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Workplace training, time to look under the hood
Promising outlook for seafood sector



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EDITORIALS

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From the Chief Executive

This issue's pcover feature marks the importance of Tauranga as a one-stop shop for all things marine. The facility, Vessel Works, was established in 2018 and currently has 120 full time employees that service a mixture of fishing vessels and recreational craft. Again, this highlights the importance of the seafood industry in supporting economic activity and employment all over New Zealand.

The August issue also coincides with our annual Seafood Conference in Wellington. The theme for this year is Seafood for a New Generation. Like the Conference programme, this issue highlights some of the innovation, technology, and new thinking that the industry is progressing to cement our place as an environmentally responsible industry, and an economically and socially important contributor to the country.

Innovative fishing techniques are the subject of a study conducted by Dr Steve Eayrs who took a closer look at Moana NZ's contract fishers. The study provides a great example of the thoughtfulness and creativity that fishers employ to make their gear more selective, lighter on the seabed, and less likely to interact with protected species.

Our environmental credentials are also detailed in research on the carbon footprint of our deepwater fisheries. We all know that seafood is a great source of healthy protein, but it's also one of the lowest in terms on CO2 production, another big tick for environmentally conscious consumers. And for those concerned about recent reports that trawling releases vast amounts of CO2 from the seabed, that fable has been debunked in research from the University of Washington which is also summarised in this issue.

Looking further to the future, we detail how advances in data acquisition, analysis, and the use of artificial intelligence are making their way into the sector. Real time observations at sea and smarter supply chain monitoring are early examples that show the potential value in smart data analytics. The next test is what value can be added from cameras on vessels that are due for roll out in August.

Also a highlight in this issue are our people, the mainstay of the seafood industry. Health and Safety remains paramount, and we look at two organisations making big advances: NZ Fishing Health and Safety Forum, and FirstMate. We also feature the big winners in the Primary Industries Sustainability Awards. It's the passion and dedication of all those in the industry that bring you're the world's most sustainable and healthy protein. Tuck in.

Dr Jeremy Helson
Chief Executive



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Thoughtful and innovative Moana fishers



Dr Steve Eayrs at Mooloolaba.

These are the words from Dr Steve Eayrs, director of Smart Fishing Consulting, one of the world's leading and respected researchers in the development of sustainable fishing technology, in a new study published by Terra Moana Ltd on fishing practices used by Moana New Zealand's contract fishers.

Moana New Zealand (Moana) have embarked on a journey to lighten our harvest footprint. This includes understanding how and where we fish today, how and where we fish in the future, and how innovative fishing techniques can lighten our footprint.

Moana New Zealand is a seafood business owned by all 58 iwi in Aotearoa, and our contract fishers are regionally based with most being intergenerational businesses.

A key element of this journey was interviewing contract fishers about their current practices. The new study conducted by Dr Steve Eayrs and Terra Moana's Tony Craig, reveals Moana contract fishers are leading the way by voluntarily implementing innovative fishing gear and techniques to reduce their impact on the seabed.

Implementing innovations can be a risky business for our contract fishers. There are no guarantees of success and failure can mean loss of catch, damage to fishing gear, lost fishing time and other economic losses.

However, one of the key findings from the study found unexpected innovations used by Moana contract fishers may have wider applications, and

the authors revealed this is evidence of a thoughtful and innovative group of individuals.

Fishers reported other modifications that also provided environmental benefits. Many individuals had modified their codend to reduce the capture of small or unwanted fish, while several reported using low opening trawls to avoid the capture of species such as snapper and trevally.

Presumably such trawls simply pass below many fish swimming near the seabed, thus avoiding their entry into the trawl. Some fishers also reported using trawls designed with little or no verandah (overhang) in the top panel of the trawl. This modification provides fish near the seabed an opportunity to rise from the trawl mouth and swim over the trawl.

The majority of fishers had moved away from steel wire warps and sweeps in preference to softer Dyneema, a high strength polyethylene twine.

One individual reported that since replacing his wire trawl warps with pink Dyneema warps that the risk of seabirds colliding with the warps had been dramatically reduced, presumably because they are easier for the seabirds to observe and avoid.

Some of these modifications have resulted in win-win outcomes for the habitat and the fisher, including fuel savings, ease of gear handling, less wear and tear on the gear and improved catch quality.

These results are a great example of when innovation just makes good sense.



Tony Craig.

The authors of the report were surprised and impressed by the enthusiasm and progress made by all fishers in this study to change their fishing gear to reduce seabed contact.

The information within the report is essential to help identify modifications that may be introduced in the future to further reduce seabed contact

and it also serves as a baseline against which future modifications can be considered, contextualised, and perhaps, voluntarily introduced by fishers.

It also highlights the challenges that fishers face trying to balance ongoing innovation in this space with the realities of the daily commercial fishing pressures.

Government shouldn't be the only pathway for funding and innovation. Fishers and industry organisations seek to partner with the financial sector to develop sustainable financing models that enable ongoing innovation towards improving practices.

The industry also need support from as many stakeholders to build social license around these innovative practices. The industry is not the same as it was 20 or 30 years ago. It's the same innovative and thoughtful regional fishers today who face an uphill battle with intense public scrutiny when it comes to targeted environmental campaigns aimed at their livelihoods on top of the numerous issues confronting them that include compliance and the environment.

It's worthwhile for everyone invested in the health and future of Tangaroa to work together for a prosperous and positive outcome for future generations in Aotearoa.

"I was surprised and encouraged to hear of the progress Moana New Zealand contract fishers have made towards reducing trawl impacts on the seabed," says Eayrs. "They have made great strides replacing many trawl components with light-weight materials and operating their trawl gear in a way to minimise seabed impacts. Many are eager to make further progress and their efforts should be lauded and promoted widely."

To read the summarised report conducted by Terra Moana Ltd and Dr Steve Eayrs, go to:

<https://moana.co.nz/news/review-of-moana-new-zealand-contract-fishers-gear-and-practices-reveals-notable-progress-on-reducing-seabed-contact/>

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Health & Safety: Collaboration is key



NZ Fisheries Health and Safety Forum meeting.

With commercial fishing identified as one of the five high risk industries in our economy, the New Zealand Fishing Health and Safety Forum has grown from a group initially composed of the major deepwater fishing companies of Sanford Limited, Sealord Group Limited, Talley's Group Limited and Independent Fisheries Limited to a collective including other deepwater companies, such as Maruha and Jaico, and stakeholders from all fields within the inshore fisheries, represented by the Federation of Commercial Fishermen.

Together with the two main regulators, Maritime New Zealand and the Ministry for Primary Industries, the Forum, now a decade in the making, is truly representative of the industry providing the best platform to improve overall health and safety

across all facets of the industry.

Health and safety is not an arena in which we compete. Rather it is where we can work together to improve the overall safety of all our people, be they employers, employees, or contractors.

In taking a leadership role and by working proactively on agreed projects, keeping abreast of the changing political and regulatory landscapes, sharing information and initiatives, such as lessons learned from accident and incidents, the Forum aims to develop 'best practice' thereby providing a sustained and continuous improvement of safety standards across the NZ fishing industry.

Every worker in the fishing industry, whether shore based or at sea, has the right to go home safe, healthy and intact. Planning for this consumes

a lot of personal time but the Forum members are committed to this aspirational goal.

Maritime New Zealand and the Ministry for Primary Industries are frequent participants in Forum meetings. It is essential that Forum members are kept up to date with the ever-changing roles and regulatory climate, working collaboratively where health and safety affects all persons on both sides of the regulatory fence.

For some years, the Accident Compensation Commission (ACC) have been making grants available to organisations carrying out projects where innovation is helping improve workplace health and safety problems affecting businesses and employees within their field.

One such project to receive a grant was MarineSAFE, a result of the collaborative approach between the NZ Federation of Commercial Fishermen and Guard Safety and supported by the Forum.

MarineSAFE is a video-based training programme which uses fishing footage to support learning around risk management to reduce injury rates while improving wellbeing and safety outcomes in the commercial fishing industry.

The MarineSAFE modules are simple to use and



NZ Fishing Health and Safety Forum

accessible with all devices supporting both skippers and crews with induction, initial and refresher training, and relevant compliance

requirements under MOSS and HSWA. For every module you complete, you get a certificate to add to your training profile.

The Forum also has a close connection with FirstMate. FirstMate is about staying 'ship shape' by managing your mental health and wellbeing by providing you with coping strategies and one-on-one support for when times get tough. Mental health and wellbeing is a vital part of workplace health and safety.

Recognised for this collaborative work within the fishing industry, the Forum was one of three finalists in the 2023 New Zealand Workplace Health and Safety Awards under the Leadership category (sponsored by ACC), the other two being KiwiRail and the Port Industry Association.

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Safe, sustainable and cost effective – how IoT and AI is transforming the seafood industry



Realtime Dolphin monitors ready for deployment.

How can New Zealand's seafood industry become safer, more sustainable and more cost-effective? Disruptive technologies are transforming the way we catch, monitor and store seafood, helping drive the industry toward a better future.

Using artificial intelligence (AI), to analyse data from devices connected to the internet of things (IoT), systems can now provide seafood businesses with essential information to help them succeed.

Precision seafood harvesting and aquaculture

With a set of sensors in the water, a seafood business can be receiving a wealth of information about the water and the wildlife within it. This allows for more accurate harvesting of aquaculture, with reduced waste and more streamlined processes.

This is already being used in offshore salmon farms, where cameras and water-quality sensors can

monitor the health and growth rate of the animals. IoT devices capture the information and AI provides an automated analysis.

Smart buoys can also provide commercial vessels with information on the location of schools of fish, the approximate number of fish, and the species. This means vessels can focus on the species they are targeting and avoid catching juveniles, which promotes sustainable fishing.

World-leading AI on commercial vessels

Spark Business Group has been appointed prime supplier by the Ministry for Primary Industries (MPI) to manage the rollout, training and support for the installation of on-board cameras on New Zealand in-shore fishing vessels.

Richard Adams, CCL CEO says, "we are excited to support this project, which aims to promote more

sustainable business practices on fishing boats and support the conservation of protected ocean species using the power of technology.

"Combining on-board cameras with IoT, artificial intelligence and machine learning, cloud computing, and data and analytics, will provide clearer, independent data to help inform policy decisions, scientific research, and fisheries management.

"Spark Business Group is uniquely positioned to deliver this innovative and secure technology solution, because we can bring together expertise across the full spectrum of modern and emerging technologies through a highly effective 'one-supplier' operating model."

The program leverages the strong capability of Spark Business Group, including services, skills and expertise from across Spark, Spark IoT, Qrious, CCL, Leaven and Entelar

Tracked vessels and products improve efficiency

A vessel, a forklift, or a shipment of hoki – seafood businesses can now track all these items, from small to large. With IoT technology, any one of these assets can be connected to a network and receive real-time data about its location and condition.

This allows businesses to follow the movement of vessels, improve fleet management, and optimise fuel use. Analytical models let decision-makers make real-time adjustments, boosting efficiency and profitability within the business.

The condition of the asset can also be tracked, including its temperature and humidity. An IoT device on a shipment can provide a text alert if the temperature or humidity exceed set points, allowing the asset owner to act fast to prevent spoilage.

Securing the long-term future of the seafood industry

Our teams at Spark and Qrious are turning the latest tech innovations into real-life tools that Kiwi businesses can use to improve their outcomes. Both companies are leaders in their respective fields, with ground-breaking work in IoT and AI across the economy and throughout the seafood industry.



Realtime Dolphin monitor in Lyttelton Harbour.



How AI is protecting the Māui dolphin

The Māui dolphin is the world's rarest dolphin species – with around 50 individuals left, they are rarer than kiwi and critically endangered. Each dolphin is precious, and although stringent management by MPI has all but eliminated risk from fishing, we still need to carefully monitor these dolphins and ensure fishing occurs well away from their core habitat.

We now have a new tool in the fight to protect the smallest dolphins in the ocean: artificial intelligence. Qrious has worked with MAUI63 (a not-for-profit tech company dedicated to protect the species) to develop a drone that identifies and tracks Māui dolphins.

