally over the next 10 years there's going to be a big demand for seafarers, especially qualified at the officer level. China's growth will be influential and there's a need to look at New Zealand's transport infrastructure, with the Kaikoura earthquakes showing how vulnerable the country is without a better coastal shipping network.

"The strategy for us is being able to take somebody to whatever level they want to go. Certainly for Kiwis who have been in the industry and want to upskill, that's what the new facilities will enable us to do - whether it's the merchant navy, fishing or the superyacht industry, we'll have a really good coverage of all of that."

He said he's passionate about opening up a clear pathway for people

wanting to pursue a maritime career. A lack of academic success at school shouldn't be a barrier but traditionally, "unless you know somebody" it could be very hard to get a start. NMIT could offer "fantastic" learning support and had suites of qualifications and worked with industry to get job placements and provide experience.

"It's that chicken and the egg, you can get the job once you've got the experience, but how do you get the experience? That's always been the barrier for a lot of maritime work.

"A lot of the local companies are really open to it, working with schools, providing that link and training, and then it's going to benefit everybody - it will be a lot easier for people to get into the industry, and the industry is going to get better-trained crew."

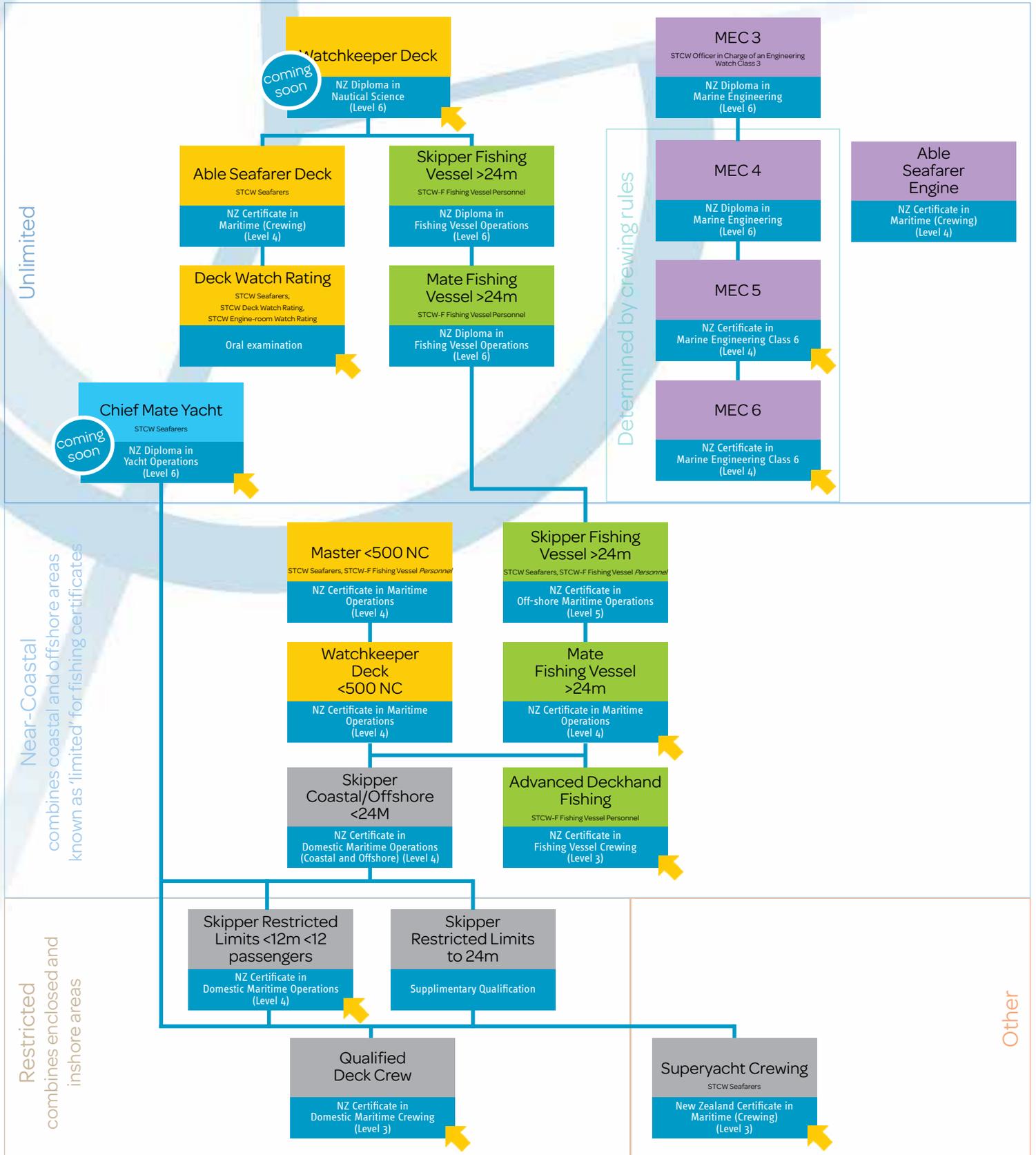
IMINZ occupies a three-storey building on the sprawling NMIT campus, which sits on the fringe of the Nelson CBD, but because its courses don't follow the academic year it's not a big part of the annual graduation ceremonies and it isn't well-known in the wider community.

Open day visitors are often surprised by what the school offers and the sophistication of its training tools.

"There's a lot that we need to be better at shouting about," Whitehouse said.

Progression pathways

Approved training courses offered through the International Maritime Institute of New Zealand



New Zealand seafarer certifications are issued by Maritime New Zealand (MNZ). MNZ require a combination of sea service, approved training and supplementary certificates as part of an application to be certified. For more information visit www.maritimenz.govt.nz.

Back at sea in a new role

Sunni Parkin swapped one seagoing career for another through a fresh qualification from the International Maritime Institute of New Zealand.

Parkin, 30, grew up in Motueka and joined the Navy at 17, spending nine years based at Devonport and serving as a seaman overseas.

That was followed by a couple of years when he “skipped the country, just bumming around and having a great time” and a year working ashore back in New Zealand.

“I didn’t really like that, so I decided to go back to sea.”

With some guidance from Doug Saunders-Loder at Talley’s he worked a season on a Timaru-based tuna boat

before studying for his skipper restricted limits ticket at IMINZ.

Now he’s relief skipper on the Nelson-based 16.1 metre (54 foot) wooden trawler Canopus, owned by Dante Fishing.

Fishing into Talley’s, the Canopus does 4-6 day trips on the West Coast and around the top of the South Island, targeting john dory, rig, snapper and other inshore species.

Parkin got his skipper’s ticket towards the end of 2016 and was back at IMINZ on the Nelson Marlborough Institute of Technology campus before Christmas to complete a radio ticket allowing him to take the boat up to 100 miles offshore, opening the door to tuna trips.

He said IMINZ was a good place to study for his skipper’s ticket, with all 18 in the class graduating.

He intends to be back there towards the end of this year or in 2018 to get his



Sunni Parkin

skipper coastal offshore ticket, which will increase his range to 200 miles offshore.

He’s not sure how far he wants to in the industry: “I quite enjoy what I’m doing now. Everyone wants to progress, though.”

Anchored in Nelson

Stuart Whitehouse has sailed the world’s oceans and is now firmly anchored in Nelson, where he runs the International Maritime Institute of New Zealand in the heart of the city.

“There’s nowhere better in the world as far as I’m concerned,” the 44-year-old former superyacht skipper said.

“The people, the climate – the whole top of the south is amazing.”

Born in the UK, Whitehouse began his superyacht career in his 20s and worked as crew and first mate on round-the-world racing yachts and then on

private boats, covering many parts of the world. He had three years as an Outward Bound instructor at Anakiwa in the Marlborough Sounds before becoming superyacht programme coordinator at the Nelson Marlborough Institute of Technology.

From that role he has risen to the maritime institute’s head and deputy head of NMIT’s primary industries, maritime and adventure tourism department.

IMINZ, which grew out of the original school of fishing, has 11 staff and up to 10 contractors providing training.

Whitehouse said the school covers the diversity of the maritime industry – superyachts, fishing, merchant and tourism.

