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EDITORIALS

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From the Chief Executive

Welcome to 2023.

With a busy 2022 behind us, it's time to focus on bedding in the major reforms progressed last year. While some may assume that cameras on boats, a new regime for landings and discards, and a revised offences and penalties regime are done and dusted, there is still much work to do to ensure the revised Fisheries Act is workable.

These major changes to fisheries legislation, the first in decades, are covered in this issue of Seafood NZ magazine by Tom Clark, Policy Manager at Fisheries Inshore New Zealand. As Clark points out, it could have been worse, however it could have been a lot better had government taken the opportunity to position the industry towards a data and information-led future. He points out the changes could have built a better, more sustainable, more profitable, and more strategic industry, but instead focused on reactive changes, based on a mixture of misinformation and historical events that have largely been addressed.

In our first issue of the year, we feature NIWA's land-based aquaculture farming of kingfish, or Haku, in Northland. It has been a 20-year project and they are reaching the stage of moving from science to commercialisation. Chefs around New Zealand can't get enough of the product and are eagerly waiting production to scale up to 600 tonnes per year.

We also visit the port of Mangōnui in the Far North. It is a well-known holiday spot with idyllic golden-sand beaches, but it is also one of the busiest fishing ports in the country. We talk to fishers young and old about the industry, their optimism, and their challenges. We also visit one of the only wood-fired smoking facilities in the country, fuelled by the local manuka.

State of the Art drone surveillance of Maui dolphins is also covered, and we take a look at maritime superstitions, because we all need to do what we can to make this year one to remember for all the good reasons.

And finally, politics. The last few weeks have seen changes; some big, some small. We say welcome back to new Oceans and Fisheries Minister, Stuart Nash who takes over from David Parker. Thank you and goodbye to Todd Muller, the Opposition spokesperson for Oceans and Fisheries and welcome Scott Simpson. More significantly, Rt Hon Jacinda Ardern steps aside, with Chris Hipkins voted by the Labour caucus to lead the Party, and we look ahead to the General Election on 14 October.

With major reforms behind us, we assume the current and future government will have bigger fish to fry than the seafood industry. The voting public will be a lot more concerned about their grocery bills and mortgages in the current economic downturn and it would be deaf policymakers who ignored that and did more fiddling with the country's primary sector and food producers.

Dr Jeremy Helson
Chief Executive

Oyster hatchery opens



The newly opened hatchery, Kirikiritātangi.

Moana's ground-breaking oyster hatchery opened in Nelson recently, increasing production capacity and ensuring a reliable supply of oyster spat.

Moana is Aotearoa's largest oyster producer, and this \$5 million venture is part of the company's \$21 million, five-year investment plan to grow its capacity, says chair Rachel Taulelei.

"This hatchery, Kirikiritātangi, is phase one, and it will help us achieve sales of 1.65 million dozen oysters per year by 2027," she says.

Taulelei says the hatchery will help provide end-to-end control of the oyster growing process, increasing consistency and reliability of supply.

"One of the critical success factors behind our growth plan is the reliability of spat supply, and the hatchery is key to this. The Pacific oyster industry started in the 1970s with farming methods based on catching wild spat on sticks. This is still standard practice in the industry, but outcomes are difficult to control and very seasonal.

"Our selective breeding programme began more than 20 years ago and along with improved husbandry practices, it has enabled us to produce consistently high-quality oysters year-round."

The first commercial run from the new hatchery is due later this month, and when it is running at full capacity, Kirikiritātangi will provide high quality oyster spat to Moana's farming sites throughout the North Island.

Moana is the first fully integrated oyster company in Aotearoa and is an example of Māori leading the industry.

"Iwi are our shareholders and remain at the heart of everything we do," Taulelei says.

"As a proudly indigenous commercial business with long-term views, our people are engaged throughout our oyster business.