The drone recognises a Māui or Hector's dolphin, distinguishing them from other species with over 90% accuracy. The drone follows the dolphin, so the remaining population can be mapped. Using this data, Qrious is working to predict where dolphins will be.





Data buoy ready for deployment in the Firth of Thames at the Westpac Mussel farm.

Real-time data delivers outstanding results for Westpac Mussels

Mussels can only be harvested when ocean salinity is in the Goldilocks zone: not too high and not too low. In the past, salinity was measured via inaccurate and delayed rain data, or using legacy data buoys that need weekly cleaning.

Now there's a better way. Working with Spark IoT, Westpac Mussels has switched to new data buoys that deliver salinity data every 40 minutes. The Westpac Mussels team accesses the information on a phone app or online.

The result has been fewer missed opportunities and more harvesting time. As a bonus, the buoys only need cleaning eight times a year instead of 50, saving additional time and money.

Texts from dolphins at SailGP

The SailGP event in March 2023 brought nine F50 foiling catamarans and 200 spectator boats to Whakaraupō Lyttleton Harbour – great news for Kiwi sport, but a risk to the local marine mammal population.

Luckily, Spark and Styles Group had a solution: buoys around the race that provided acoustic monitoring and detected any dolphins from as far away as hundreds of metres from the race zone. When a dolphin was detected, the system would send a text, and track the dolphin so race organisers knew where it was and could take action.

"It's as if the animal comes into the bay and sends a text message to let you know it's there," Dr Matt Pine, Principal Scientist of Underwater Acoustics for Styles Group says. "The 'voice' part of the system is the communication network provided by Spark, which gave priority to the network so it would never drop out.

"If there's an animal there, we have to know about it."

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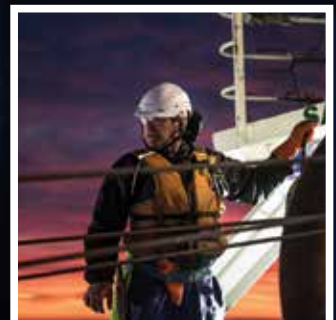
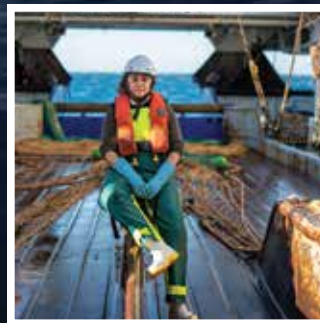
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- Developing climate impact predictions for marine heatwaves and other extreme events through AI and modelling.

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To learn more about our work, contact:

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Bottom trawling carbon emissions claims scientifically debunked

Expert marine scientists always knew a claim bottom trawling releases as much carbon as the entire global airline travel were preposterous. Now they have officially debunked it. Tim Pankhurst reports.

It has been more than two years since a startling claim was made that seabed trawling releases as much or more carbon than all annual air travel.

Experts in the field were dismayed at such an astounding finding by a group of 26 international scientists led by Enric Sala. Even more so that it had been peer reviewed and published in the respected scientific journal *Nature*, prompting unquestioning widespread global coverage in mainstream media.

The claim has now been officially debunked but one could be forgiven for missing that fact. Rebuttals rarely if ever gain the publicity given to the original report, especially if it is attention grabbing and plays into public fears.

The wheels of academia grind slowly. It took a

year for *Nature* to publish a retort to the article by University of Washington Professor at the School of Aquatic and Fishery Sciences Ray Hilborn and Heriot-Watt University Professor at the Institute of Life and Earth Sciences, Michel Kaiser, and it was not until May this year that *Nature* published a comprehensive and credible rebuttal led by Prof Jan Geert Hiddink at the School of Ocean Sciences at UK's Bangor University, that dismantled the original claims.

Hiddink argued the Sala model was so erroneous because the fundamental assumptions of the carbon cycle were incorrect, and the validation of these assumptions were also incorrect.

Effectively, the Sala group's claim that bottom trawling was adding between 600 to 1500 million

tonnes of CO₂ emissions to the atmosphere versus 918 million tonnes from global aviation in 2019, could simply not be validated.

The formulation of the startling conclusion is almost impossible for lay persons to follow – and it would seem many scientists as well – involving as it does mathematical formulae and complex computer models, but its proposition is straight forward.

That is that bottom trawling releases carbon from the top layer of sediment that the net skims that is comparable to the buried carbon levels in deeper layers.

That is a fundamentally incorrect judgement that has led to an overstate-ment in the amount of carbon released by the order of 100 to 1000 times, according to Ray Hilborn, and others distinguished in the field.

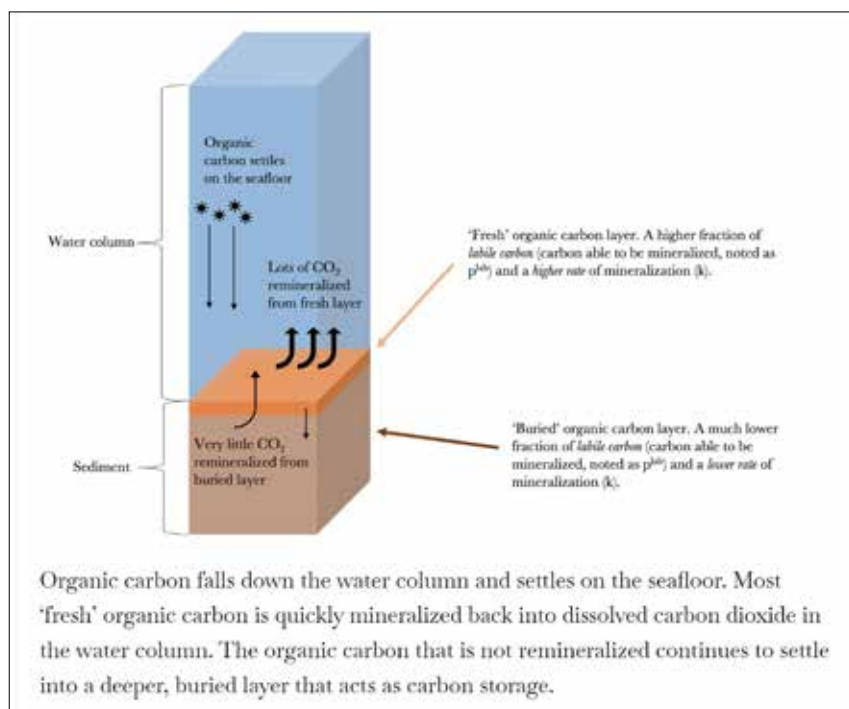


Diagram debunking the carbon trawling alarm.



Jan Geert Hiddink's research refutes the Sala claims.

Ray Hilborn, the keynote speaker at the Deepwater Symposium on Seafood Production that was held in Wellington in February this year, was typically forthright, labelling the trawling CO₂ claims "preposterous".

Once Hiddink's paper was finally published in *Nature*, Hilborn followed up with a blog titled: "Officially bogus:

Bottom trawling does not release as much carbon as airline travel."

Hilborn argues that if the Sala group's assumptions were correct, there would be much less carbon on the seafloor in trawled areas versus untrawled areas.

A desktop review paper published in 2022 by University of Exeter environmental scientist Dr Graham Epstein *et al.*, provided equivocal results, noting that of 49 papers examined, 61 percent showed no significant difference, 29 percent reported less organic carbon storage in trawled areas and 10 percent reported higher amounts of carbon stored after trawling.

"The review strongly suggests that the Sala *et al* 2021 model is critically flawed and supports the assertion by Hiddink *et al* 2023 that the model is astronomically off-base (2-3 orders of magnitude," Hilborn says.

"When an organism in the ocean dies, no matter how big or small, it starts to sink.

"On its way down, and after it has landed on the bottom, the organic carbon that formed the organism is broken down by microbes in seawater and other organisms feeding off it. The carbon is mineralised from solid organic carbon into its more basic form, CO₂, dissolved in seawater to be used again by alive and growing organisms.

"Only a tiny portion of the sinking organic carbon reaches the ocean floor, but when it does, bacteria and benthic invertebrates quickly consume most of it and respire CO₂ back into the water column. Nearly all organic carbon on the seafloor is mineralised within weeks.

"However, some carbon slips through and is eventually buried further down in the sediment, where less oxygen is present and mineralisation is

significantly slower. This buried layer may serve as a carbon storage facility that helps regulate global carbon cycles and, thus, climate change.

"This is the key mechanism explored in Sala *et al* 2021: how much buried organic carbon is exposed and remineralised into CO₂ because of trawling?

The plentiful carbon in the seabed that was attributed to release by bottom trawling may actually be buried carbon in layers that are deeper than those largely accessible by bottom trawling.

"The critical flaw in Sala's model was treating all sediment the same, disregarding the significant differences between buried carbon and the fresh, top layer."

In response to the Hiddink and Epstein critiques, the Sala authors were unrepentant. They did acknowledge their model was dependent on assumptions but maintained their conclusion was valid.

Another top scientist to contest the Sala claims is Professor of Geochemistry and head of the

"Only a tiny portion of the sinking organic carbon reaches the ocean floor, but when it does, bacteria and benthic invertebrates quickly consume most of it and respire CO₂ back into the water column. Nearly all organic carbon on the seafloor is mineralised within weeks."

Department of Earth Sciences at Utrecht University, Jack Middelburg, a leading ocean biogeochemist and a co-author of the Epstein research.

"I agree with Hiddink *et al* regarding the inconsistent, unrealistic premises underlying Sala *et al* sediment respiration enhancement due to trawling," he says.

He doubts a sediment biogeochemist was consulted in the peer review process that allowed such a flawed paper to be given credence.

Hilborn says it was the poor assumptions about the mineralisation rate of carbon that made the Sala model so inaccurate by such an extreme.

"This puts into question all three models used in Sala *et al* exposing them to severe and legitimate criticism," he says. "The assumption that the top

"Making an equivalence between air travel and trawling is dangerous as it takes our attention away from real solutions that work, reducing fossil fuel emissions."

layer of sediment mineralises fresh carbon like deeper sediment is nearly indefensible and should have been caught in peer review."

To Hilborn's mind, that failure is another aspect of an unsatisfactory scientific process.

"The peer review process is confidential, so we don't know how the process played out or who was chosen to review Sala *et al* 2021 before it was published but I think it is fair to say that it was botched," Hilborn says.

"Reviewing complex computer models is hard and the pool of scientists who can adequately review them shrinks with increasing complexity.

"Sala *et al* had three complicated computer models. In a perfect scenario there would be at least one reviewer for each model with extensive knowledge of the model assumptions. The only peer reviewer to sign his name does not appear to have any quantitative modelling experience, based on his Google Scholar page."

Even more disturbing for the seafood industry and all those that rely on it, Sala and his colleagues have a wider agenda.

That is advocating for an increase in the number of marine protected areas (MPAs) that restrict fishing, in line with the 30x30 movement to protect

30 percent of the world's oceans by 2030, selling it as a climate change solution via carbon sequestration that would also increase biodiversity.

They further suggested selling carbon credits from the imposition to MPAs to fund the creation of more MPAs.

Hilborn responds that the biodiversity and carbon claims are based on the

assumption that fishing that took place in newly protected areas simply disappears, rather than it more likely being displaced, putting more pressure on remaining areas.

He believes such unsubstantiated claims are dangerous. "No model demonstrates the potential harm of Sala *et al* 2021 more than their flawed carbon model," he says.

"The unrealistic expectations about the number of potential carbon credits generated through MPAs could lead to increased carbon emissions.

"I worry that governments or NGOs would consider counting an imaginary reduction in CO2 emissions by trawling to offset real CO2 emissions from other activities. Imagine if the airline industry paid for an end to trawling to make airline travel 'carbon neutral' based on Sala *et al*.

"Giving a pass to real emissions to fund more MPAs would be terrible for the ocean and the planet."

Gordon Holtgrieve, an ecosystem ecologist and associate professor at the University of Washington's School of Aquatic and Fishery Sciences, is equally forthright in condemning the Sala-led claims.