“I enjoy dealing with the fishing



Stuart Whitehouse

companies. We find them quite proactive and really taking responsibility for the training of their crew.”

Inshore focus will help fishing's future, says 50-year veteran

Bill Moore

Alec Woods spent his childhood in a house that later became a fishing school, was part of a notorious Nelson snapper episode in the '70s and has since trained hundreds of fisheries officers now serving throughout the Pacific.

Connected to the seafood industry in a range of capacities since his teens, the 66-year-old Nelsonian said the industry that has been pivotal to his life is in good heart and has a huge future.

"It produces a natural, wild product that's sustainably managed and that people can have faith in.

"Sure, we've got issues, we've got problems, but they're solvable."

These days Woods contracts his services to the International Maritime Institute of New Zealand at the Nelson Marlborough Institute of Technology in the heart of the city. The campus has long since swallowed the family home that was bought under the Public Works Act in 1974 when it was required for the



Alec Woods

former polytech.

As a schoolboy Woods had done holiday work at the Anchor Shipping Co and New Zealand Sea Products, and as a casual wharf worker, or "seagull".

After spending 1968 at Canterbury University he joined the fishing industry in earnest as an 18-year-old cray fisherman working out of Dongara and Geraldton in Western Australia.

"I fished there for two years, and in the off-season worked in the oil and gas industry, conveniently located across the road."

Then it was back to New Zealand where Woods paid his way through university with fishing and oil and gas work.

BA completed, he did a year with Mike Wells and Roy Ayloff, inshore pair trawling for Nelson Fisheries, before going back to university to get his Master's in history.

Then it was back with Mike Wells, this time paired up with Colin Nunn.

"I've always worked with people who are good fishermen – they're always doing something interesting and what we were doing was pushing the pair trawling thing."

Their success was such that bigger boats were brought in and over the next few years snapper in the top of the south got "a hell of a hammering".

"The rest is history. I've seen in my time the scallop fishery go down, we were involved in that, the snapper fishery collapsed, I was involved in the orange roughy fishery in a peripheral way – and I kind of know what happens with fisheries. You know what the signs are," Woods said.

In 1974 he crewed on a southern spider crab research trip on a Japanese vessel, initiated by Charles Hufflett in his then role of Sealord Products Ltd CEO. "That got me interested in how other nations went fishing, and also in the links between science, product development, marketing and fishing."

Woods also had stints as a schoolteacher in Auckland and Nelson and was part of the second intake in the fisheries observer programme that began in 1986, spending a year on the

Japanese surimi ship Daishin Maru 22, during a period when most of the New Zealand hoki catch was being processed into surimi.

In 1993 he shifted from teaching back into the seafood industry, first with two years as a seagoing representative with Sealord's extensive joint venture fleet, at that time including Norwegian, Chinese, Japanese, Polish, Ukrainian and Russian vessels.

"We had a compliance issue and a quality issue. Soviet-era fishing had been all about meeting production targets as opposed to satisfying the customer. We basically had to get them thinking like we thought, so that was an interesting period."

Invited back to the polytech to start up a cadet course he worked alongside the Industry Training Organisation which was expanding at the same time.

Woods remembers it as a time of missed opportunities "because while we initially thought the ITOs were there to support training providers in the industry, what actually happened was that they became our competitors". Woods feels something has been lost from the earlier days when the maritime school was producing "very good, very competent inshore fishermen who knew how to net-mend, knew how to do basic mechanical stuff, knew their watch-keeping and what-not and were safe out there".

In 1997 it was back to Sealord as Vessel Technical Quality Manager, running a dozen at-sea representatives and later completing a stint in Argentina. From the end of 2001 to 2011 Woods was back in the maritime school at NMIT where he is now contracted to IMINZ through his company, Pacific Networks Ltd, and involved in training fisheries officers for Pacific nations and fisheries observers for the Ministry for Primary Industries.

"We've been training fisheries observers here since 2004, putting through 20-odd courses, and I've kept up my interest in the Pacific because of our history in training fisheries extension officers for this region. Since 1979, over 360 Pacific fisheries extension

officers from a total of 21 countries have received their basic training here in Nelson."

After 50 years linked to fishing in many roles, Woods has firm views on how to protect and enhance the future of fisheries.

"I think the inshore industry has been rather overshadowed by the expansion into the deepwater. We've got a very mature deepwater industry now."

He said the big three - Sealord, Talley's and Sanford - were somewhat different in culture but were all doing relatively well, with product that is sought after and good reputations.

"Rock lobster and paua have been the stars of the inshore sector but the trawl, setnet and longline fisheries still have some significant issues to deal with if they are to gain consumer confidence and public trust."

The deepwater sector had "enough horsepower" to solve any problems it encounters.

"There isn't that same degree of support in the inshore sector, where assistance for the industry - apart from some notable exceptions - has been run down. That's where the change has to come."

He said with New Zealand exporting over 90 per cent of the catch, the industry is totally tied to global markets, sensibilities and concerns. In Woods' view, the most important statement in the report on the inquiry into foreign charter vessels was that "government, the industry and workforce should work together on a new strategic plan to provide a clear and shared sense of the industry's future direction."

"While that's a bit loose, that's what got to happen. I still see the industry as a poor relation in the primary sector. It shouldn't be, and it can't be, because we are volume constrained. You can't go out and break in more land or put on more cows - you are stuck with what comes out. If growth is going to be a part of your strategy, you've got to look at how you achieve that. You can do that in various ways ... but innovation is going to be the key."

There is nothing surer than a bright

future for the inshore sector, Woods said.

"But the inshore and the recreational people have to stop throwing rocks at each other. They have to start realising they're fishing in the same pond, they have to get on, and they both have to start talking to scientists more."

Instead of the industry seeing electronic monitoring using cameras as an invasion, it should embrace it, he said.

"Why don't they see it as an opportunity to tell their story - as a way to show traceability, to be able to trace the product right from when it comes out of the water until it goes to the marketplace?"

"I think we've got a challenge to be able to show the rest of the world that we're responsible out on the water, that's the key thing."

Woods sees great career opportunities for young people entering the seafood industry, often those who haven't done well at school but who find that their academic performance improves when they see that they've got a future in an industry that they like.

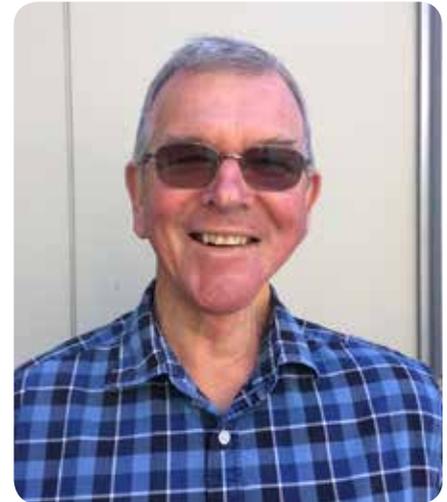
There was always more to learn about sustainable fishing, he said.

"Trawling will continue to be an important fishing method, but there are ways to minimise the impact that trawling has. You don't want to be ploughing the bottom, it uses up fuel and wears out expensive equipment. You're far better off flying across the bottom. Most of the fish we're getting are not flat fish, they're round fish. Round fish are not on the bottom."

So what about that pair-trawling incident that saw truckloads of fish dumped at the Nelson tip, and which is still talked about 40 years later?

"You have to remember that it was 1976 and we were still finding out all sorts of things," Woods said.

"We found out on that day that if you caught a lot of fish in shallow water, the bladders didn't blow up and the fish all sank. You then were faced with raising a cod-end full of fish off the bottom and being unable to split the bag, so we broke gear and had to tow the net into



Alec Woods

the harbour.

"We individually washed the gills of every single fish - I remember I worked for 35 hours straight - they processed fish for the first day, the Friday, but at the end of Friday they stopped and on Monday when they opened the chiller and got back into the fish it was too late."

Hence the trucks ferrying snapper to the dump, and the damning pictures in the papers.

Even so, the larger companies bought bigger boats to target the snapper in Tasman Bay, and the stock was fished hard for several more years.

"So we'd argue that while we had 180hp a side, those bigger boats were purpose-designed pair trawlers and had 700hp a side - and the rest is history."