"Manaakitanga and kaitiakitanga are two of our key values and we take them really seriously. We work collaboratively and contribute to our local communities, not only through employment opportunities but by

NEWS



Moana chair Rachel Taulelei.

improving the way our kaimahi work. We engage local suppliers, as we did here in Nelson, and we continue to showcase our premium kaimoana to the world."

Taulelei outlines how innovation is used right across the business.

"As New Zealand's largest tio (oyster) producer, we recognise that innovation will sustain us into the future. Along with our breeding programme and



Moana is New Zealand's largest oyster producer.

state-of-the-art hatchery, we've also begun removing existing tio farming infrastructure and replacing it with semi-automated farming technology. So instead of old timber rack structures, we have floating tio baskets on longlines.

"This not only creates better working conditions for our kaimahi, but it has less impact on te taiao, the environment."

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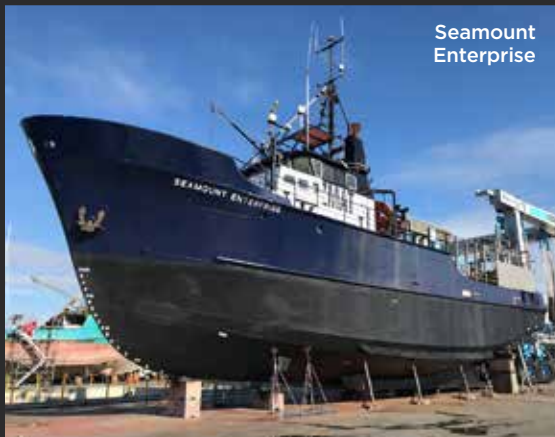
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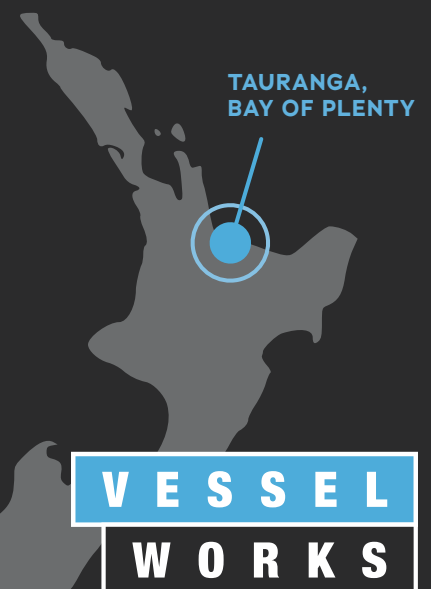
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Leap of faith: fisher's wisdom safeguards the future



Colin Smith with a groper on his tinny.

Swapping the wheelhouse for an office was a career move Colin Smith expected would take some getting used to. Fiona Terry meets the ocean-loving fisherman of over 32 years, to find out how he took to life on land like a duck to water.

When Smith was offered a non-vessel role at Westfleet Fishing over five years ago, he wasn't sure it was the right move, but decided to take a leap of faith. Instead of yearning for life at sea, he has relished the wealth of extended learning opportunities it's afforded him. And now his move, not to mention his breadth of wisdom, is set to benefit the industry as a whole, as a new executive member of the New Zealand Federation of Commercial Fishermen (NZFCF).

Smith had been at sea since the age of 18, racking up a wide range of experience – including inshore,

deep-sea, hand lining, surface lining, drop lining and even pāua diving – culminating in seven years as 1st Mate on Westfleet's *Tasman Viking*, fishing for alfonso and orange roughy out of Nelson. He'd decided the time was right to move on, but Managing Director Craig Boote had other ideas, having spotted Smith's potential and offering an opportunity on an essential mission. Taking on the compliance role for a business that fishes off the West Coast with vessels going over the infamous Greymouth Bar was enough to tempt the Napier-born lad from finding pastures

new.

Some warned it would take years to adapt to a desk-based role, but Boote encouraged Smith to expand his horizons through further study – a move that's led him on a whole new journey of discovery, including an extended love of learning – something he says would shock his teachers from school as he'd never been academic as a teenager.