"The authors draw a straight line between a decrease in sediment carbon storage and an increase in atmospheric CO2," he says. "That line is not at all straight and involves numerous untested assumptions.

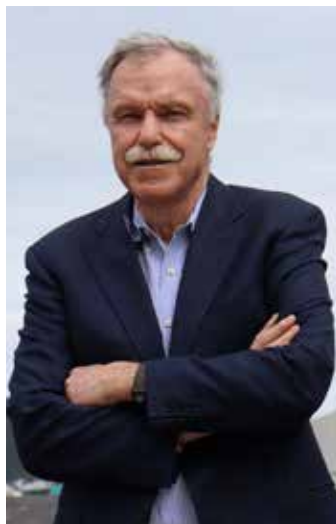
"This framing is highly disingenuous because air travel emits a large and well-known amount of CO2 straight to the atmosphere, where it alters the climate. The amount of CO2 released from trawling is highly uncertain and it's possible that only a small fraction gets to the atmosphere.

"Making an equivalence between air travel and trawling is dangerous as it takes our attention away from real solutions that work, reducing fossil fuel emissions.

"The authors know this and are complicit in this deception."



Enric Sala using seabed trawling carbon claims to advance the MPA agenda.



Prof. Ray Hilborn – forthright in contesting dubious science.

Keeping it light – seafood's small carbon footprint



Dr Stewart Ledgard presented the findings of the carbon lifecycle study at the Symposium on Seafood Production earlier this year.

The average carbon footprint of wild-caught fish harvested and processed at sea by New Zealand's deepwater fishers is estimated to be one of the smallest among animal-based protein sources.

This is evidenced in a study by Crown Research Institute AgResearch senior scientists Dr Stewart Ledgard and Dr André Mazetto, released by Seafood New Zealand's Deepwater Council.

The scientists measured the average carbon footprint – a key indicator of sustainability – of seafood such as hoki, orange roughy, jack mackerel and squid harvested on 21 deepwater vessels between 2021 and 2022.

The study concluded that:

- Fish from New Zealand's deepwater harvest has one of the smallest average carbon footprints, compared to other seafood with an average footprint of 1.19kg of carbon emissions (equivalent measure) per kilogram of whole fish. This is one of the lowest carbon footprints in the world (see Table 1 on the right).
- For comparison with other edible products, the study extended the deepwater fishing footprint to include edible fish fillets that were processed on

board. Even here the study found the footprint to be still one of the lowest in the world for edible protein, at 2.24kg of carbon dioxide per kg of edible protein. Only seaweed and farmed shellfish have a lower carbon footprint (see the bar graph on page 18).

- Fish from New Zealand's deepwater harvest has the lowest carbon footprint (kg of carbon emissions compared to 100g of protein) among commonly consumed animal protein/foods produced in New Zealand (including New Zealand beef, dairy beef, sheep meat, milk, farmed oysters and mussels).

	kg CO ₂ e / kg catch	
	Simple	Weighted
Fuel	1.38	1.14 (0.37-3.19)
Refrigerant	0.04	0.04 (0-0.21)
Vessel	0.01	0.01 (0.007-0.013)
Total	1.42	1.19 (0.38-3.28)

Table 1: Simple and weighted averages (based on the total catch for each vessel) for the carbon footprint per kg of catch (or kg of greenweight landed fish) for all 21 vessels. Bracketed values refer to the range between vessels.

DEEPWATER COUNCIL

A global literature review (a critical evaluation of a wide range of what other researchers have written about the same topic) concluded that deepwater fish like New Zealand hoki has a smaller footprint than beef, sheep, milk, pork and poultry.

The main source of greenhouse gas emissions (92 to 95%) is fuel, followed by refrigerant use (3-6%), packaging (2-3%), and the life cycle of the vessel (1%) (see Table 1).

SNZ Deepwater Council general manager Aaron Irving says the research was commissioned to enable the seafood sector to better understand the carbon footprint of our deepwater fleet, to demonstrate the sector's commitment to reducing its energy consumption, and to assist in introducing lower carbon solutions for our deepwater vessels.

"We know that New Zealanders love eating seafood, but we also know that they want to understand the carbon footprint of the food they choose to buy and eat," Irving says.

"When we were looking to commission this study, we asked the team at AgResearch to do it, because they are New Zealand's best scientists in this field, having undertaken remarkable work to calculate the

carbon footprints of dairy, beef, lamb and milk.

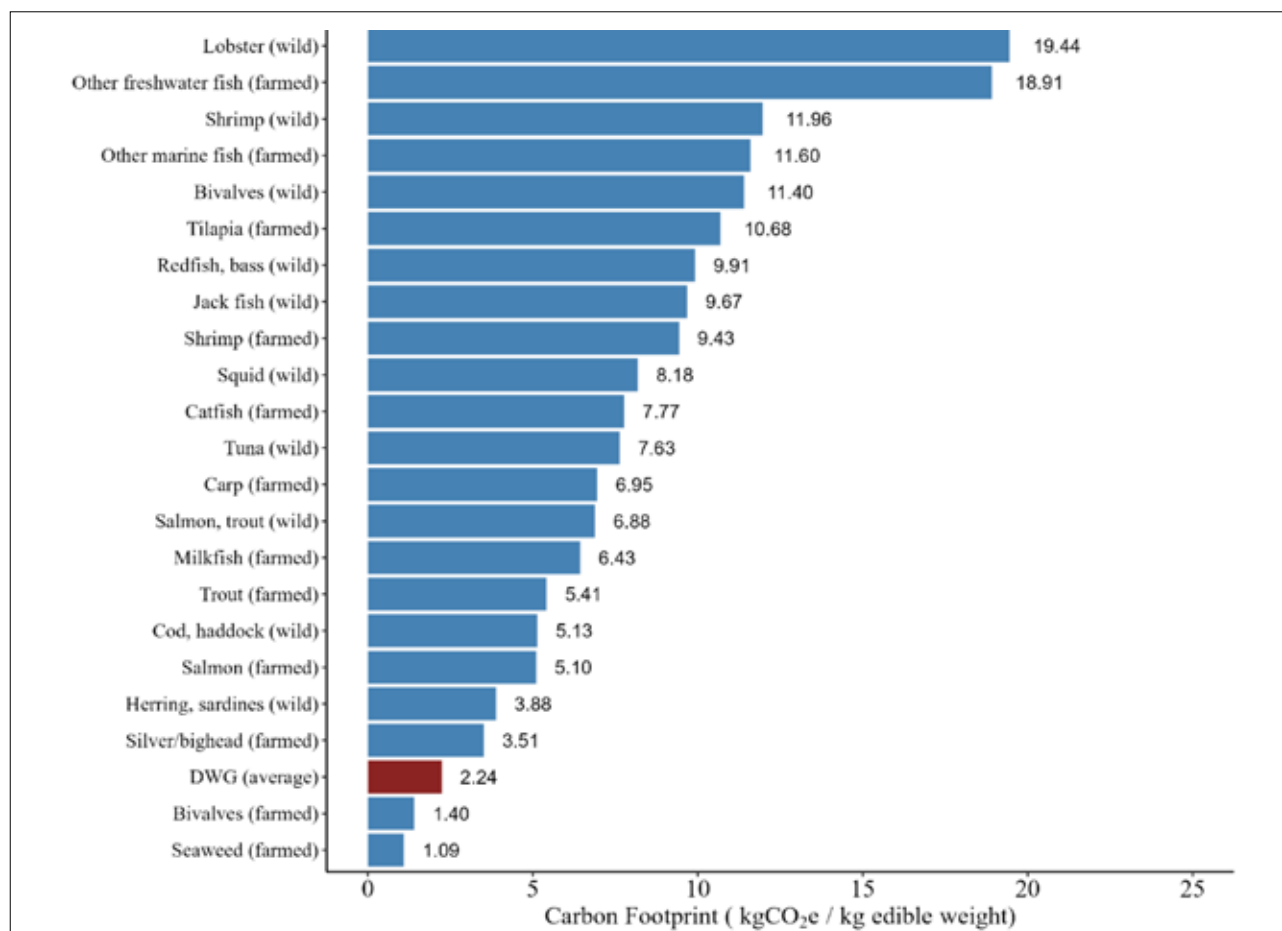
"We are excited that consumers have increasing access to the most up-to-date science and information about the foods they choose because we know that the fish we catch is sustainable, now we know that it is a low-carbon choice."

About the methodology

A 'cradle to gate' Life Cycle Assessment was used to estimate greenhouse gas emissions produced during all activities necessary for fish harvest and production – from a vessel's construction to the end of its voyage when the fish is landed at New Zealand wharves:

- vessel construction, maintenance and end-of-life processing
- travel to and from fishing grounds
- catching of fish, onboard preparation of fish (gutting, filleting and packaging)
- on-board refrigeration

The scientists used the most recent LCA methodology guidelines for wild fish, and the latest IPCC global warming potential factors, to calculate a footprint in 'carbon dioxide equivalent' measures.



Bar graph: New Zealand's deepwater trawl harvest ('DWG') compared to international examples of wild-caught and farmed seafood products, using data from more than 2,690 fish farms and 1,000 unique fishery records worldwide (Gephart et al, 2021).

When a tree falls....

Richard Wells

An old riddle asks, *"If a tree falls in the forest with no ears to hear, does it make a sound?"*

The riddle is ancient, and one answer could be *"Ask not of sound, but of loss of nature..."*.

This story is about the ripple effect of impacts on seabirds on the high seas and waters in other State jurisdictions. We are all now well versed in New Zealand being the seabird capital of the world due to the number of species and sheer abundance of seabirds breeding here, in what was in that past a relatively safe nursery ground with no land predators. These albatrosses, petrels and shearwaters travel east, west, north or circumpolar based on flight paths established by their ancestors and encoded in their DNA.

In our own short time frame, the last 30 years have seen the development and use of processes and tools to reduce our mortal effects on these birds. The last 20 years in particular have seen strong acknowledgement, investment in, and advancement of seabird bycatch mitigation. Generally, this has been focussed on our fleets in the EEZ. We have had, plenty on our plate in that space and the work continues.

However, we cannot ignore growing evidence that many of our seabirds are threatened by impacts occurring over our EEZ horizon. Effort, information and international management frameworks are all increasing

in the Pacific. We now have more certainty from vessel position data, seabird tracking, limited observer coverage and population monitoring that certain species are being impacted to significant levels.

Antipodean albatross is the unwitting and unfortunate poster child for this with particularly low survival of females based on banded birds returning to breed – these birds tend to forage to the northeast of New Zealand waters. But also, in recent years the southern Buller's albatross, a species that breeds on The Snares – Tini Heke, and which was increasing, now has a poor adult survival, again based on real field data, not modelling. These birds overlap with pelagic longline fishing in the Tasman Sea as well as other fisheries off South America. Several other albatrosses that feed in these same waters have a similar report card.

Recently I undertook a review for Southern Seabirds, looking into seabird risk reduction programmes and operational implementation of such across the wider western Pacific south of 30° latitude (approximately 3300km south of the equator for the more lubberly of you). This area is deemed the highest risk of overlap with seabirds. This was a rather daunting and very enlightening piece of work.

What did I learn? Scale. Huge ocean, large fleets which were hampered by Covid but are on the rise again, multinational and cultural owners and crew, and



High seas fishing fleets are on the rise again after Covid. Image Francisco Blaha.



Crew on a high-seas fishing vessel. Image Fransisco Blaha.

ports spread across long distances. This is coupled with a variety of agencies and bodies “owning” the bycatch problem and a competitive marketplace. Amongst this backdrop is a rapidly rising demand from tuna markets for better provenance of products especially for the high-volume retail tunas such as albacore and skipjack. Because these fleets funnel their catch into relatively few but large wholesalers, an opening exists and is being filled by certification frameworks and bodies. Marine Stewardship Council (MSC) leads the class with its system, already globally accepted and of significant importance to deepwater fisheries here in New Zealand. MSC is upping the ante with its standards and it’s pretty clear that these high seas tuna fisheries will be striving to become accredited. Managers and agencies are flat out trying to keep up with this “market demand” creating a plethora of programmes and messages.