Woods said his favourite memories of his working life so far included Mike Wells teaching him how to lift a case full of fish without damaging his back, the spider crab trip to the Auckland Islands with the Japanese, and getting the Russian and Ukrainian crews into a consumer and marketing mindset, thus doing himself out of a job at Sealord.

However, "The first thing would be crayfishing in Western Australia with Gerald Starling and Dick Carr, having so much fun plus getting paid. I couldn't believe it."

Economic review

of the seafood industry - 11 months to November 2016

Welcome to the latest update on the economic performance of New Zealand seafood.

The previous review published in the December 2016 edition of Seafood New Zealand contained some errors in the data as a result of comparing figures for a 9 month period for the 2016 year with figures for 12 months for 2015. We apologise for any confusion this may have caused.

As a result of the error, we have published this updated report that provides provisional data for the 11 months to November 2016.

IN THIS EDITION

- China, Australia and United States are the top three seafood export partners.
- Hong Kong is the fifth largest export market.
- Rock lobster is the main product exported to China.
- There was a one percent decrease in the export earnings of all New Zealand's commodities.

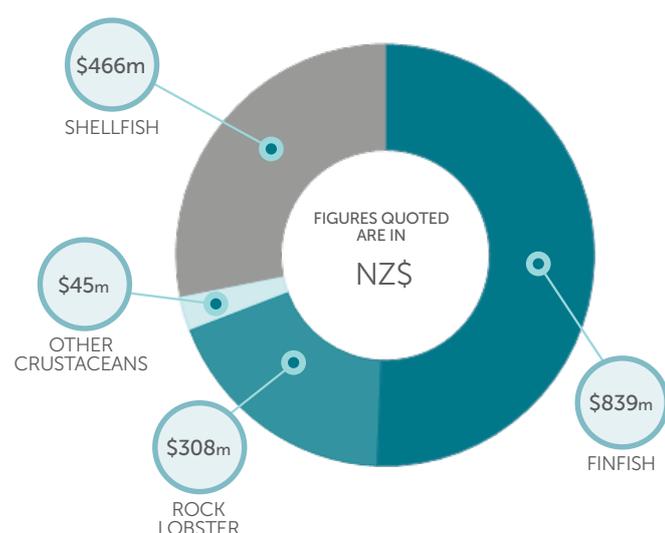
EXPORT STATISTICS

EXPORT NZ\$FOB*

All figures in this section are based on export data provided by Statistics New Zealand and analysed by Seafood New Zealand for the 11 months to November 2016.

Seafood exports to the end of November 2016 totalled NZ\$1,658mil with more than 267,370 tonnes exported.

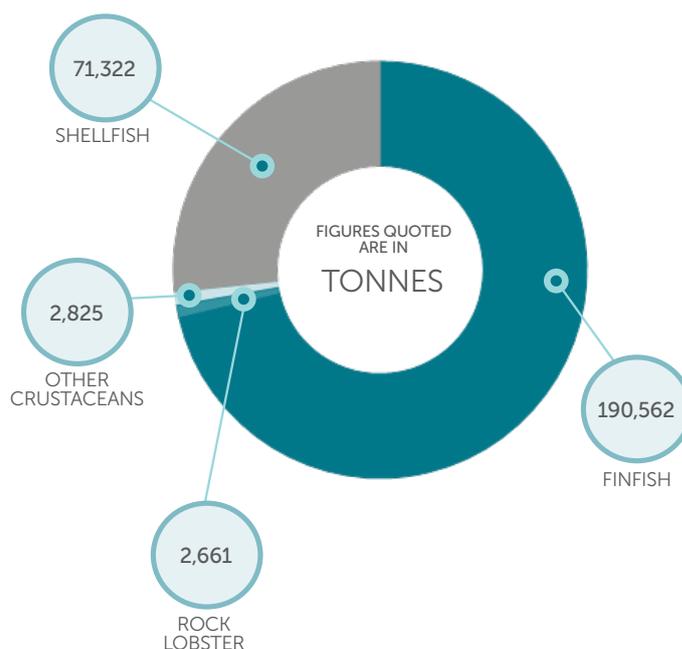
Export value (YTD to November 2016)
= NZ\$1,658m



EXPORT TONNES

Finfish species accounted for 70 percent of export volume with shellfish accounting for 27 percent. Rock lobster and other crustacea make up a small proportion of export volume but contribute a significant percentage of the total export value.

Export volume (YTD to November 2016)
= 267,370 tonnes

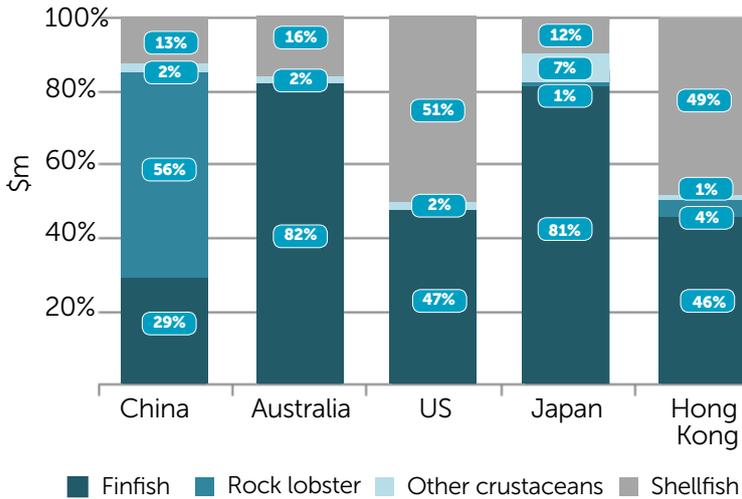


EXPORTS BY COUNTRY

China, Australia and the United States maintain the top three positions as our key seafood export partners.

The graph below shows diversity in the mix of products for the top five¹ export countries. Rock Lobster continues to be the main product by value exported to China.

Composition of exports to Top 5 Trading Partners - Year to date to November 2016



TOP 10 EXPORT VALUES (NZ\$)	2015	2016	% Change
1 China	\$467m	\$539m	▲ 13
2 Australia	\$201m	\$225m	▲ 11
3 United States	\$183m	\$218m	▲ 16
4 Japan	\$98m	\$109m	▲ 10
5 Hong Kong	\$61m	\$53m	▼ 15
6 Spain	\$38m	\$51m	▲ 25
7 South Korea	\$42m	\$45m	▲ 7
8 Poland	\$19m	\$34m	▲ 44
9 Germany	\$26m	\$32m	▲ 19
10 Thailand	\$25m	\$32m	▲ 22

EXPORTS BY SPECIES

There have been significant increases in the export value of a number of species including squid (66%), orange roughy (26%) and Salmon (21%).

TOP 10 EXPORT VALUES (NZ\$)	2015	2016	% Change
Rock lobster	\$282m	\$308m	▲ 8
Mussels	\$199m	\$246m	▲ 19
Hoki	\$193m	\$202m	▲ 4
Squid	\$40m	\$116m	▲ 66
Orange roughy	\$42m	\$57m	▲ 26
Salmon, Pacific	\$42m	\$53m	▲ 21
Ling	\$42m	\$50m	▲ 16
Jack mackerel	\$62m	\$46m	▼ 35
Crustaceans & molluscs	\$34m	\$44m	▲ 23
Paua	\$29m	\$32m	▲ 35

EXPORTS OF MAIN COMMODITIES

Exports of main commodities for the 11 months to November 2016 saw fish, crustaceans and molluscs increase by 12% on the same period for 2015.

Overall there was a one percent decrease in the export earnings of all New Zealand's main commodities for the 11 months to November 2016.

NZ EXPORTS OF MAIN COMMODITIES (NZ\$)	2014/15	2015/16	% Change
Milk powder, butter & cheese	10,164m	9,723m	▼ 5
Meat & edible offal	6,239m	5,425m	▼ 15
Logs, wood & wood articles	3,168m	3,775m	▲ 16
Fruit	2,271m	2,681m	▲ 15
Mechanical machinery & equipment	1,557m	1,488m	▼ 5
Fish, crustaceans & molluscs	1,317m	1,503m	▲ 12
Wine	1,392m	1,457m	▲ 4
Total exports	44,551	44,030	▼ 1

Source: Export data, Statistics NZ.