The compliance role was interesting for Smith, with six boats at the time to oversee.

"I did that for eight months and then he offered me the GM job. He'd seen something in me that I hadn't seen and by encouraging me to do the courses, helped prepare me for a new direction. I could never have sat down here with a deep-sea Skipper's Ticket and pretended to know anything about office work, how a business runs or how a business is structured."

Smith has studied a number of topics, including business management, accounting, project management and human resources. "These days I'm what they call 'a spreadsheet fisherman'," says the 56-year-old with a laugh.

"It's amazing how you can tell from a spreadsheet what the boats are doing – the figures tell a story. Once a course finishes, I can't wait to start another one. I thought I was just a dummy at school, but now I study and I love it - it actually drives me."

This is quite a departure from the years at sea that have led to an extensive CV with experience on many vessels.

His first trip from Napier was aboard the inshore vessel *Dawn Breaker* as deckhand.

"As a lad I loved just staring at the sea, going down the Marine Parade and looking at the ocean. My parents would buy fish off the boats for dinner and I used to watch big ships disappear on the horizon and wonder where they went. None of my family are



Colin Smith.

fishermen or sailors, and I'd never been on a boat before, but I just thought I'd give fishing a crack. I joined up as a deckhand with Richard Barnett Fishing, just to see what it was like. I loved going out on the little 40ft set-netter for moki. The trips weren't long,



Smith in his tinny 'waiting for something to happen'.

just two or three days, and the skipper would take a bag of lollies and that's how you'd judge how long you'd be at sea – by the size of the bag of lollies. To be at sea was fantastic. The money just came with it, but my first call was to be at sea."

Following that he moved to Nelson, the country's biggest fishing port, and also spent some time working out of Wellington. Within four years he was a skipper – of the *Challenger 11* pāua diving vessel. In his earliest years he also worked extensively with Denis and Michael Wells. "That was before the quota system," says Smith.

"We went all round New Zealand and could catch fish anywhere. For a young lad to get paid to go to all these ports was quite exciting."

Later, also with the Wells brothers, he enjoyed fishing in the South Pacific. "I remember the first long trip I did, which was for four months albacore fishing. It was just zinc, sunglasses, shorts and jandals. Those times in the South Pacific were probably my favourite fishery. Every trip when we were drop lining outside the EEZ we would spend two days outside the line, grid-searching for new features. That gave me a buzz. On a few new features we found the bass were so big they were the size of cows."

It wasn't until he was working on Sealord's *Lord Auckland* in 1994 and went to sit his deep-sea Mates Ticket at the age of 29 he realised that although he'd never intended to, he'd made the sea his life. "The tutor said 'welcome to your career' and that's when I thought, maybe you're right."

By 1996 Smith was doing his deep-sea Skipper's Ticket. "Every course I've ever done was amazing to



Pāua diving in Kaikoura.



Scallops and Gurnard.

My father was just blown away that I passed my tickets first pop. I studied really hard because I didn't want to go and do them again and have no wage."

Once on the deep-sea boats, Smith took an active role in health and safety.

"I actually wrote my own manual on each boat on firefighting and lifesaving so that I could tailor it to the gear on the individual vessel. I did that too on the *Viking*. Craig had obviously heard about it, so when MOSS came along and we all had to develop our own safety systems for vessels, Craig offered me the job.

"There were plenty of times I was gonna throw it down the ramp and say 'Craig this is too much for me' but I quickly had to learn a lot about Microsoft Excel and I now love Excel."

Now, as GM and based in the company's offices in Nelson, he does spend some of his time on the Coast, where Westfleet currently has four boats. Part of his compliance responsibilities initially involved a trip on each boat at least once a year. His first voyage in this role was on Westfleet's smallest boat, *Jay Elaine*, and it was the first time he'd been over the Greymouth Bar on a fishing trip.