Before undertaking this review, my expectations of operationalising a meaningful programme with the pan-Pacific fleet were pretty low, due to the nature of the fishery described above. But now, with a better understanding of the situation, the prospects are more heartening. What is clear is that some of the surface longline fleets that pose the greatest risk to seabirds are facing increasing pressure to provide good environmental credentials. This is particularly the case with the fleets that have a heavy reliance on the cheaper high-volume tunas that are sold as shelf stable product through retail chains.



Adult survival of southern Buller's albatross has dropped in recent years; significant numbers are caught on the high seas. Image Tamar Wells.

In addition, and despite ongoing research for better mitigation tools, we know that the basic tools of first-rate tori lines properly deployed, weighting branch lines, night fishing and extreme care around moon phases etc. can and do make a big difference. Put simply we know what works well if it's done, and done well. So, for the Pacific fleet, the time is now, and the planets are aligned.

Work in the New Zealand deepwater trawl fleet and more lately flowing to our coastal fleets, taught us some base principles for implementing environmental

risk reduction programmes. The Deepwater Council, previously Deepwater Group, has led in this space since 2006 with a focus on trawl fleet mitigation, and this has resulted in observed and measurable reductions in captures.

Key were consistent and persistent approaches, clear facts-based messaging, support, being attuned to language and cultures, cognisant of vessel, fleet and owners' concerns and economics, a no-nonsense approach and plaudits when due. Such an approach, with an admittedly higher degree of difficulty, again due to the factors listed above, is consistent with the needs in the Pacific arena and the imperatives are equal to those faced in New Zealand.

As much as anything, it is timely for New Zealand as a whole and the seafood sector here to recognise that support for improvement in the high seas longline fleet (by the way, condemnation does not equal support) is important to success. Success will mean less threat and impacts on our seabird populations whose declining population statistics will reflect on New Zealand seafood exports as a whole as perceptions trump facts and blame falls widely, and add to the difficulty of our own MSC assessments when it comes to seabird populations at risk.

It is therefore time to consider more than just our own horizon in terms of seabird mitigation and risk management and throw some of our weight where it can help in terms of the pan-Pacific perspective or we risk our progress here being undermined. We need the birds to succeed, not just ourselves. Their success will be ours both in economic terms (market value, less costs) and philosophical.

So, what can we do? Stay informed and engage in international seabird work, encourage agencies and NGOs, ask what support may be useful, and use your international links where relevant to push the message and offer help.

The trees are falling in the Pacific and the sound waves have arrived on our shores. Do we hear it?

WE'RE STILL TAKING BOOKINGS FOR 2023 - CALL US TODAY!



Tortugas



Connie S



Margaret
Phillipa

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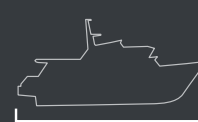
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V E S S E L
W O R K S

One stop shop for everything

Time is money, and any work needing to be carried out on a fishing vessel needs to be good, but it also needs to be fast. Bringing all of the services needed for building, repairing and maintaining vessels onto one site is no new phenomenon - with clusters of marine facilities becoming more and more common globally. The marine precinct in Tauranga is relatively new but is already big on the nautical map.

ng marine in Tauranga



Tauranga. Image; Adobe Photo Stock.

Tauranga is a good fit for state-of-the-art marine services. The city is New Zealand's largest growing and has one of the biggest recreational fleets in the country, as well as a still healthy commercial fishing fleet.

According to NZ Marine, the marine industry is New Zealand's largest non-agricultural, manufacturing industry, with a total turnover increasing from \$2.3 billion in 2019 to \$2.9 billion in the 12 month period to 31 March 2022

The Tauranga precinct, called Vessel Works was commissioned in 2018, funded by the Bay of Plenty Regional and Tauranga City Council and the marine precinct is now owned by the city council.

A former 600-tonne slip on the site disappeared about the time the Tauranga Harbour Bridge was built. With a lot of vacant land available, lobbying began for a marine precinct to bring jobs and economic value into the region.

Although it has been operating for a few years, there is still plenty of room for expansion.

Vessel Works' Andrew Bromell says there are currently 120 full-time employees on site servicing a 60/40 mix of black boats (commercial and fishing vessels) and white boats (recreational and superyachts).

The Precinct is strategically, and scenically, situated between two of the Bay of Plenty region's marinas. The 3.4-hectare facility is host to multiple businesses serving the boating industry, whether it be commercial or recreational.

It is impressive - and vast. The yard can service up to eight vessels up to 50 metres long.

The 350-tonne hoist towers over the hardstand. Vessels as big as 50 metres and as small as 11 metres have been hauled up on to the site for work in the past few years.

It is a well-practiced routine.

Vessels come into the lifting bay at slack tide, ensuring a calmer and safer environment for the lifting operation. The slings are carefully positioned under the vessel. The lifting team ensures that the slings are placed securely and evenly to distribute the weight of the vessel during the lift. Sometimes commercial divers are required to identify any obstacles that may impede the lift.

And there is a refit wharf so once the vessels have had all they need doing on land, they can relocate off the hard and save a bit of money while the refit continues. This berth allows for crane, truck and forklift access to vessels for a variety of in-water maintenance activities.

"We see international and local fishing vessels, work boats, and private and charter yachts," Bromell says.

Although Vessel Works offers the vessel haul-out, wash and launch, a community of experienced contractors are on-hand to assist with any other services required.

On-site are boat builders, marine coatings specialists, engineers, compressed air and gas facilities, motor trimmers, metal fabricators, and workboat hire services. But, if a service is not on site, you can let your contractor come on to the precinct to work, as long as health and safety and insurance requirements are met.



Vessel Works' Andrew Bromell (left) and Dave Withington.

Bromell says the open yard is attractive for customers who may have preferred contractors in the region but not on site. The open yard allows a vessel conducting a refit the flexibility of unlimited contractor access to complete a project with contractors of their choosing.

Vessel Works is certified to be a Port of First Arrival (PoFA) and offers port of entry facilitation for boats arriving from outside New Zealand waters, liaising with Customs and Ministry for Primary Industries (MPI) to make sure the documentation to enter is in order.

Bromell says there have been few arrivals this year, mostly commercial, but there have been plenty of white boats leaving, the majority heading out to the Pacific Islands.

For the international commercial vessels, it can be as quick as a hull check to make sure it is clean enough for New Zealand waters or as big as a refit.

"We're seeing tugs and fishing vessels coming in from international waters."

The American tuna fleet will make their annual appearance as well.

"They'll come into Tauranga if they run into any mechanical or crew difficulties. They can go into the Port of Tauranga or come into Vessel Works which offers the same Customs clearance but it is sometimes easier to come in here because of the smaller scale berths and boatyard.

"We'll work with our customers to quickly get them turned around and back out fishing."

One of the advantages of the travel lift is owners don't have to work around other vessels for slip time.

"Once we haul them out, all the other businesses can get to work on whatever the vessel owner requires.

It may be a quick anti-foul or survey, which could be a same-day turnaround (lift and hold) or there are

instances when extensive work is required, and Vessel Works have the people onsite to complete these larger projects.

The local fishing fleet also has a dedicated icing, unloading and refuelling wharf on the site.

"They come in, the truck reverses onto the wharf, they load up, take it away, and the vessel can refuel and ice up before heading out again or can sail over to berth at Bridge Wharf."

Dave Withington is Vessel Works Precinct Director and says the centrality of the Bay of Plenty is a big selling point when vessels have a choice of ports to get work done.

"We are close to all the major supply lines so parts and materials are really easy to get hold of, and the labour is very good value," says Withington.

"There are plenty of marine businesses of course but, if it is outside straight marine work you want, there are people around that can do basically everything and the workmanship is excellent.

"This is a one-stop-shop for all sizes of vessels. There is a lot of experience and state-of-the-art equipment.

"We are also very competitive with pricing."

Withington says some of the smaller fishing vessels are no longer around because they were just not viable, but he says there is still a small, artisan fleet locally.

"They will fuel and ice up, spend two days out and come back in. Mostly longliners or trawlers, and mostly family companies."

Withington says they are also seeing local fishers scale up.

"We have a couple of vessels that are in here from Noumea. They have been bought by local fishers and are getting tidied up before they go out fishing in our waters."

COVER FEATURE



Bartolo Zame.

Across the hard stand, Hayden Elmsly at Robert Page Marine Services is very familiar with the site.

"We did the majority of the work when the old 600-tonne slipway was here," Elmsly says. "The original company was Robert Page Engineering and then we split out Robert Page Marine Services just over a year ago."

Elmsly bought the marine shipping component of Robert Page Engineering and now runs a standalone company with business partner Kevin O'Dea at the Marine Precinct.

"Marine has been a massive part of Robert Page Engineering since it started in 1955. Before we split out, we did a lot of commercial shipping at the 600-tonne slipway and now we service the fishing fleet – the majority of the black boats. We also carry out repair work around the marina hardstands on launches and yachts and are starting to build relationships working on super yachts now too."

Robert Page Marine's mainstay is still commercial

Ocean Wanderer II under repair

The *Ocean Wanderer II*, a Chris Williamson-designed commercial fishing vessel, recently underwent a comprehensive refit at Vessel Works in Tauranga, New Zealand. The 24-meter vessel was lifted out and placed on the hardstand for a 10-week period to undergo extensive repairs and maintenance work.

The repairs around the vessel included the replacement of steel sections in the hull, which had to be cropped out and replaced. Additionally, new stainless steel freshwater pipework was manufactured inside the engine room to replace old, corroded piping.

These repairs were essential to ensure the continued safe and efficient operation of the vessel.

The refit also included modifications to the scupper plates, replacement of hull anodes, and the cut down and reshaping of combing rails and beltings around the vessel to improve functionality. The boarding platform was also reconfigured to better suit the vessel.

One of the major tasks of the refit was the complete rebuild of the anchor winch. All parts were stripped down, tidied up, and bearings and seals were replaced. Furthermore, the refit included a 5-year survey work



fishing, with Sanford, Moana, and Gisborne Fisheries using the company.

"We were part of a major refit on San Tongariro for Sanford's, converting it from a mid-water trawler to scampi fishing – that took about four months.

"We carry out full time maintenance on Pelco's three surface purse seiners as well."

But the big work is coastal and international shipping, which Robert Page Marine do the majority of, a reason there is little chance of a downturn for the company.

"We probably do four to five shipping jobs a month and while it is great, you work hard for it. It is a 24-hour-a-day industry."

He says it is difficult to find good staff at the moment, but the company also invests in taking on apprentices for the future of the industry.

Elmsly says they have one apprentice now, who is great. "He is an adult apprentice and has his head screwed on. And we will probably take on another one next year."

Robert Page Marine tries to get their apprentices schooled up in all aspects of the trade.

"So, instead of having a fitter-machinist or fitter-welder I try to get them skilled in everything so they can start and finish a job. And it keeps it interesting for them as well."

Elmsly is speaking from experience. "My dad was a marine engineer and used to go to sea. I used to go with him during the school holidays and help out where I could."

He wasn't tempted to take up fishing as a career but still enjoys it recreationally.

He says once the precinct is developed further, Robert Page Marine Services and the other businesses will grow with them.

Leaving Robert Page Marine, there is a lot of activity at the fishing wharf.

Two Wild Fish vessels, *Tungsten* and *Arapawa III* are waiting to unload.

that involved the rebuilding of the rudder steering quadrant, manufacture of a new 4.8-meter propeller shaft, and rebuilding of seal runners and servicing of valves.

Other significant works completed during the refit include blasting and painting the steel main deck interior floors, full blast and a new 3-year antifoul system, and treating corrosion and full paint to all outer exterior aluminium. The steel hull, bulwarks, main deck, various parts, anchor wells, forepeak, and fish holds were all blasted and painted, while the prop speed was also applied.

Several contractors were involved in the refit, including Robert Page Marine Services, Super

Yacht Coatings, and Jeff Scott Electrical. The work completed by these contractors has ensured that the *Ocean Wanderer II* is now in excellent condition and fully operational.