¹Based on 2016 provisional export figures from Statistics NZ.

Source: Overseas merchandise trade, September 2016, Statistics NZ.



New Zealand greenshell mussels could be in for a huge production boost.

Huge potential in open ocean shellfish farms

A \$6 million government-funded project to make shellfish farming in New Zealand's open oceans viable has the potential to more than double production and exports, its proponents claim.

It could mean an extra \$300 million a year in the long term and many new jobs.

The project, funded over five years through the Ministry of Business, Innovation and Employment, is being run by Nelson's Cawthron Institute and is supported by major industry players Sanford, the Wakatu Incorporation and Whakatohea Mussels Opotiki.

It's the first research of its type looking at developing new shellfish technology suited to the high-energy offshore environment, and last month drew an international team of scientists and engineers to Nelson to offer their expertise in a week-long workshop.

Project leader, Cawthron scientist

Kevin Heasman, said open ocean shellfish farming offered a "real opportunity" to boost New Zealand's aquaculture production.

"At present there's over 10,000ha of consented open ocean water-space in New Zealand. Some progress has been made into developing this space but the open ocean is a very demanding environment," he said. "This research project should open up possibilities and remove some hindering factors."

Heasman said storms could harm shellfish stocks and damage equipment.

"Our project team are workshopping innovative solutions to reduce these risks."

Combining the knowledge of New Zealand and international scientists, University of Canterbury graduates and aquaculture industry experts, the project aims to develop new, robust, efficient and low-maintenance systems.

"We're innovating systems to work deep under the water's surface where culture structures holding the shellfish are better protected from stormy weather. Here they also have plenty of space to grow in harmony with other wildlife," Heasman said.

One of the international team, German hydraulic and coastal engineer Dr Nils Goseberg, said he feels positive about the progress made in Nelson.

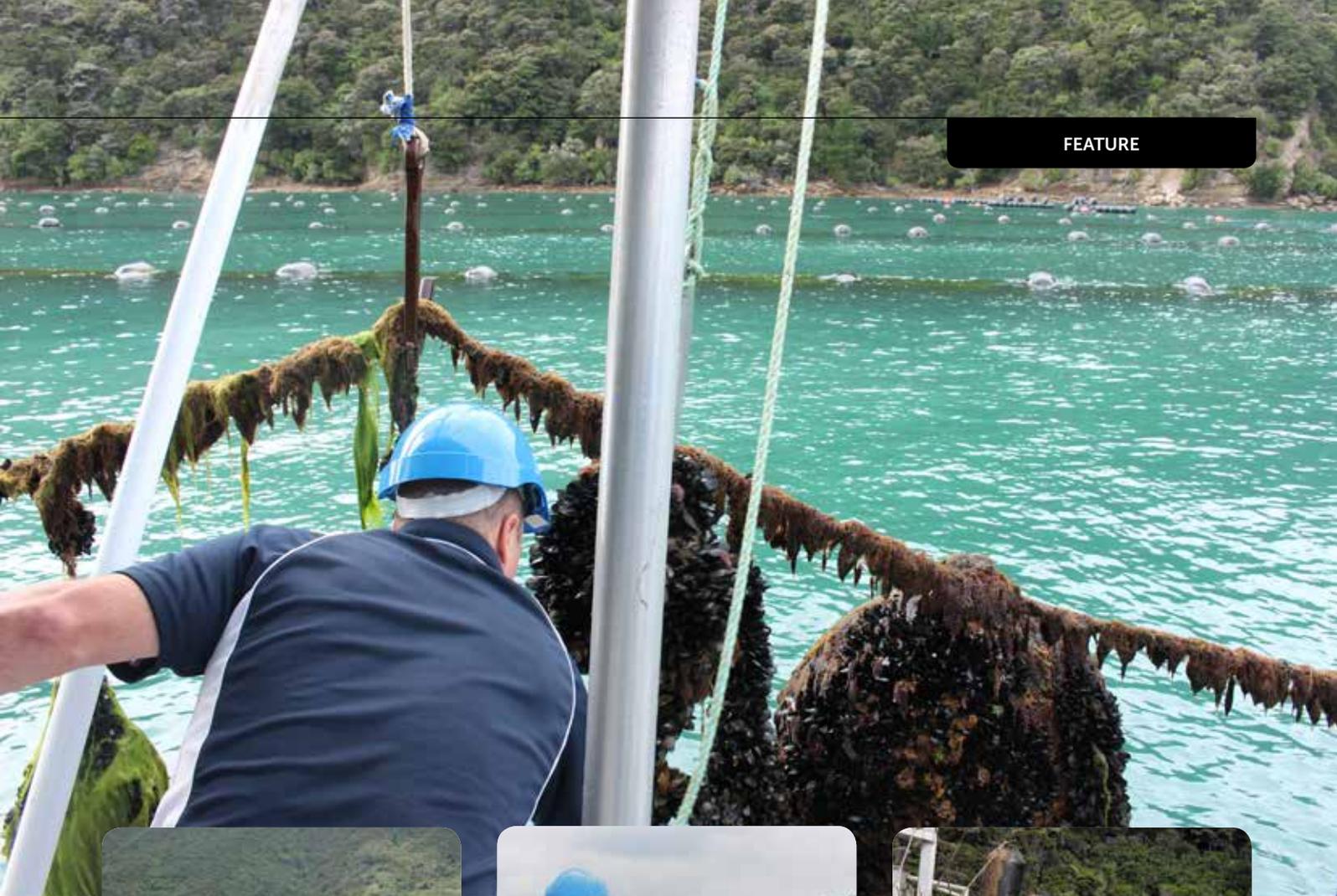
"It's unusual to have such an international grouping together to focus on aquaculture solutions. I am confident we will get there."

Others in the team include Norwegian Aquaculture Technology Research Director Dr Arne Fredheim from the Scandinavian SINTEF research organisation, German Professor of Applied Marine Biology Dr Bela Buck from the Alfred Wegener Institute, and University of New Hampshire Director of Coastal and Ocean Technology Programs Professor Richard Langan.

Cawthron Chief Executive Professor Charles Eason said the gathering meant global leaders in marine research were working alongside "our brilliant New Zealand researchers and industry experts".

"Cawthron is really pleased to have pulled together a world leading team from different engineering and science disciplines."

Revolutionary technology is required



The international team.



Kevin Heasman



Mussel farming the inshore way.

to develop reliable, low-maintenance underwater flotation systems, which must combine with cost-effective farming to make open water shellfish farming viable.

Concepts will be developed and tested as scale models in wave and flume tanks in Germany using equipment not available in New Zealand. Initial testing will be done to ensure prototypes are fit for purpose before open water testing.

Next, prototype systems will be built, loaded with shellfish and deployed with weather and hydrology monitoring buoys at selected offshore sites for testing under real-world conditions.

Structural performance will be monitored alongside biological productivity, adapting the structure to the shellfish and the shellfish to the environment.

While it has been demonstrated that open ocean aquaculture of shellfish is biologically feasible, existing farming methods are high-maintenance and costly. Shellfish are under greater threat from adverse weather conditions further out to sea than in an inshore sheltered environment, where aquaculture is highly successful.

The open ocean plan is to extend shellfish farming, not replace inshore farms.

Cawthron said it might even enhance marine environments by creating a kind of mid-ocean reef that could encourage fish and other wildlife.

The Nelson science provider has been researching ocean open aquaculture since 2003, working on sites off the Hawke's Bay and Bay of Plenty coasts.

It has already developed models that

can help determine the suitability of sites, considering factors such as wind and hydrodynamics, food quality and quantity and economic feasibility.

It said open ocean aquaculture would enable companies to avoid the user pressures associated with inshore farming and grow their business in selected areas within the Exclusive Economic Zone.

In an interview earlier this year Heasman said New Zealand was the world's most efficient mussel farming nation, already at the cutting edge, and open ocean farming could lift the game further.

New Zealand shellfish exports totalled \$400m in the year to the end of September 2016, the second-highest seafood sector by value after fish, which earned \$707m.