"I remember thinking, 'Oh my God I take my hat off to these guys,'" he says.

He no longer needs to venture out on the fleet vessels, but still gets some time on the water in his recreational vessel, his '5.8m tinny'.

"My partner likes diving and fishing too – although she likes fishing more than me. I'm not really good at recreational fishing, trying to catch a fish on a hook, but it's always fun."

He still dives for pāua, with a mate off *Viking*, but admits he doesn't really get much spare time these

"My partner likes diving and fishing too – although she likes fishing more than me. I'm not really good at recreational fishing, trying to catch a fish on a hook, but it's always fun."

days. Despite his already stretched schedule, he's been happy to add to his list of responsibilities the place on the executive at the NZFCF, or 'The Fed'.

"It was Craig who got me going along to the conferences," says Smith.

"It really opened up my eyes. When the doors are shut and fishermen are actually talking to each other about issues they have, I found that really powerful to know others have got the same worries. We need shoreside people to go to these meetings to represent industry because fishermen are actually out there fishing. If we don't attend and put our points across then people are going to make decisions without our input. I'm not the most voiced person but at the end of the day, as a group we can make a difference, and we have Doug Saunders-Loder as president to approach ministers and represent everyone's thoughts."

With his vast range of experience in different fisheries, Smith's input is sure to be valued and puts him in a good position to empathise and relate to crews in many different situations.

Fuel costs were a hot topic during his first sitting on the executive, as was the extra costs of reporting and cameras.



Tasman Viking.

"I have heard that some inshore guys are thinking of pulling out," says Smith, who also represents Westfleet at the Health & Safety New Zealand Fishing Forum.

"The problems of crewing vessels have also been a concern for many. I don't know what's happening because there doesn't seem to be many youngsters coming through. When I was younger and even when I was mate and skipper, everyone had crew waiting to get on boats.

"I still think it's a great career. My life at sea has ended up getting me all over the world – I've been to the Islands fishing, and Fiji, to Australia for work and even taken a boat out to Africa. Since being in the office I've been to Japan, Vanuatu and Hobart. There aren't many jobs you'd get to go around the world, especially for a person who didn't do very well at school. There are so many opportunities and also life skills to be learnt.

"People said it was lack of social media access putting youngsters off joining vessels, so we put wi-fi on our boats and the factory boats have had it for



Smith 'spreadsheet fishing'.

years. At Westfleet we've got satellite TVs too."

He's now enjoying having an input into Westfleet's new \$6 million state-of-the-art 26m-longline vessel which will see every crew member's bunk have its own screen with wi-fi, and which will be one of only two longliners ever to be built in New Zealand and the biggest by nearly 10 metres. It will be called *Te Runanga* after the West Coast town in which Boote grew up.

"It's exciting not just us but for the West Coast too, and it's interesting seeing the building process from the start, from a paper plan, and getting involved in the design. That's something else I've never done before and another example of how my role is very dynamic. That's one of the things I like most about my job, as well as seeing the boats go out and achieve the budgets we're setting on our plan. If it all works and all goes well it's great – for me that's the same as the feeling I'd have got from filling the boat up.

"I'd always thought I was going to retire as a fisherman, but somehow, as soon as I came ashore I never missed going to sea."

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Māui dolphin drone surveillance expands



MAUI63 team preparing for a drone trial flight. Image: MAUI63.

As anti-commercial fishing pressure mounts, the industry is supporting an innovative drone programme aimed at understanding and protecting elusive Māui dolphins. Tim Pankhurst reports.

Drone coverage of critically endangered Māui dolphins off the North Island west coast is entering an expansive new phase.

The Civil Aviation Authority has just granted a Māui monitoring project the country's first approval of drone operation beyond the line of sight.

This will greatly extend monitoring of the elusive creatures and remove the need for an accompanying boat governed by weather conditions.