The refit of the *Ocean Wanderer II* is a testament to the quality and expertise of the contractors onsite at Vessel Works. With their state-of-the-art facilities and skilled workforce, they are well-equipped to handle a wide range of vessel repairs and refits.

The work completed by the contractors involved, along with the team at Vessel Works, has demonstrated the importance of regular maintenance and repair work to ensure the continued safe and efficient operation of commercial vessels.



COVER FEATURE



Super Yacht Coatings.

Young skipper of *Tungsten* Sam Hefferen gets to dock first, climbs off and tells me it was a great trip for snapper.

"They are in really good condition and we're getting a good price for them," Hefferen says.

He and his two crew have been out for two days, the third two-day trip in a row.

"It's the sixth day, so me and the boys will park up for a few days now."

They have been longlining off Whangamata and as far down as the start of the East Cape.

Waiting their turn to unload, the decks of *Arapawa III* are full of bins of glistening, fat kingfish - tails long and high above the slurry.

Hefferen, who was a deckhand on *Arapawa III* before moving to *Tungsten* says it has been very good fishing for kingfish as well lately.

"It's my first year as a skipper, I only got my ticket last year and I just feel really lucky that there is so much of the fish I am targeting out there."

Across on the other side of the Vessel Works site, and visible for miles, is Super Yacht Coatings.

General Manager Ben Steele explains that his two business partners Mark Hanna and Regan Woodward, both Bay of Plenty lads, started the business in New Zealand's superyacht capital, Auckland doing painting for refits and new builds.

"Then the opportunity came up to buy land here as part of the Marine Precinct development and that's when the black boat work got busy."

Super Yacht Coatings has a sister company Gorilla Coatings, which covers the ever-expanding commercial black boat market. The difference in the coatings is apparently that, while both are made to last, one looks pretty and glossy.



Sam Hefferen, skipper *Tungsten*.

"White boats, pleasure craft are still the focus of our business, but down here in Tauranga, there is a lot of black boat work, especially come the end of the fishing year in September. Auckland remains superyacht focused but we always have some type of commercial boat in - be that barges, fishing fleet or survey vessels."

Super Yacht Coatings have recently had Gisborne Fisheries vessels *Bartolo Zame* and *Giovannina* in for a tidy up.

Steele says they like to work on the pleasure craft in the big shed under cover but is finding that the commercial vessel owners will always take the shed over the yard if it is free.

"We would be really keen to have more sheds, and it has been proposed as part of the second stage of development but that has been delayed.

"If we had extra sheds, we could put the commercial vessels in there for work and it would minimise the time they had to be off the water and not earning a living as it would take the weather variable out. The only other way is a 'scaff and wrap'."

Super Yacht Coatings is a big operation. They have 25 staff at the Tauranga site and another 15 in Auckland.

"And we have five people doing an apprenticeship at the moment and another three who have completed one.

"And we could do so much more. We just want that expansion to go ahead," says Steele.

That is a sentiment echoed throughout the precinct, from Vessel Works management to individual company owners and skippers.

The Bay of Plenty shows no sign of peak expansion anytime soon.

Workplace training, time to look under the hood

Peter Maich, Director-Westport Deep Sea Fishing School



So here we are, 2023 and a lot of changes in the training industry. Like it or not, trainer or trainee, we are all affected by the changes in the last three years in the training space. We have a new funding system, the establishment of Workforce Development Councils and the merging of ITOs into Te Pukenga. We only hope Te Pukenga can continue to provide the service we have become used to by the ITO. I think it is time to have a look under the hood, bust a couple of myths and look at one of my decisions and opportunities it offers.

A couple of myths that I have seen in various industry publications of late,

Training providers are making courses longer to get more money, this makes as much sense at going to sea for a few extra weeks to catch the same number of fish, profits down, costs up. No more said.

Training providers are putting fees up, seems this one targets all providers so I will take it personally and say that the bulk of our students in Tertiary Education Commission funded programs in the last couple of years have either not been charged full rate or not charged at all and during Covid I charged no fees to students.

Programs outside of Tertiary Education Commission funding such as short safety programs, yes, we charge, and most providers are about the same in pricing. Industry will not accept outliers, there are always other options for them to look at.

To gain program accreditation for say, Skipper Restricted

Limits, we apply to the New Zealand Qualifications Authority for final approval. Maritime NZ peer review any application, Workforce Development Councils are in the loop, Industry organisations like the Federation of Commercial Fishermen and of course all of you in some way via requests for support letters and stakeholder engagement. This can take six months and be an expensive process. Any changes from the accreditation issued, start again and through the hoops once more.

In any given year we can get one or two financial audits. We use public money, New Zealand Qualifications Authority inspections on programs, our accommodation is under a new system and that is another involved process to go through. Maritime NZ calls in on a two- or three-year cycle for quality inspections, TEC that fund us have a rigid inspection process, one area each year and several critical reporting requirements annually and bi-annual audits. It is not far off a full-time job keeping up with compliance, and we have a training vessel under Maritime NZ survey to keep ship shape as well.

From being at sea and harvesting fish to being on land and offering training, it's not far removed, just a little different. A tick or cross from a government agency can make your day or wreck your year, training is very heavy on compliance, can wear you out but we keep on steaming and keep on hunting. In my case I hunt funding contracts, our life blood and tailor those contracts to practical relevant training.

OPINION

In tight years, it's quietly getting on with the job, cutting costs and holding off on non-essential spending. In good years, it is steak and wine and sharing. In my case the sharing is the choice to not charge student fees for training, read that as free training for our industry. For me, all players in the industry are after 40 or more years friends or extended family. All fishers, the few thousand students we have placed into employment, fishers I know and now their children, the next generation out there doing it. Not an easy game but we are all survivors, passionate and there is still opportunity to be had.

So, it is not all doom and gloom, we have a solid base to offer training that is consistent, industry based and relevant. Program lengths are set by criteria that is the same for all training in NZ.

We have had the pleasure of a new funding system brought into force in 2022. This affected all providers in all training funded by the Tertiary Education Commission and is named the Unified Funding System (UFS). Short term effects of this were between 20% and 40% funding cuts to overall funding allocations and a further reduction of up to 20% on individual program funding. Many hearts were sinking when we got those letters, mine arrived about 10 minutes before the opening of the Federation of Commercial Fishermen conference in Napier.

We have a lot of challenges, program intakes need to suit seasonal fisheries, cannot be too book heavy, must be interesting and embed the skills we need to perform and get our seafood product ready for domestic or export markets. We need to build career pathways that are timely, get these promoted underway and offer in ways that do not break the bank.

In a couple of interesting years, some survived, and some did not. It feels like we have emerged now, the dust has settled, and we are on the mend. I am looking forward to the next stage of development at the WDSFS and the opportunity it offers to our industry.

Over the last five years WDSFS has developed career pathways for the inshore industry, from deck to offshore

skipper and the supporting engineering qualifications that complement these operations.

The deepwater is also being looked after, deck is well covered, engineering now up to MEC5, seafood processing to level 3 and level 4 underway for 2024. All these certificates and Maritime NZ qualifications are being redesigned with some online training to reduce course time and make it all more user friendly for seafarers. In some instances, we offer good old paper based, supported learning as well. This is working well in some specific areas, Skipper Coastal Offshore and MEC6.

We are aiming to offer a range of training opportunities and options to suit all in our industry.

So here we are, a new funding system, new qualifications, and new opportunities.

The way the Tertiary Education Commission funding works is that if you are a provider that offers what are government priorities, make the benchmark for outcomes and meet a heap of other compliance goals TEC will offer additional funding around this time of the year.

We are pleased to be one of those selected providers and now have Tertiary Education Commission funding available for the rest of 2023. This is a use or lose allocation. If we miss the goals for this year, it goes back and affects the 2024 funding allocations.

For the remainder of 2023, I am offering all our Maritime NZ licensing programs at no cost to all that accept the offer. This is for NZ citizens and residents, does not cover Maritime NZ application costs, but is a good deal.

There is an opportunity now to get training at no cost, as much as you want, and all going well I can extend this into 2024. So, mail me, apply at the link below, find me on Facebook and reach out, send questions by Messenger, call on my cell phone. Inshore crews, deepwater crews, owners, skippers, maritime transport operators, let me know your ideas and needs for training.

The training programs we offer are Advanced Deckhand-Fishing, Skipper Restricted Limits, Skipper Coastal Offshore, MEC6 and MEC5. So, individuals, crews, skippers wanting higher qualifications, companies, all welcome to apply.

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Promising outlook for seafood sector

Emma Taylor, Acting Deputy Director General – Fisheries New Zealand

The outlook for the seafood sector looks promising as overseas demand for New Zealand's high quality seafood products continues to grow. This year export earnings are forecast to rise eight percent to pre-Covid-19 levels of \$2.1 billion, compared to last year when the Fisheries and Aquaculture sector brought in around \$1.9 billion. What this says to me is that we have a resilient industry, despite challenges such as the Covid-19 pandemic and devastating weather events like Cyclone Gabrielle.

The recent Seafood Sustainability Awards provided an opportunity to recognise and celebrate this resilience and the many people out there putting their passion for sustainable fisheries into action.

I'd like to acknowledge Storm Stanley and Jeremy Cooper from the Pāua Industry Council who were named winners of the Minister for Oceans and Fisheries Award, for their work over 40-years with New Zealand's pāua fisheries. What really impressed the Minister was their innovative approach to sustainability including the

use of catch spreading to manage where pāua is harvested and reduce the chance of overharvesting from more accessible areas. Industry also set their harvest size for pāua higher than the legal requirement to leave more spawning pāua in the water and help protect future of these important

fisheries. To achieve this, they've taken a collaborative approach by working and talking with the wider fishing industry, local iwi, and communities, along with the recreational fishing sector.

I'd also like to pay tribute to Supreme Sustainability Award winners Scott and Sue Tindale from Tindale Marine Research Charitable Trust for their ongoing work in raising public awareness about the sustainability of our oceans and fisheries. Their fish tagging program has well over 1000 participants and provides valuable information for monitoring fish stocks. The Tindales' commitment to ongoing education and research is outstanding.

I want to congratulate everyone who was nominated for an award. The work you do is a tremendous reflection of the passion and commitment of the many people working together and playing a part in ensuring the ongoing sustainability of our fisheries.

On that note, I'd like to acknowledge the collaborative and quick response from industry following the recent capture of a Hector's dolphin off the Otago Peninsula — the first fishing-related Hector's death reported in the area since 2012.

The capture triggered a set of actions under the Hector's Dolphin Bycatch Reduction Plan to work together on strengthening protections in the area. Following discussions with Fisheries New Zealand and the Department of Conservation, fishers were quick to put in place a voluntary closure for the remainder of the fishing year, including extending the four nautical mile set net ban by about three nautical miles in the area where the Hector's dolphin was caught. No one wants to see one of these unique and threatened marine mammals captured and working together is vital in our ongoing efforts to manage human-caused threats to protected species such as Hector's and Māui dolphins.

Fisheries New Zealand looks forward to continuing to work together across the sector to achieve our vision of being the world's most sustainable provider of high-value fisheries and aquaculture products.



Emma Taylor.

Fishers and marine farmers are integral to NZ-communities

*repurposed from Herald op-ed May 2023

Hundreds of people who fish head out to sea each day to ensure we have the best Kaimoana in our supermarkets and restaurants. Then there are the marine farmers too. There is no job like it - but if we want to keep enjoying our amazing seafood we need to better look after those who catch it.

The 2023 Seafood NZ Conference theme is Seafood into the Future and to help make sure this is a reality, we need to invest now in the health and wellbeing of our fishers and marine farmers.

Each week I talk with fishers and those in aquaculture across the country who often tell me something similar: they are finding things tough.

In recent years, those in the fishing sector have come under increased challenges. Economic stresses and regulatory change have made the job difficult for many.

More recently, the aftermath of Cyclone Gabrielle has left a trail of destruction not appreciated by many. Much of the ocean floor around the affected coastline is full of debris and silt, making fishing very difficult.

Working at sea or as a marine farmer is a great job. It's a lifestyle choice for many and when you get the bug it's hard to think about any other career - but

it does come with challenges. We know that some people in our profession are struggling, and 'anxiety', 'depression' and 'burnout' have become all too common words on our wharves.