Seafarer Poul Scott and Maritime New Zealand's Manager of Personnel Certification Lou Christensen discuss Scott's Verification of Status card. Image: Maritime New Zealand

Seafarers can ring-fence until September

Poul Scott's seafaring tickets have taken him all over the world – from a career in fishing, including bringing a fishing boat to New Zealand from Japan, and working in the Atlantic, to currently operating on workboats in New Zealand and Australia.

He's now got six tickets ring-fenced, including his basic NZOM – while transitioning his NZOM endorsed with STCW-95 to Master less than 500gt on the SeaCert framework.

That's the ticket that enables him to work internationally, including time off Western Australia with Sea Tow, as part of the Gorgon gas project.

Ring-fencing allows seafarers to keep old and legacy tickets valid for life, but also allows them to transition the same tickets to SeaCert if they want to – that's what Scott has done with his NZOM with STCW-95.

The introduction of ring-fencing – which is free – will make life easier for

many seafarers, he believes.

"It saves us a lot of grief in the fact that you are keeping ring-fenced tickets alive and you can use them further down the line," he said.

"That's why I've ring-fenced the NZOM, without the endorsements, because if I decide later on that I don't want to be haring off overseas all the time, I can go and run on that ticket and I don't need to worry about the STCW courses that cost a bit of money."

The thought of hard-won tickets disappearing was also at the back of Scott's mind before learning about the ring-fencing option, introduced on 30 September 2016.

"I was transitioning that to the Master less than 500gt, but I did have a few thoughts about my deep sea fishing ticket and what was happening there," he said.

"You spend all that time and effort getting a ticket and you feel like you've achieved something, and to suddenly have that ticket disappear, wasn't something you would look forward to.

"Those tickets have given me the opportunity to work all over the place and for me that was a big thing."

Seafarers have until 1 September

2017 to register to ringfence eligible tickets. They can find out options for their tickets online at: www.maritimenz.govt.nz/ringfence

If they haven't registered tickets, they will expire on 2 September 2017. Over 3,000 seafarers have ring-fenced their tickets so far.

Maritime NZ will issue a Verification of Status (VOS) card showing which tickets have been ring-fenced. Seafarers can continue working but must get a medical certificate, available from any GP, within two years of being sent their card.

If ring-fenced tickets are not being used immediately, seafarers do not need a medical certificate. But if they decide to use the tickets in the future, they will need one before they start.

Scott sees no real difficulty in the medical certificate requirement.

"It's no drama ... unless you're that crook that you shouldn't be doing it anyway!" he said. "We're used to doing medicals every two years anyway."

Seafarers who have questions about ring-fencing should contact Maritime NZ's ring-fencing team on 0508 669 734 or via email – ring-fence@maritimenz.govt.nz

It makes sense to ring-fence

You can now keep old or legacy tickets for life by ring-fencing with Maritime NZ – and it's free. You have until 1 September 2017 to make your choice.

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

You must decide what to do – and tell us – or the tickets will expire. If you have any of the following tickets, ring-fence them now by going online: maritimenz.govt.nz/ringfence

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Engineer Local Ship

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Inshore Launchmaster (ILM)

Local Launch Operator (LLO)

Local Launchman's License

Marine Engine Watchkeeper

Master of a Foreign Going Fishing Boat

Master of a Restricted Limit Launch

Master River Ship

Master River Ship
(holding an engineering qualification)

Master Small Home Trade Ship

Master Home Trade Ship

Mate Home Trade

Mate of Deep Sea Fishing Boat

NZ Coastal Master (NZCM)

NZ Offshore Watchkeeper (NZOW)
including NZOW with ILM endorsement

NZ Offshore Master (NZOM) without
STCW-95 or unit standards endorsements

Powered Vessels other than Steam

Qualified Fishing Deck Hand (QFDH)

River Engineer

Second Class Coastal Motor Engineer

Second Class Diesel Trawler Engineer

Skipper of a Coastal Fishing Boat

Skipper of a Deep Sea Fishing Boat

Third Class Engineer

Third Class Steam Engineer

Third Class Steam and Motor Engineer

Ring-fence online at
maritimenz.govt.nz/ringfence
or phone 0508 669 734

Our “Big Blue Backyard” warrants this collaborative unbiased approach to enable New Zealand to lead by example in managing this precious ecosystem to the benefit of all stakeholders.

Gulf plan falls short of compelling proposal

The Hauraki Gulf Marine Spatial Plan released in December did not fulfil the working group’s potential, says Sanford Chief Executive Volker Kuntzsch.

The challenge of overcoming one’s bias when dealing with stakeholders from very diverse interest groups usually leads to great ideas being discussed into oblivion.

The Hauraki Gulf Marine Spatial Plan Stakeholder Working Group managed to build, over time, a great deal of trust and collaborative spirit amongst an array of representatives ranging from ENGO’s to recreational and commercial fishing and a few others that had been invited to the process. This certainly formed the basis for constructive discussion and the development of an impressive set of proposals for the future of this very important ecosystem, both economically and environmentally, while also taking into account local communities and iwi interests.

Multi-stakeholder working groups are now the body for managing complex systems in a world-class manner. It is essential though that these groups are deemed as being representative of all relevant parties. Another imperative for these groups to arrive at meaningful outcomes is the need for reflecting on facts and the consideration of best available science and balancing these with experience and societal expectations.

In both these instances the Stakeholder Working Group did not fulfil its true potential, thus stopping short of presenting a compelling proposal that would have convinced through the full

support of all stakeholders.

Accepting that bottom trawling is a contentious topic, especially within such a visible area as the Hauraki Gulf, would it not have made sense to ensure the participation of at least one representative currently involved in bottom trawling? In addition to water quality and sedimentation, bottom impact fishing was identified at one of the so-called listening posts as one of the main factors negatively affecting the health of the Hauraki Gulf ecosystem. Why wouldn’t you want the development of a plan to include those that have the greatest impact and can therefore make the most effective change in the timeliest way?

The major fishing companies that are active in the Gulf were presented with a copy of the chapter on fishing a short time before the eventual launch of the plan. The proposal highlighted a strong bias against commercial fishing (other than longlining) and the fishing companies subsequently suggested a somewhat different approach, including a number of measures to allow for wider buy-in from industry, while accepting that improvement in practices was needed. Sanford, for example, suggested to risk-map the Gulf’s benthic environment to ensure that all bottom impact fishing would immediately be stopped in high-risk areas. In medium-risk areas bottom impact fishing would then be phased out until 2023 and in low-risk areas, bottom impact fishing could continue. Interestingly, the proposal that was finally presented by the stakeholder working group agreed with the suggestion regarding high and medium risk, but proposed to also eliminate all bottom impact fishing from low-risk areas and with that from all of the Hauraki Gulf Marine Park by 2025. Why?

Accepting that bottom impact fishing poses little risk in some areas surely wouldn’t necessitate its discontinuation



Volker Kuntzsch

there?

The exclusion of a very relevant stakeholder and the obvious bias against bottom impact fishing make an otherwise formidable piece of work attain the taint of “predetermined agenda”. This does not make for building constructive relationships.

In an environment where the perception is that urgent action is needed, attitudes have to shift towards a more inclusive and open-minded approach to tackling challenges. Include those that can actually bring about the desired changes and centre discussions on science and facts to eliminate bias. By bringing the right stakeholders to the table, we should eventually improve our ability to respond to changing conditions – be they environmentally, consumer or public perception driven – in a much faster and smarter way. Our “Big Blue Backyard” warrants this collaborative unbiased approach to enable New Zealand to lead by example in managing this precious ecosystem to the benefit of all stakeholders.

- Volker Kuntzsch succeeded Eric Barratt as head of Sanford in late 2013. His career in the seafood industry spans nearly three decades and has included a series of management roles around the world.

The dynamics of a trawl door

Chris Carey

I know I'm preaching to the converted but I have to get this off my chest because environmental groups are quick to jump on the bandwagon when it comes to trawl doors and the perceived damage they do to the seabed.

Trawl doors used in pelagic fisheries have no impact whatsoever being well clear of the seabed (as the name implies) which leaves the issue of trawl doors used in conjunction with a bottom or demersal trawl.