"Pretty much everything we know about these animals is in the summer," says project co-leader Dr Rochelle Constantine, professor of marine ecology and conservation biology at the University of Auckland.

"What we do know is they usually come in close to

shore in summer in tight groups, they are often seen in the surf zone during breeding season.

"That's what Hector's dolphins do and Māui are almost certainly the same.

"Around March/April they probably disperse. We don't know if they spread along the shore in ones or twos or threes, or if they go offshore.

"We will now be able to fly when the sea is big, not being reliant on the Department of Conservation (DoC) boat, as long as it's not too windy.

"Then we can survey in the winter."

The targeted area is south of Raglan to just south of Kaipara Harbour.

The programme is funded primarily through the

Ministry for Primary Industries' Sustainable Food & Fibre Futures Fund, with support from fishing companies Sanford and Moana and the World Wildlife Fund and some private donations.

So how accurate is the artificial intelligence in identifying tiny, rarely seen creatures in a vast sea?

"The AI is really good, it is cutting edge technology" says project co-leader Tane van der Boon.

"We're getting accuracy in the 90 percent plus for detecting dolphins against footage. It's not by any means perfect yet but it's pretty good.

"We were on the boat and didn't see the animal but the drone picked it up."

The drone is an impressive piece of kit.

It has a wingspan of 5 metres, a speed of 120km/hr, a range of 50km, can stay aloft up to six hours and weighs 40kg fully loaded.

Next month it will be joined by two others. That is if one of them survives a three-month deployment to Antarctica in the meantime.

"The idea is to survey as far as possible for as long as possible as safely as possible," says Constantine.

Constantine has been working on Māui dolphins for more than 20 years, including estimating numbers for the critically endangered species based on aerial surveys.

The numbers are relatively stable, with the margin of error overlapping over 10 years, but remain worryingly low.

In the 2010-11 the estimated number of Māui aged more than one year was 55. Five years later in 2015-16 it was 63. The latest survey in 2020-21 showed a drop to 54.

It was only in 2002 that Māui were classified as a subspecies of *Cephalorhynchus hectori*, previously known as North Island Hector's dolphin. Hector's appear identical but are not as endangered, their numbers an estimated 15,000.

The Māui name is drawn from Te Ika-a-Māui, the Māori name for the North Island.



Māui dolphins jumping. Image: University of Auckland, Oregon State University, and Department of Conservation.

The development is timely given increasing claims New Zealand is not doing enough to protect the small remaining Māui population.

Increased international pressure is being applied on the New Zealand fishing industry with the decision of a US court in December to place a temporary ban on seafood exports that may be sourced from Māui dolphin habitat and adjacent areas.

The New York-based Court of International Trade in December placed a temporary ban on the import of a number of fish species, including snapper, tarakihi, spotted dogfish, trevally, warehou, hoki, barracouta, mullet, and gurnard, caught on the west coast of the North Island.

The case was lodged by the Sea Shepherd organisation following its success in 2018 in gaining sanctions against imported Mexican seafood.

Sea Shepherd has been active in protecting vaquita porpoises, the world's most endangered cetacean with an estimate of fewer than 10 surviving as of February 2022, that are endemic to the Gulf of California in Mexico.

Vaquita are caught in gillnets set by illegal fishers in marine protected areas.

Their target is the totoaba fish, which contain swim



Māui dolphins in their nearshore habitat. Image: University of Auckland, Oregon State University, and Department of Conservation.

bladders sold to China for medicinal purposes for tens of thousands of dollars.

Fishers have operated openly from coastal villages in the lucrative trade under the eyes of corrupt officials.

To equate the vaquita plight and the actions of Mexican officials with that of Māui and the Government and industry response in this country is clearly unjust.

Seafood New Zealand chief executive Jeremy Helson says the US decision is an interim one only and the court has yet to issue its ruling on the substantive issues of the case.