As a country, we have become more aware of the unique mental health pressures many in the primary industries

face, and those in the fishing sector are no different.

In the short time FirstMate has been operating (less than two years), we've been able to help people from across all walks of the commercial seafood sector navigate the choppy waters of professional fishing.

Whether you are a newbie, an old seadog or a land-based seafood worker, anyone is welcome to contact FirstMate. Many people remark that just being able to talk openly with those that understand about some of the harder parts of the job is a huge relief. That's what our 16 Navigators based across the country are such an important resource to our communities.

What has amazed me is the pressure some of our people are feeling. Consistent negative news about the sector has meant some in the community view fishers as reckless, pillaging the sea and not caring about the future.

The reality is that professional fishers in New Zealand are passionate about sustainability.

Their livelihood will disappear without sustainable practices. They care deeply about the waters they fish on and want to ensure our ocean continues to have a richly diverse fish population available for all to enjoy.

If we want to improve the mental health and wellbeing of our fishers, we need the help of ordinary Kiwis. It doesn't take much. We've asked the public that next time they see their local fisher, that they go and say hi. Ask fishers how they are. Thank them for their work. These little gestures go a long way for people who help to ensure we are well-fed.

I have been in this industry my whole life and am passionate about people getting involved in such a rewarding career.

That is why I, and my colleagues at FirstMate, want to turn the tide to improve mental health and wellbeing in our seafood sector. I believe we can do it - we just can't do it alone.

Darren Guard has over 30 years of experience in the fishing sector and supports the FirstMate Navigators. If you are a commercial fisher or their whanau and need support, reach out to FirstMate at firstmate.org.nz or 0800 ADRIFT



Darren Guard.



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Oceans are our economic and social backbone



Agrisea: image Dave Allen

The United Nations, WWF, and the World Bank Group have called it, and many nations are limbering up for a blue economy centred on developing sustainable business.

Global agencies and nations agree that oceans are a fundamental part of solving the planet's food, energy, and climate challenges, and oceans represent vast economic opportunities if we take a genuinely sustainable approach.

Aotearoa New Zealand has an immediate opportunity to maximise its unique position, knowledge, and potential in the world. It's time to transition to a sustainable blue economy that can revitalise oceans and create health and wealth for people and the planet.

The Sustainable Seas National Science Challenge has brought together almost a decade of research, including international examples, to guide a blue economy pathway unique to Aotearoa New Zealand.

The Challenge sees a sustainable blue economy as an opportunity to move from an 'extract for least harm' to a 'restore to generate wealth and wellbeing' approach. Marine ecosystems are more resilient and productive when they're healthy.

The Challenge defines the blue economy through an Aotearoa New Zealand lens, which places people and the moana at its heart.

Marine activities that generate economic value and contribute positively to ecological, cultural, and social well-being.

The Challenge has developed a set of principles that centre Te Ao Māori, Te Tiriti o Waitangi, and ecosystem-based management to help transition to a blue economy. The principles are designed to help decision-makers, iwi and hapū, and people working in the finance and marine sectors to make good decisions about marine management, business strategy and operations, finance, and reporting.

Tony Craig, partner in Terra Moana Ltd, says "the principles provide an overarching framework so people can understand what's expected when looking to involve themselves in or with the blue economy.

"We're pleased to be part of such a determined and constructive team in Sustainable Seas. We all worked hard to ensure the wording of the principles requires people to think about how to achieve

the necessary critical balance. For example, you can't consider only single perspectives. You must show how you consider Te Tiriti, economic, social, cultural, and economic wellbeing factors."

A principle-based blue economy for Aotearoa New Zealand encourages activities that:

- arise from ecologically and socially responsible investment
- use ecologically and culturally appropriate technologies to create economic value from marine activities
- reduce ecological risks and restore ecosystems
- respond to, and encourage, ecologically and culturally responsible consumer behaviour.
- contribute directly to ecological, cultural, and social well-being
- enable te Tiriti o Waitangi and an understanding of te ao Māori.

Katherine Short, primary researcher for the Aotearoa New Zealand principles says "the principles bring together our unique Aotearoa New Zealand character and integrate leading international marine management approaches. They're an important foundation for all those involved in marine economic activity to reflect on, and where necessary, reshape their operations to contribute to improved health and well-being of people, the ocean, and its ecosystems."

Jodie Kuntzsch is CEO of Moananui, an organisation set up to fast-track the development of blue economy

Principle	What this might mean in practice
Te Mana o te Moana Prioritising the health and wellbeing of the moana informed by a Tiriti o Waitangi-led approach, where the rights and responsibilities of tangata whenua are provided for.	<ul style="list-style-type: none"> • Prioritising the health and well-being of the ocean in all marine estate management • Considering a Te Tiriti o Waitangi-led approach involving partnership and collaboration with tangata whenua • Understanding the relevant rights and interests of tangata whenua • Supporting kaitiakitanga – the responsibility of tangata whenua to preserve, restore, enhance, and guide the sustainable use of the moana for present and future generations • Using appropriate tikanga and mātauranga Māori to guide decisions and actions
Prosperous Actively transitioning towards resource use that is productive, sustainable, resilient and enhances the ocean and ocean-dependent livelihoods.	<ul style="list-style-type: none"> • Using the blue economy principles to guide branding, marketing, and promotional campaigns • Seeking out restorative finance options • Adopting best practice environmental and social certification schemes
Accountable Adopting decision making and reporting frameworks that consider natural, social, and cultural effects of all proposed and actual uses of ocean resources.	<ul style="list-style-type: none"> • Adopting 'four capitals', 'nature-based disclosure', or other multiple-bottom line reporting regimes • Adopting transparent, evidence-based decision-making and reporting processes around environmental and community impacts (adverse and beneficial) • Measuring and reporting progress against local, national, and international benchmarks such as the Sustainable Development Goals, the blue economy principles, or appropriate certification standards
Regenerative Adopting practices that actively support and restore marine ecosystem health.	<ul style="list-style-type: none"> • Moving from harm reduction approaches to designing for minimised harm and actively restoring damaged environments as part of standard practice • Investing in circular economy solutions • Establishing funding mechanisms that prioritise regenerative business models • Contributing productively to ecosystem-based management of the marine environment
Intergenerational Empowering holistic governance and management that support the moana, to provide for long-term social, cultural, environmental, and economic well-being.	<ul style="list-style-type: none"> • Taking a multi-generational approach to investment and prioritisation decisions • Developing regulatory approaches, science funding, and business development models that prioritise intergenerational strategies and commitments
Inclusive Engaging with communities to achieve multiple benefits for people and the environment.	<ul style="list-style-type: none"> • Engaging communities in relevant decision-making through participatory processes and responding meaningfully to community interests and concerns • Developing novel ways to share the benefits of marine resource use with communities • Developing regulatory approaches, science funding and business development models that enable community engagement

activities in New Zealand. She says the principles draw together different parts of a sustainable blue economy trajectory and offer a framework for thinking. "It's like a bucket of things to think about rather than saying, here's a checklist."

How the principles are applied will evolve and grow, Kuntzsch says. "As our maturity as a country grows, especially around applying indigenous knowledge, and as our blue economy matures, our businesses mature, and the way we all work through climate change,

climate resilience, and social accountability — the principles help us say, ‘think about these things’. The intention is to set a trajectory; not to determine the course.”

Many of the principles are well understood by people and being implemented already. For example, iwi and hapū have long prioritised inclusive, inter-generational sustainability.

New Zealand’s blue economy principles support and build on existing marine sustainability initiatives in New Zealand, including:

- AgriSea and Greenwave incorporating environment and community-oriented goals and principles into their business practices in delivering on the national Seaweed Sector Framework
- Sector-based initiatives such as Seafood NZ’s Promise campaign and Aquaculture New Zealand’s A+ audit scheme
- The Aotearoa Circle Seafood Sector Climate Change Adaptation Strategy
- The Moana New Zealand kaitiakitanga (stewardship) journey and 2040 Carbon Neutral commitment
- Sealord’s (owned 50% by Moana New Zealand sustainability journey and via Nissui 50\ ownership, working with SeaBOS, the group of globally leading sustainable seafood companies
- Sanford’s sustainability agenda and annual reporting
- Maersk Oceania supporting re-establishing coastal shipping in Aotearoa New Zealand with its strong eco-shipping programme
- BlueFloat Energy and Elemental Group exploring wind energy farm developments off Taranaki and Waikato



People will ‘do the blue economy’ in different ways. But wherever people are now, and however they go about things, is okay if the goal of a thriving blue economy and healthy oceans and people is in sight, Kuntzsch says. People will be starting from different positions and will apply the principles in different ways.

Short agrees that there may not be always an equal balance of all principles. “It’s not the same journey for every company. However, given the



Waitematā Harbour. Image Unsplash, Andry-Roby.

accountability principle, each organisation's journey will have to show how they respond to each principle over time. Whether open ocean aquaculture, fishing or offshore wind development, these principles can guide better practice."

Kuntzsch says a sustainable blue economy means having a different mindset about how we value and generate value from ocean resources. It's about enabling a circular marine economy that leads to gains for everyone. Individuals and industries can think about strategies that put money, resources, and jobs back into local communities. It's an opportunity for all, rather than a trade-off with growth.

"Something quite powerful for the fishing industry is being on the water already," she says. "They have a whole lot of knowledge, a whole lot of experience, and a whole lot of networks and mechanisms that they can leverage to create value. They're not starting from scratch."

Tony Craig says our seafood sector is an important part of the blue economy. "As an isolated South Pacific maritime nation with good natural resources, aquaculture and fishing are essential. Sector leaders acknowledge their responsibilities in ensuring production has the lightest footprint possible.

"The next phase of blue economy growth requires significant investment across the board. To incentivise this, New Zealand will need a legislative and regulatory framework that enables a blue economy, within society expectations, and that's encapsulated in these principles."

Supporting a blue economy into practice is now a focus for the Challenge. It's working with the finance sector, marine economy businesses, iwi, and communities to support a sustainable blue economy in practice in New Zealand and to build momentum. This work includes developing tools, resources, case studies, models, and contacts for people to use and share.

Training on sustainability reporting, and replicable and scalable lessons for businesses and sectors to set themselves up to take advantage of new opportunities are also planned.

This work requires all sectors to work together to create opportunities, share experiences and knowledge, and develop solutions across government and business. And it's essential that the blue economy sector builds trust by operating responsibly and delivering the wider benefits to the New Zealand economy, society, and environment.

Providing confidence for future generations of fishers

Caroline Read, CE FishServe

Last month, following our attendance at the Federation of Commercial Fishermen conference in Blenheim, I took a moment to consider the vibrant and diverse industry that we are a part of. The Federation members took the opportunity of the conference to give a clear message to the Minister around their role in protecting the sustainability of Aotearoa New Zealand fisheries.

Next year will mark Fishserve's 25th anniversary. Reflecting on this gave me cause to look back at the events that led to our establishment, and the underlying structure that enables us to administer the myriad processes that underpin the Quota Management System (QMS) and the Fisheries Act 1996.

To reverse the decline in fish stocks that occurred through the 20th century, the Government introduced a Quota Management System in the 80s. This established a property rights regime that allows the Government to determine and set limits on catch, and fishers to derive value from their fishing rights. The Fisheries Settlement Act that followed rounded out the trifecta to ensure that our Treaty obligations were included in the system. Run well, this system gives all parties confidence that fisheries will be maintained at sustainable levels into the future.

Since 1999, we have provided administrative services to support and enhance the operation of the QMS underpinning the sustainability of Aotearoa New Zealand's fisheries. We have a discrete and prescribed role within the sector, supporting fishers in meeting their

requirements, while at the same time supporting the government in running an effective QMS. While the role has stayed the same for nearly a quarter of a century, we have evolved the way we do this through finding technical solutions to improve efficiency and support the accuracy of the process.



Caroline Read.

The outsourcing system that sits behind the provision of these services has been set up so that all decisions are pre-set as rules with no leniency for exclusions. This removes all discretionary decision making from Fishserve in administering these statutory functions as a non-government organisation.