For example, a 3m² steel trawl door sitting on the wharf or hanging from the gallus weighs 640kg. However when submerged in seawater that door weighs now 555kgs or 0.87 percent of what it would weigh in air due to the buoyancy of sea water.

Those most vocal need to understand that we are not talking about a stationary object; we're talking about a fluid situation because the trawl doors are being towed, which alters their dynamics and apparent weight considerably.

There are three forces acting on a trawl door when it is being towed:

- A pulling force from the trawler acting through the trawl warp on the fore part of the door.
- A drag force generated by the trawl

gear acting through the back straps on the aft part of the door.

- The third force results from the shape and design of the door. As with an aeroplane wing, a trawl door by way of its curve, V-profile and foils generates "lift" sideways, more commonly referred to as spread.

Trawl doors are chosen very carefully. They have to be fit for purpose and matched to the gear you are towing taking into account the horsepower of the vessel, the design towing speed of the trawl, the optimum door and wing tip spread for the trawl and the drag coefficient of the trawl and all its components.

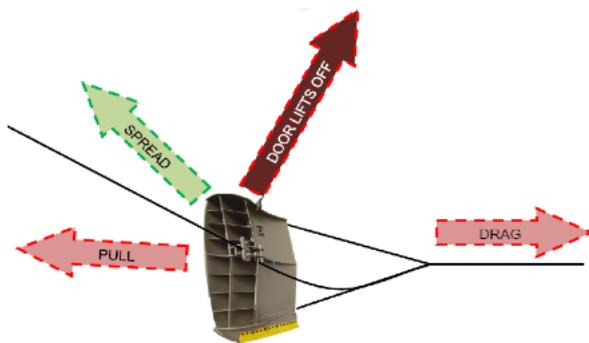
If any one of the three forces is exceeded - you are towing too fast, warp length is too short, there is too much drag for the door to achieve the design spread or the back straps and towing points are incorrectly adjusted - then the door flies off the bottom.

Perhaps an easier way to illustrate this for those scratching their heads is to compare what happens to a weight hung

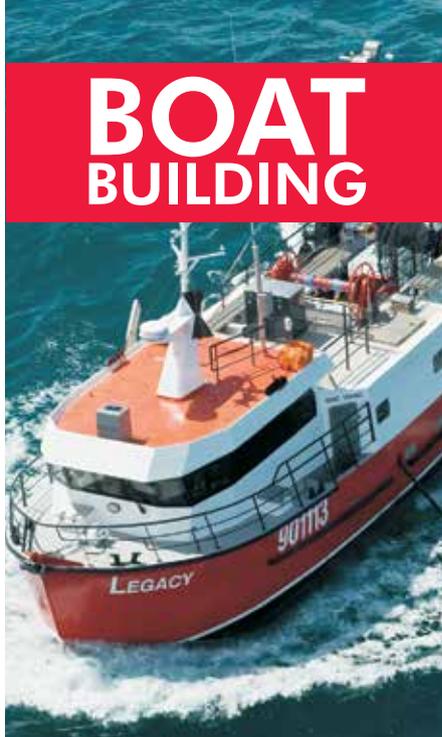
in the middle of a piece of string when you pull on both ends. The weight lifts doesn't it? It is exactly the same with a trawl door.

So if your gear is balanced correctly then that 555kg trawl door when towed is barely touching the bottom, perhaps just skimming over it and consequently its impact is minimal; no more than the foot print of the 4x4 tyres on your fossil fuel-guzzling 4WD while launching the tinny on a sandy beach.

Bear in mind that the tow you're doing now for your terakihi, snapper or gurnard, whatever, is probably the same tow your great-grandfather did back in his day. In other words the areas impacted by bottom trawls within our EEZ have been trawled by generations of fishermen and despite seasonal fluctuations the same fish can still be caught in the same place by the same method. Funny that!



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Asher Regan

Eating healthy good for the heart

Matt Atkinson

The Heart Foundation is celebrating its annual heart drive this month, hoping to get Kiwis eating healthier.

Heart disease is the biggest killer of Kiwis every year, and Asher Regan, a nutritionist with the foundation, is helping to promote eating healthier to reduce the strain on our tickers.

"What we eat has a big impact on our health, so we encourage people to enjoy foods that are good for their health so they can live life to the full," Regan said.

Regan, who has been with the charity for 5 years, spent 15 years as chef, working in Wellington, Auckland, Japan and Scotland.

"Being a chef is hard, so I wanted to find something that was mentally challenging, a little less physically challenging but still stay involved with food," he said.

It was with this in mind that Regan spent five years at Otago University, receiving his Master's in nutrition and learning about the need to eat healthy.

"Getting a balanced diet is the most important thing. Eat lots of natural food products or minimally processed at least."

Fish is one of those foods. It is a good source of omega-3 fats, which can reduce the risk of heart disease.

"We recommend that to get sufficient omega-3 for a healthy heart you need to eat fish or seafood twice a week, preferably oily fish," he said.

"Omega-3, particularly from seafood sources, is incorporated into cell membranes of almost every cell in the body. Our bodies can't make these fatty acids very efficiently; therefore we need to consume them as part of our diet."

Luckily oily fish are easy to find in New Zealand.

Tasty recommendations from the Heart Foundation include tuna, kahawai, trevally, kingfish, dory, salmon, squid, mussels and oysters.

You will also see volunteers out on the street asking for donations to continue funding research into heart

Fish is one of those foods. It is a good source of omega-3 fats, which can reduce the risk of heart disease.

"We recommend that to get sufficient omega-3 for a healthy heart you need to eat fish or seafood twice a week, preferably oily fish."

disease.

Heart Foundation Medical Director Gerry Devlin said this is the charity's largest fundraising and awareness campaign of the year.

"While we have seen a dramatic reduction in deaths from heart disease over the past 40 years, more than 6,000 people die from heart disease every year in New Zealand," Devlin said.

"That figure is almost 20 times the 2016 road toll.

"Clearly, there's still a lot of work that needs to be done in terms of bringing down such a high number of deaths each year."

The Heart Foundation is New Zealand's leading independent funder of heart research. Since 1970, it has invested more than \$57 million in research and specialist training. It offers a wide range of activities devoted to helping support people with heart disease, plus educational programmes and campaigns that promote heart-healthy living.



Steamed salmon wrapped in nori with a seaweed salad

Don't be fooled by appearances, this delectable dish inspired by Japanese flavours is actually really easy to prepare.

Serves four

Steamed salmon

- 500g boned salmon fillet
- 4 nori sheets
- 1 tsp miso paste
- 1 tsp rice vinegar
- 1 tsp mirin

Seaweed salad

- 1 cup shelled edamame beans
- 8 small umeboshi plums
- 1 cup fresh coriander, roughly torn up
- 2 small radishes, thinly sliced
- 1 cup cherry tomatoes, quartered
- 1 cup seasoned Japanese seaweed salad
- 1 tbsp rice vinegar

Salmon

1. Cut your salmon fillet into 125g portions
2. Place each piece of salmon on top of one nori sheet

3. Mix together the miso, mirin and rice vinegar
4. Spread this mixture over the top of the salmon
5. Gently and slowly wrap the nori around the salmon so it doesn't crack. As the nori gets moist it will soften and this will become easier.
6. Place in the refrigerator while you prepare the salad
7. To cook the salmon place a steamer above a pot of boiling water
8. Steam the salmon for 5 minutes then remove from steamer and allow to rest at room temperature for a further 5 minutes
9. Slice in half and serve

Salad

10. Boil the edamame for 5 minutes then drain and rinse in cold running water until cool
11. Remove the stones from the umeboshi and cut in half
12. Mix all salad ingredients together and serve with the salmon

Tips

These ingredients are all commonly available at most Asian food stores in New Zealand and in many supermarkets. The seaweed salad often comes frozen in a vacuum packed plastic bag and is already seasoned with sesame oil, sesame seeds and chili. Umeboshi are salted and pickled plums from Japan, these are quite strong in flavour. You don't need many in this dish and you may want to try one before adding to the salad just in case they aren't to your liking.