The integrity, accuracy and efficiency of our operations is very important to us. Our adherence to the required standards and specifications is regularly monitored, through monthly operational meetings, quarterly relationship meetings and annual audits. We appreciate this level of scrutiny is necessary to provide confidence to all parties. I'm proud to say that we have consistently met the prescribed conditions and have never breached our obligations or been sanctioned.

When Fishserve was established, close attention was given to our structure and governing principles. Given the nature of the work we undertake, our constitution intentionally prescribes an independent board chair and limits appointment of directors from our shareholder, Seafood NZ, or industry groups. This ensures policy neutrality, protecting us from the potential influence of individual commercial participants and wider industry politics. The company is also committed to reinvesting our revenue into the business with no dividends paid to our shareholder.

This strategic approach has ensured that our focus has always been, and always will be, on delivering services at the least possible cost, with the highest level of accuracy. And our track record shows just how well we have delivered to these principles.

The combination of being owned by an industry body, and operating a system that manages individual property rights of that industry, means that there is strong pressure for us to get the processes right. Failing to do so would favour one quota owner against another and risk losing industry support.

This long history of providing trusted and cost-effective systems to support the management of our important fisheries resources underpins our ongoing focus to maintain the smooth delivery of statutory services and to seek opportunities to use technology advancements to improve the way these services can be delivered.

It is from this long and successful history of delivering these services that Fishserve looks to the future to enable sustainable fisheries through smart information services.

Going strong at 70

The New Zealand Federation of Commercial Fishermen marked seven decades of industry advocacy and camaraderie at its annual conference in June. Claire Williamson checks in with Federation President Doug Saunders-Loder on what's next for the passionate organisation.



Richard Kibblewhite emceeding the charity auction for the Shipwreck Welfare Trust.

A well-known figure in the seafood industry, Saunders-Loder has made his 20-year tenure as president of the Federation about championing the voices of the country's inshore fishers.

"This is the only organisation that puts the needs of this country's small owner-operator fishers at the heart of everything it does," he says. "It has always prioritised giving a voice to the little guy."



Federation President Doug Saunders-Loder.

The Federation's origin dates back to 1953, when a small group of fishers across the South Island gathered in Lyttleton to form a 'Federation of [fishing] Associations'. In 1958 the organisation expanded to include representatives from the North Island and was dubbed the New

Zealand Federation of Commercial Fishermen (Inc).

"Over the years, the Federation has been at the forefront of engagement with Government over policy and reform development, and it was fishermen who were actively involved in many of those initial debates," Saunders-Loder says. "They pushed for key reforms that would benefit the environment and the industry, such as the creation of the 200-mile Exclusive Economic Zone and the Quota Management System in 1986, which is something the entire New Zealand industry should be proud of."

"Feds is also an important platform for people spending long, gruelling hours on the water to connect with friends across the country and feel like they are a part of something bigger."

This year, Federation members and supporters gathered at the Marlborough Events Centre in Blenheim for its annual general meeting and conference.

Minister of Oceans and Fisheries Rachel Brooking attended the event, giving her first speech to an organisation in her ministerial role. She spoke to the opportunities and challenges facing the industry, and strongly emphasised the consumers' expectation that their seafood be caught sustainably and with no negative environmental impact.

"It is tough for a number of seafood businesses



Richard Bowe from Electronic Navigation Ltd (left) presents Donna Wells (centre) with the 2023 Electronic Navigation Shield Award.

right now, and I know that smaller fishing operators in particular face challenges like rising costs, the impacts of the way we use land on the marine ecosystem; and difficulties getting access to skilled staff," Brooking said

"Since becoming the Minister, I have been pleased to see the effort you're making to fish more selectively – whether you're tweaking your gear or changing your fishing practices."

Following an address from Marlborough Mayor Nadine Taylor – whose husband is a long-standing cray fisherman from the Marlborough Sounds – and a full day of programming, the conference was capped with the annual fish 'n' chip dinner and charity auction. The auction's proceeds support the Shipwreck Welfare Trust, which provides immediate financial support to families affected by shipwrecks and mishaps at sea around the coast of New Zealand. The 2023 auction raised \$40,133.

"Loss of life at sea is thankfully a rare occurrence nowadays, but the Trust is dedicated to providing immediate, unobtrusive support to grieving families should a tragedy ever occur," says Saunders-Loder.

"The Trust has been a major charitable focus of the Federation since the 1980s, and one the executive and members are proud to support."

The presentation of two well-deserved awards wrapped up the Federation's conference. Federation member and trailblazing quota broker Donna Wells was awarded the Electronic Navigation Shield Award. Made of 2000-year-old kauri and nearly a metre long, the trophy is given to someone who has gone above and beyond 'without fear or favour' to support and promote the Federation and its members.

Wells has over 30 years of experience championing women in the seafood industry and the small, independent fishers who catch high-quality fish for her Nelson-based company, FinestKind Ltd.

A Federation member since 1992, Wells says the award

was particularly special, as it came from within the industry.

"It's a recognition of the years of working with, and for, our wonderful and often challenging seafood industry," she says, following up her praise with a passionate plea for fishers to join her as a member of the Federation.

"You build up a lot of worthwhile relationships. Nothing is achieved alone, of course. It's also about the networks and friendships established

over the years that bind our industry.

"I have always been a strong supporter of the Federation. They are the glue that binds us together. The mothership! Federation Executive are always there – at the coal face. The combined knowledge and experience of this group is phenomenal."

"We need to encourage and support future generations of industry participants through training and fostering a sustainable future for the industry."

The second surprise award was presented to Saunders-Loder, in recognition of his tireless service to the Federation as president.

"Doug and his wife, Jane, were presented with a three-day Air New Zealand Mystery Break. At the AGM, the meeting unanimously agreed to provide Doug with Life Membership in recognition of his 20-year representation of the Federation on numerous matters," says Federation member Carol Scott.

Reflecting on members' ongoing enthusiasm for the Federation to remain engaged at the national level, Saunders-Loder says, "We are navigating an increasingly challenging political landscape. Members want the Federation to push for meaningful outcomes in legislation and on things like the use of cameras that reflect the practical realities of their work.

"With a new up-and-coming crowd of passionate young fishers, I can't wait to see what the next 70 years will bring."

Young Fish in action



Young Fish co-founder Ben Pierce with Sean Pennells - Salmon Smolt NZ.

Young Fish, New Zealand's newly formed networking group for young people involved in the seafood industry, has recently hosted two successful events that have connected young people from all backgrounds.

The first event was held as a precursor to the Federation of Commercial Fishermen conference in

Blenheim and attracted young fishers from the deep South to the Far North. The second was hosted in Auckland and attracted more than 20 young people from seafood marketing, science, and aquaculture.

Co-founder of Young Fish Ben Pierce hopes that these events will connect young people in Aotearoa New Zealand's seafood communities. Young Fish is on a mission to attract and retain young people in the seafood industry and is working hard to bring that plan to life.

These two events have been a great success and a chance to celebrate the diversity of young people in our sector. If you're interested in knowing more, or want to see where the next event is, go to www.youngfish.co.nz.



Young Fish members at Blenheim event.



Are you a part of the commercial seafood sector?

If you, your crew, or family need support to navigate what's ahead, get in contact.

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Early notice: to keep fishing you will have to renew your “MTOC”, eventually

Paul Craven, Maritime NZ, General Manager Regulatory Licensing

From early next year, approximately 1400 maritime operators' Maritime Transport Operator Certificates (MTOC) will start to expire. That means if you want to keep fishing you will have to renew your certificate, eventually.

This is an early “heads up” so you know what is coming over the next few years and you don't have to worry. Maritime NZ will give you several months' notice before your MTOC expires. You will not have to renew your MTOC straight away and there will be people who can help you.

The renewals will be happening because next year will be the tenth anniversary of the start of the Maritime Operator Safety System (MOSS). Most commercial fishing operators are in MOSS and have 10-year MTOCs.

Maritime NZ's planning is well underway to manage the renewals. We know the rate of applications will start slowly, then peak, then tail off, all over about



Paul Craven



five years – MTOCs won't all be up for renewal at once.

We are making sure that Maritime NZ's Regulatory Licensing team has the people, resources, work procedures and training they need to manage renewals smoothly. They and Maritime Officers will be able to help you.

We will be contacting each individual operator at regular intervals before your MTOC expires. We will give you practical information early about what to do and what information you must provide so you can help make your renewal as straightforward as possible.

We have started advising the maritime industry about the renewals and we will continue to do that through your organisations, at industry conferences and in maritime media, including here in *Seafood New Zealand*.

We have spoken at some conferences already, and it was great to have some of the larger operators come forward and ask if they could make early renewal applications. The answer is, “yes,” and we will be providing more information about when and how to do that as soon as the procedure for early applications is confirmed.

In the meantime, please share this information about MTOC renewals, keep an eye out for more from Maritime NZ and you can contact us by putting “MTOC renewal” as the subject of an email to enquiries@maritimenz.govt.nz.

VESSEL UNDER 400 GT?

The environmental emission standards that apply to commercial vessels, including those under 400 GT, are now in effect. Find out more at maritimenz.govt.nz/airpollution

Whānau, air and ocean. Together, let's protect them.



Kia Mataara

Primary Industries Sustainability Awards recognises excellence.

It was a big night for many in the industry, as the Ministry for Primary Industries 2023 Sustainability Awards named the best in the business.

Scott and Sue Tindale of Tindale Marine Research Charitable Trust were the Supreme Winners on the night, having earlier taken out the Ocean Guardian Award.

In other categories, Nelson fisherman Domjan Talijancich won the Operational Innovator Award for his work developing a camera with machine learning algorithms which enables identification of fish species as they enter a trawl net in real time.

The Market Innovator Award was won by Lucas Evans of Premium Seas, an early innovator in seaweed



Dan Bolger, Sue Tindale, Scott Tindale.



Caroline Read, Dom Talijancich.



Gary Hooper, Lucas Evans.

production for food. Working mostly with invasive species such as Undaria, Evans and his company produce Wakame Fresh, produce high quality product and create jobs in the Coromandel.

The Tangata Kaitiaki award went to Mai-Parituae-atu-ki-Turakirae Fisheries Forum. The Forum is a collective of interests spread along the east coast of the North Island and their aim is to improve management of the fisheries environment to encourage the sustainable provision of wild food for all sectors.

The Future Leader Award went to Sarah Bynevelt of Sanford whose work for the company in Bluff has seen her lead the way in sustainable solutions that have then gone on to be used company wide.

The winner of the Minister for Oceans and Fisheries Awards was the Pāua Industry Council's Storm Stanley and Jeremy Cooper.



Sustainability award kete were woven by Northland-based artist, Wendy Naepflin.



Lisa te Heuheu, Paul Ratapu.



Andre Gargiulo, Sarah Bynevelt.



Jeremy Cooper, Storm Stanley, Hon Rachel Brooking.

The Kermadec Con and the Kermadec Conflict

Eric Barratt, Former Managing Director, Sanford Ltd

Māori rejection, again, of a so called Kermadec sanctuary has nothing to do with the environment (the Con) and everything to do with broken promises (the Conflict)

First the Con. The benthic ecosystems in the large Kermadec marine zone are already protected by New Zealand law and have been since 2007.

In 2006, Sanford joined with the rest of the New Zealand fishing industry to implement a total ban on bottom trawl fishing in representative areas that together close 32 percent of New Zealand's EEZ through the creation of Benthic Protection Areas (BPAs) which the Government then legislated. The entire Kermadec EEZ is one such BPA; there was already a Marine Reserve in place around the Kermadec Islands out to the 12-mile Territorial Sea boundary.

The BPA extended conservation measures from 12 miles out to 200 miles, the edge of the EEZ and New Zealand's economic realm, by preventing all bottom trawl fishing. It does not prevent fishing within the BPA as long as this occurs above the bottom and avoids any damage to the benthic communities on the seafloor.



Eric Barratt.