Nutrition Facts Per serve

- Energy	1429kJ
- Total Fat	13.6g
- Saturated Fat	2.3g
- Total Carbohydrate	9.3g
- Sugars	5.2g
- Dietary Fibre	23g
- Sodium	185mg



Artist Joanne Webber and one of her striking works. See another on page 33.

An artist with a love for the ocean

Britt Coker

“Super-ugly” fish are the ones that Christchurch artist Joanne Webber loves the most.

A full-time painter for two decades, Webber is drawn to New Zealand marine life for her inspiration. She'd paint more of the uglies, she said, but they could be harder to sell.

“John dory and orange roughy, they are two of my favourites. I love the sculptural aspects of their fins but they're also slightly creepy, which

appeals for some reason. But I have to restrain myself, and paint more that people want to look at on their walls every day.”

Ultimately, it was the fiddly detail that appealed, she said. Webber enjoys the meticulousness required to precisely capture the repetitive patterns of scales, stripes and spots. With the help of well-illustrated marine guides and dawn visits to the fish market, she recreates the detail of her subjects using acrylic paints and canvas. But as well as getting it right, there is a message in her works too.

“I have done a fair share of spear fishing and rod fishing and nowadays the reason I paint fish is due a concern for them and their environment, particularly over-fished species.

“I am trying to gently remind people that our resources are limited and need protecting, as all in the fishing industry, commercial and recreational, know only too well. We are lucky in New Zealand to have an industry backed by a good quota management system.”

Frequently with art, it's how buyers relate to the subject that draws them to it. Consequently, Webber's art collectors are often “fish people” - fishermen and marine scientists who appreciate her ability to accurately capture life under the sea and, when they're back on land, want a piece of it on their walls to remind them. Even the super-ugly ones.

For more: www.joannewebber.co.nz



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Locking up the coastline isn't the answer

"Doing the right thing for our oceans" is more than just a slogan, writes Storm Stanley.

Locking 30 percent of Otago's coastline away in no-take marine reserves forever is not the answer to marine conservation issues. That might make Auckland and Wellington environmentalists feel good and give them bragging rights on the world stage, but what it will mean is that you and yours will never be able to catch a fish for the table from those places you used to, ever again.

Forest and Bird's recent call for Otago's South-East Marine Protection Forum to extend its marine protected area (MPA) target is a call to displace existing fishing effort and catches into much smaller fishing areas, a recipe to wreck the health of wider fisheries and trigger the damage to biodiversity the forum was supposedly set up to remedy.

Where does Forest and Bird's 30 percent slogan come from? From itself. In Hawaii in September 2016, members of the International Union for Conservation of Nature's (IUCN) World Conservation Congress, of which Forest and Bird is a member, voted on a motion that 30 percent of each marine habitat should be set aside in "highly protected marine protected areas and other effective area-based conservation measures" by 2030. The motion refers to effective area-based conservation measures, not to marine reserves. The IUCN motion has no relevance to the southeast of the South Island of New Zealand. The New Zealand Government is not bound by IUCN motions. The Department of Conservation is an IUCN member, but didn't vote in favour of the motion — it abstained. The South-East MPA Forum was not tasked with implementing the non-binding aspirations of an international organisation; it was set up to find workable marine protection solutions for our region.

Why are environmental lobbyists so focused on numerical targets — how many marine reserves, what proportion of the coastline, and so on — rather than on achieving real biodiversity protection benefits? Establishing a marine reserve is not the same thing as protecting marine biodiversity. A marine reserve won't stop many of the most critical threats to marine biodiversity: it won't stop ocean acidification or rising sea temperatures and it won't stop sedimentation from land use changes. Recently, a NIWA expert team found that of the 20 most important threats to New Zealand's marine habitats, only seven were directly related to human activities within the marine environment. Those of us who are serious about protecting marine biodiversity should be asking ourselves how we can best manage the full range of threats, rather than arguing about how much ocean is in no-take marine reserves.

For every scientist rolled out by environmental groups who said the world needs to shut away 10 percent or 20 percent or 30 percent of its oceans, another will point out it's better to manage potential threats to biodiversity effectively wherever they may arise — for example, by establishing and enforcing effective fisheries management regimes.

The clash between effective fisheries management and large marine reserves is a critical consideration for recreational, customary and commercial fishers in Otago. Let's take the paua fishery as an illustration. Paua are harvested on inshore reefs which support naturally high levels of biodiversity and are therefore popular candidate sites for marine reserves. We know from scientific research that paua fisheries receive no benefit from the establishment of marine reserves — spill-over of adult paua from marine reserves is negligible and larval dispersal is primarily local in scale. In fact, marine reserves jeopardise the sustainability of paua fisheries by displacing fishing effort to areas beyond the reserve boundary and causing localised stock depletion. If large marine reserves are established — and to reach a 30 percent



Storm Stanley

target, reserves would have to be very large — paua fisheries outside the reserves would rapidly become barren and unsustainable.

Paua fisheries require a healthy marine environment and are particularly vulnerable to environmental threats such as sedimentation that are not controlled using marine reserves. The paua industry has therefore always been a strong proponent of marine biodiversity protection, but — based on decades of experience and the best available science — we reject the unquestioning belief in no-take MPAs that drives slogans such as "30 percent of the ocean must be protected in marine reserves".

I urge everyone who has an interest in the marine environment to turn their minds to achieving effective marine biodiversity protection rather than buying into a global race to establish ever-larger no-take marine reserves. It is not the number or size of a region's marine reserves that matters, but the integrity and effectiveness of all its management regimes (marine and terrestrial) and the ability of these regimes collectively to protect biodiversity and our natural resource base while enabling local communities to thrive and prosper.

- Storm Stanley is chairman of PauaMAC5, the incorporated society representing professional paua divers in Otago-Southland. This opinion piece first appeared in the Otago Daily Times.

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Previous page: Seals relaxing on an area of quake-uplifted Kaikoura coastline. Image: Tom McCowan. Above: Tagged paua in a monitoring site.

“If the public begin fishing it they will simply be mopping up the remaining survivors, many of which are now in very shallow and accessible water.”

Paua fisheries still feeling quake affects

Matt Atkinson

As roads are repaired and businesses slowly get back to normal, fisherman along the Marlborough coastline are still facing difficulties.

Professional paua divers are still not in the water, with the idea of returning back to work still a far-off prospect.

PAU3 (Kaikoura) and PAU7 (Marlborough) have been under a harvesting ban since November 20, with it set to continue to February 20.

PAU7 has around 15 percent of the fishery closed, whilst PAU3 has been hit the worst with half the fishery subject to the ban.

PAU3 Industry Chairman Jason Ruawai said the juvenile paua population took a massive hit after the coastal uplift.

Under regulation 16 of the Fisheries Act, MPI are able to shut down a fishery for a year, something they are pushing for, Ruawai said.

“It’s critical that the surviving adult paua be left alone to spawn so that re-populating the remaining habitat can

begin.

“If the public begin fishing it they will simply be mopping up the remaining survivors, many of which are now in very shallow and accessible water.”

With half of PAU3 closed by the harvesting ban, industry chose to shelve the remaining 35 tonnes of annual catch entitlement to stop unnecessary pressure on the rest of the fishery.

“To achieve a shelving mid-season is financially crippling for some members as it means that individual divers and family businesses, who have bought catch rights for a year, are now voluntarily not catching their entitlement for the good of the fishery.”

Paua Industry Council Science Officer Tom McCowan said to understand the extent paua stocks were affected by the earthquake, they identified three key areas along the coast.

“We set up three scientific monitoring sites within each identified area and tagged and counted paua to get a baseline of adult abundance and biomass,” McCowan said.

“In the long run we can compare the data and it’ll give us the best reflection of what’s going on down there and how it is recovering.”

“Our next priority is to undertake surveys of the new juvenile paua habitats. It’s the loss of juvenile paua

and habitats that’s our primary concern.”

There are around 60 professional paua divers working in the region.

PIC Chairman Storm Stanley said the Government played a major role in reducing the financial burden of the ban.

“The support package provided by the Government to quake affected businesses is proving a lifesaver for many small and medium-sized Kaikoura-based businesses, including small family fishing operations,” Stanley said.

The support package is due to end in April.

On the other hand, rock lobster has fared rather well.