BPAs are a world-leading response, promoted by New Zealand's seafood industry, legislated into place by the Government, and which remain in place today. Throughout the EEZ, areas significant to the benthic environment, including seamounts, knolls, hills, and canyons were

given legislative effect and remain protected today. Together, these marine conservation areas protect the benthic ecosystems within an area four times the size of New Zealand's land mass. This level of protection recognises the industry's commitment to ensuring minimal impact on our marine environment by New Zealand's sixth largest export earner.

Iwi and the Treaty of Waitangi Fisheries Commission were active participants and supporters of these conservation measures through the BPA proposals and legislation.

Sanctuary proponents say that BPAs don't stop exploration for oil and gas. This is nonsense as permission for oil and gas exploration can only be granted by Crown Minerals after first gaining consent under the EEZ (Environmental Effects) Act. This isn't likely to happen with all parliamentary parties understanding the importance of the unique untouched marine environment surrounding the Kermadecs.

Moreover, long-line fishing poses no adverse impact on the waters as it has no interaction with the seabed environment at all or any of the natural seamounts in the area because it is carried out in the near-surface waters mostly catching non-resident fish as they migrate through this area. In the last 30 years, only minimal long-line fishing has been undertaken in the area, mostly because of the distance from mainland New Zealand.

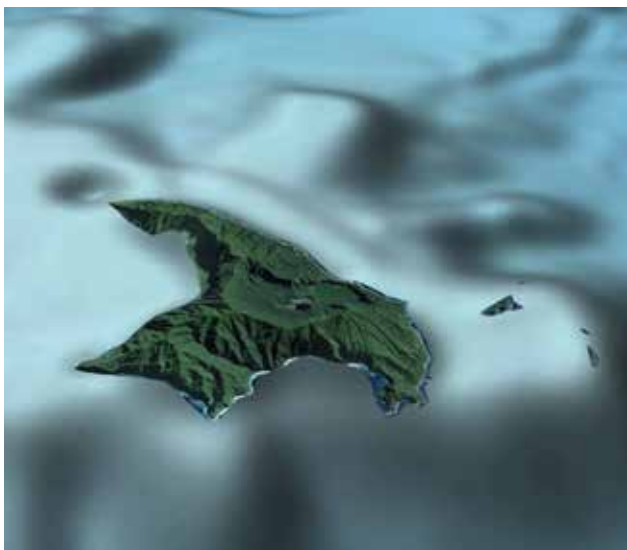
In 2015, former Prime Minister John Key announced a proposal to create a Kermadec Sanctuary to the United Nations at the behest of John Kerry, the US Secretary of State at the time. In New Zealand, Iwi rejected the idea within hours of the announcement.

Second the Conflict. Iwi rejected Key's proposal because it threatened to extinguish fishing rights established by the Treaty of Waitangi in 1840 and granted by Government to Iwi in law in 1992 through the settlement of commercial fishing rights.

In the intervening period, between 2015 and now, the representative organisation for Iwi fisheries, Te Ohu Kaimoana (the Māori Fisheries Trust), has been negotiating with the Government to find a way through the impasse so that Māori might find an acceptable arrangement and thereby give their support to the sanctuary's creation.



The Kermadec Islands relative to New Zealand. Map Wikicommons.



Raoul Island. Image NIWA and ESRI.

Despite a \$40 million sweetener, the principal issue for Iwi remains – the Crown gave Māori development rights to fisheries in the Kermadec region in 1992 to settle Treaty of Waitangi breaches but now seeks to extinguish these rights in perpetuity. The Crown giveth and the Crown taketh away, 30 years later, inserting a further element of doubt into the durability of Treaty of Waitangi settlements.

However, all of these salient points haven't stopped the activist environmental groups deliberately mischaracterising the Māori rejection as being "anti-environment" and accusing Iwi of selling out their principles and acting like lapdogs to the fishing industry. The fact is that Iwi not only collectively make up the single largest component of the fisheries sector and are actively engaged in the business of sustainable fishing, they also operate under "Te hā o Tangaroa kia ora ai tāua" acknowledging the Māori worldview that humanity has an ongoing interdependent relationship with Tangaroa. Iwi are part of the ongoing cycle of life – supporting marine conservation as an integral part of sustainable use.

New Zealanders should be able to see that neither of these allegations by environmental groups have

any substance. Further, environmental groups have failed to inform the public that the conservation controls in place around the Kermadecs out to 200 miles are effective in ensuring that there are no direct impacts by human activities. There is no need for urgency. There is time for the Government and Iwi to continue discussions and to seek agreement on whether or not further conservation measures might be desirable or necessary.

In June this year, Iwi again considered the Crown's offer and voted to reject the current compromise deal proposed by Government in exchange for Māori support of the proposed Kermadec Ocean Sanctuary.

The latest rejection by Māori should be welcomed by Kiwis. The sanctuary proposal has little, if any, environmental merit, is not based on sound science and had the propensity to further divide Māori-Crown relations.

The final political nail has been well and truly hammered into the sanctuary's coffin. It would now be seen as politically aggressive for the government to pass such legislation in the face of renewed and widespread Māori rejection.

To continue with the legislation will be seen for what it is – a Western global environmental agenda driven by extremely wealthy US and EU foundations, regardless of national interests. Effectively this would be neo-colonialism imposed by external decree. This agenda is being pursued by their henchmen: the environmental Non-Government Organisations, such as US-based Pew Environment Group, Greenpeace, WWF and others. It is this foreign-led agenda that not only convinced the last National Government to propose this sanctuary, but one that has also captured Labour politicians to continue with this intended imposition.

As the former managing director of publicly listed company Sanford Limited, I have taken a professional interest in the sanctuary since it was first proposed in 2009 when Pew launched its glossy discussion document, employed local Kiwi staff to lobby parliamentarians, and reportedly spent more than \$10 million in shoring up support, including contact with a couple of Northland tribes.

While Pew and their activist friends did their utmost to convince the country the sanctuary was needed to protect the environment and meet global marine protection targets, in reality the Kermadec sanctuary's importance lay in its symbolism as an example to hold up to the rest of the world. That is to convince other nations that they need to follow suit.

The sanctuary proposal, however, delivered no additional environmental protection than what is already in place through the Marine Reserve, the Benthic Protection Area and the EEZ Act.

Green Fish Curry



Warm up your table this winter with this green fish curry. So easy to make and perfect with ling, monkfish or hoki.

Ingredients

- 1 Tbsp oil
- 1 onion, finely diced
- 1 thumb-sized piece of ginger, peeled & minced/finely grated
- 2 cloves of garlic, finely chopped
- 2 Tbsp green curry paste
- 1-2 cups of fish stock
- 1 can coconut cream
- 1 can coconut milk
- 4 Kaffir lime leaves
- ½ disc of palm sugar, pounded up in pestle & mortar (or 2 Tbsp of brown sugar)
- 250g noodles
- 1 head of broccoli, cut into florets
- 1 stem of lemongrass, bashed to release the flavour
- 700 grams of firm white fish, cut into large chunks (Monkfish & Ling work well)
- Fish sauce
- 1 cup frozen peas
- Coriander, leaves picked
- 1 Kaffir lime leaf, thinly sliced
- 1 lime, cut into wedges

Method

1. Heat a heavy bottom saucepan to medium-high heat.
2. Saute onion in oil until translucent.
3. Add garlic and ginger, fry for a minute.
4. Add curry paste and fry for another minute, cooking out the paste. If its sticking, add a splash more oil.
5. Once fragrant, about 90 seconds, add ½ cup of the fish stock.
6. Cook out until reduced by half and add another ½ cup of fish stock.
7. Cook out again and add the coconut milk, coconut cream, lemongrass stem and kaffir lime leaves (all whole), and sugar.
8. Cook for about 10 minutes to infuse all the flavours.
9. While cooking, steam the broccoli and cook the noodles as per the packet instructions.
10. Taste the curry sauce. Add more sugar or fish sauce if needed. If it is too thick add some more fish stock and cook a little more.
11. Remove the kaffir lime and lemongrass.
12. Add the fish when you are happy with the flavour. Cook for a minute and then add the peas. Once you are happy the fish is cooked (no translucence left), it will probably take 3-5 minutes, remove from the heat.
13. Serve the curry sauce with the noodles, broccoli and top with coriander, kaffir lime leaf and lime wedges.

Recipe by Harbour Fish/The Macpherson Diaries





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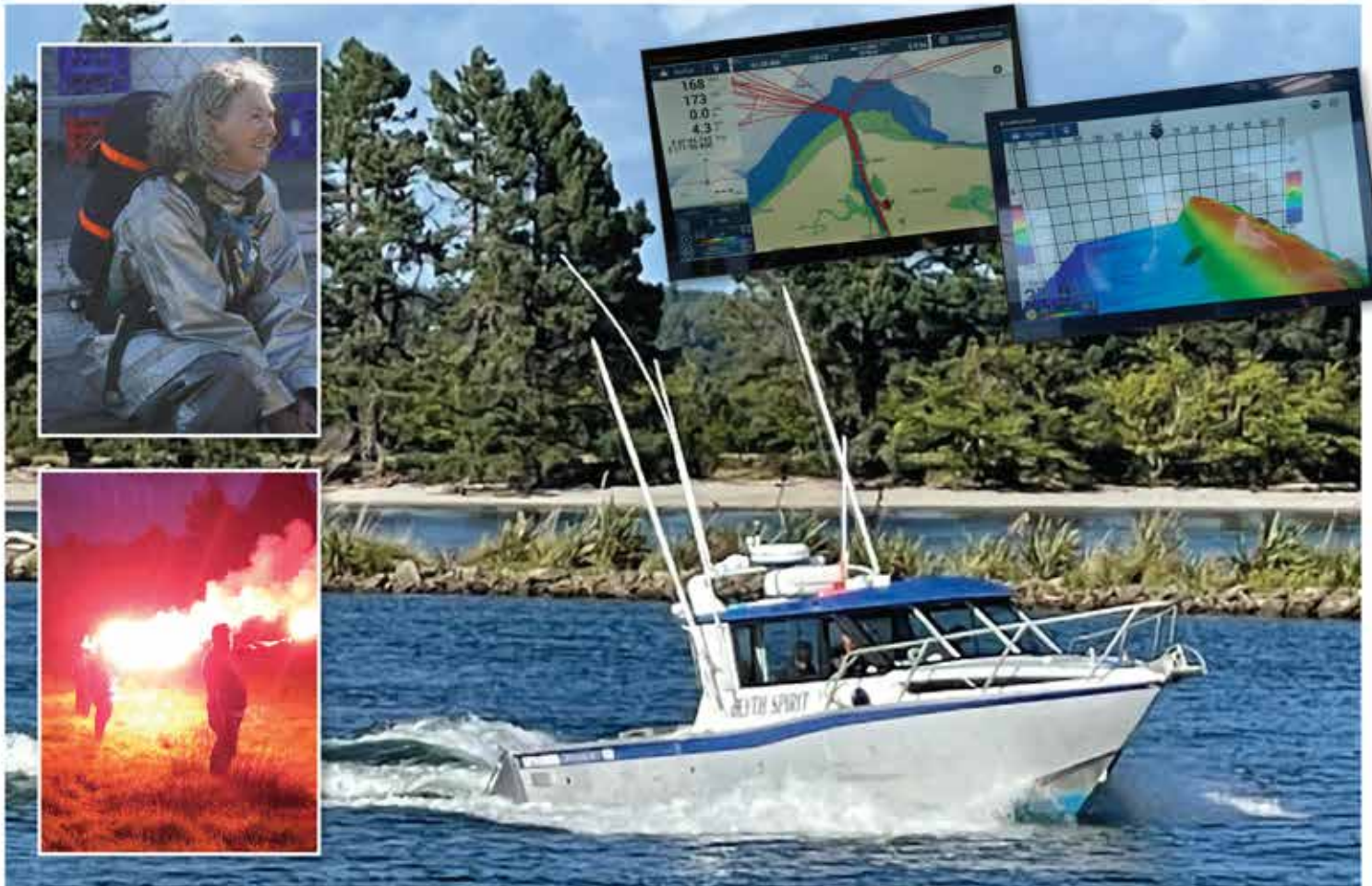
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