CRA5, a \$28 million a year fishery, was initially subject to a one-month harvest ban that was lifted on December 20.

NZ Rock Lobster Industry Council Chief Executive Daryl Sykes said it had been business as usual since.

“There hasn’t been any change to the abundance or catchability of rock lobster in the region due to the earthquake.

“There have been some delays getting the product out due to slips, but by and large it’s flowing quite freely.”

There are 29 commercial vessels fishing in CRA5, with 14 working in the earthquake-affected area.

"catch fish...not cables"

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

New Zealand is a very isolated nation and as such is extremely reliant upon global communication via submarine cables. Here in New Zealand over 97% of all international communication is carried via submarine fibre optic cables. These cables are a key component of New Zealand's infrastructure and play a significant role in our everyday lives, the general economy and future growth of New Zealand.

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

These areas are:

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

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



**Spark
New Zealand**



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

What should you do?

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

What happens outside the prohibited areas?

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

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

Note this number:

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

Symbols Relating To Submarine Cables

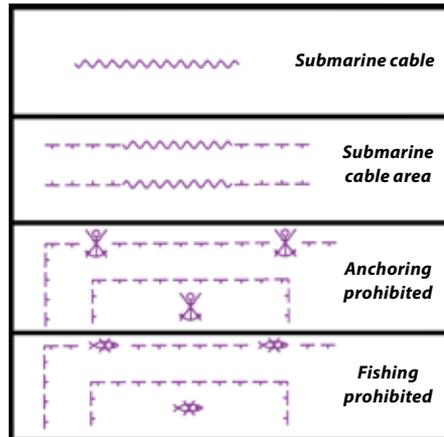


Figure 1.

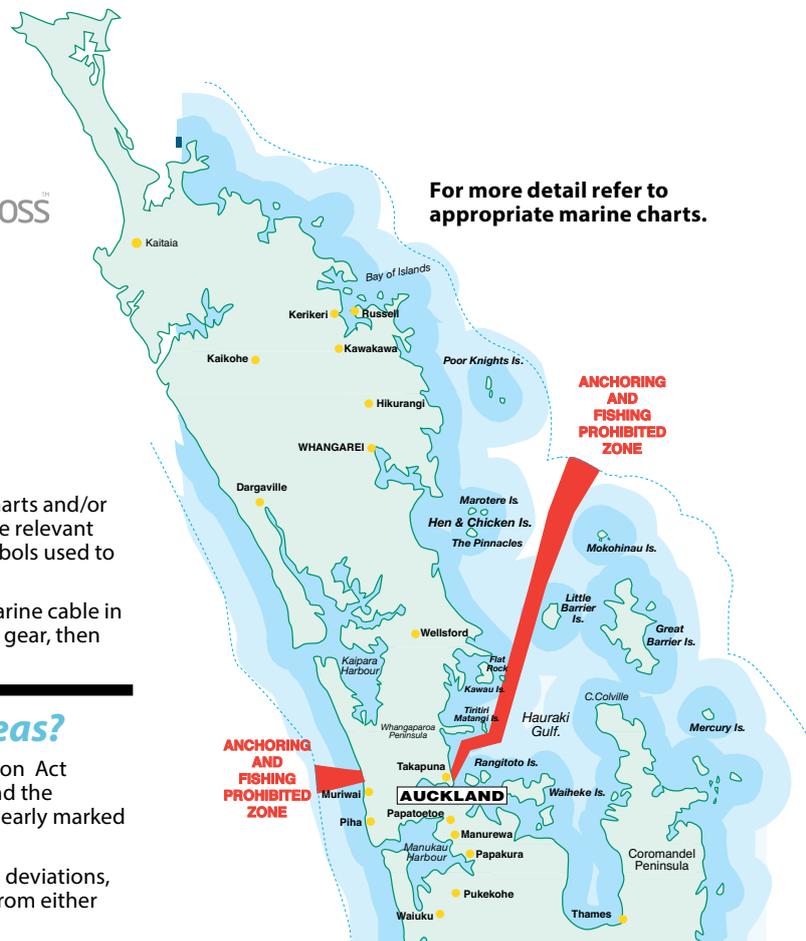
These are some of the penalties

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

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

Be Aware

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



For more detail refer to appropriate marine charts.

Sunderland Marine clocks three decades in aquaculture

Sunderland Marine has marked 30 years of insuring fish farms, which it says is significantly longer than any other global insurer in this sector.

The company, which is also a major fishing vessel insurer, is based in Newcastle upon Tyne, UK, with regional offices in New Zealand, Australia, Canada and the US.

Chief executive officer Tom Rutter

said Sunderland believed its market position reflected its clients' confidence in the quality and security of the cover it provided.

"Since we wrote our first policy for Pairc Salmon fish farm off the north-west coast of Scotland in 1986, the global aquaculture industry has grown from 10 million to 75 million tonnes a year, now representing approximately 50 percent of all fish supplied for direct human consumption."

He said aquaculture insurance was a high-risk and specialist business. "In the last 30 years many competing insurers have come and gone in the wake of heavy losses. The largest aquaculture companies produce millions of fish a

year and ensuring they are raised in optimum growing conditions, including protecting them from predators and natural perils, is no mean feat. Insuring them is just as challenging."

Sunderland Marine became part of North Group in 2014 following its merger with North P&I Club, which also has offices in China, Greece, Hong Kong, Japan and Singapore.



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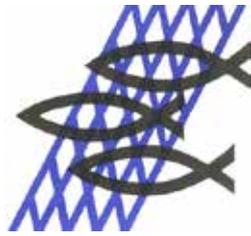
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NEW ZEALAND FEDERATION OF COMMERCIAL FISHERMEN

59th Annual NZFCF Conference and Annual General Meeting

Novotel New Plymouth, Corner of Hobson and Leach Streets, New Plymouth

Registration Form

	Number Attending	Cost <i>(All prices are per person and include GST)</i>	
Thursday 1 June 2017			
Conference Registration	No. _____	\$150 each	\$ _____
Shipwreck Auction, Fish & Chip Tea	No. _____	\$ 50 each	\$ _____
Friday 2 June 2017			
59 th Annual General Meeting	No. _____	<i>(No charge)</i>	
Partners' Programme	No. _____	<i>(No charge)</i>	
Guest Speaker/Happy Hour	No. _____	\$ 30 each	\$ _____

Make cheques payable to: NZ Federation of Commercial Fishermen (Inc) Post to: PO Box 297, Wellington 6140
Pay by direct credit - Bank Account Details: 02 0568 0412470 00 (BNZ). Please include your name as a reference.

Name(s): _____

Partner Name(s): _____

Address: _____

Phone Number: _____ Mobile Number: _____

Fax Number: _____ Email: _____

Please Note: All persons attending the conference, in whatever capacity, are required to pay the Registration Fee.
A late cancellation fee may apply. For more information visit the NZFCF website www.nzfishfed.co.nz.

NOTICE OF MEETING

The 59th Annual General Meeting of the New Zealand Federation of Commercial Fishermen (Inc) will take place on Friday 2 June 2017, at 10.30am at the Novotel New Plymouth, Corner of Hobson and Leach Streets in New Plymouth.

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LOA 17.6m x B 4.8m x D 1.1m 24t load capacity
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Galley with gas stove. Toilet.
Hiab 122/CLX 3.7t. VHF, Radar, Plotter
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adjust price **\$350,000**

#4899 IMAGE FISHING, CRAY, CHARTER WORK

LOA 18.3m x B 5.5m x D 1.2m 1996
2 x Detroit 8V92 1300hp total
2 x auxiliaries
3 station steering
Max 22 knots
5 berths, Galley, aircon, Good electronics
Zodiac, 16 man liferaft,
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#4914 WET FISH STERN TRAWLER

Built Norway 1994
Reg Length 23.96m x B 8m
Caterpillar 3512 DITA main 1360hp
2 x auxiliaries. Bow thruster. Fuel 45 m3
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+ 12 mile fishing
\$700,000



#4908 AUST TRAWLER
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2 x Iveco 328 kW rebuilt.
2 x Aux. 400 box cool room
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Survey Nov 2016.
Would make a good liner.
POA

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