"Any assertion that this ruling is in any way is a criticism of the Ministry for Primary Industries' risk management decisions around Māui dolphins is not reflected in the court documents," he says.

The Māui dolphin issue is politically fraught and a source of immense anguish to commercial fishers on the west coast of the North Island who have seen their livelihoods diminished under bans imposed on set netting and trawling in large areas of traditional fishing grounds.

But key activist conservation and academic sectors continue to paint commercial fishers as the villains driving Māui to extinction.

"The thing that really made a difference at the University of Auckland was that we made all of our information openly available. Anyone who wants to look at it could and that was a real game changer."

That view is endorsed by Stuff and in particular its senior writer Andrea Vance who consistently presents an anti-fishing narrative.

"Onshore, efforts (to protect Māui) were thwarted at every turn by a well-connected and politically savvy fishing industry, and a complex debate about a property right in fisheries for Māui, which is entrenched in law," Vance wrote in The Dominion Post (Dec 12, 2022) in a two-page "in depth" feature covering the US court decision headed 'Rare victory for nature'.

Māui are "collateral damage in our insatiable drive for economic growth", Vance claims.

She was similarly mis-informed when writing on a current review of the impacts of bottom trawling, claiming over 90 percent of the 200 nautical mile Exclusive Economic Zone had been contacted by trawling activity.

That erroneous claim was made in a prominent article in The Dominion Post of Jan 28 last year and on Stuff.

The actual figure is the opposite – around 92 percent of New Zealand's seabed has never been trawled.

That gross error, when challenged, drew a grudging correction buried on page 5 of a subsequent edition.

The MAUI63 team steers clear of the politics but is naturally aware of the antagonism between opposing sides.

"For many decades now there has been a lot of distrust between science, conservationists, industry – both recreational fishers and commercial," Constantine says.

"It's not just one way. There have been a lot of challenges from misconceptions, of parties not taking the concerns of others or the viewpoints of others into consideration. It still exists among some people.



MAUI63 co-founders Willy Wang (operations manager), Rochelle Constantine (science lead), and Tane van der Boon (project and technical lead) with a development stage drone. Image: MAUI63.

"The thing that really made a difference at the University of Auckland was that we made all of our information openly available.

"Anyone who wants to look at it could and that was a real game changer."

She says there has been no contact from Sea Shepherd or any American Government agencies regarding the university's Māui research.

Sanford, the country's oldest and largest fishing company, withdrew from Māui habitat in 2016 "to avoid fishing where these beautiful creatures might be".

Chief executive Peter Reidie says all the good work that has been done may be overshadowed by the attack via the courts by an organisation that has not engaged with the fishers to understand all the measures put in place to keep Māui and other dolphin species safe.

But Sea Shepherd New Zealand head Michael Lawry says the US court decision sends a strong signal that stronger regulatory control is needed.

For commercial fishers most affected, that attitude is deeply frustrating.

A huge area of the Tasman Sea along the coastline – 32,675 sq km – is now closed to set netting, with the area increased again at the end of last year.

The area closed to trawling is also substantial at 12,825 sq km.

Fishers have countered the extensive restrictions by moving to longlining where practicable. Observers accompany vessels in the areas deemed at risk.

Māui are rarely, if ever, spotted and there have been no recorded captures for 20 years.

"We do know in the last 10 years, two Māui died from toxoplasmosis, there were shark bites on one and there was a fatality from brucellosis as well," Constantine says. "There are different things that kill these dolphins other than fishing.

"That is important to acknowledge."

The drone development is not limited to Māui spotting.

"There is a lot of potential to give more information," Constantine says.

"We can put other detecting devices on it such as a spectrometer that can show colour patches on the ocean, micro currents, water colour as an indicator of turbidity, water flow.

"We have also been trialling AI for other species – common dolphins, whales, seabirds, sharks.

"It is all about monitoring marine coastal habitats, because there is none of that in New Zealand.

"It's a real problem. We're an incredibly rich species country with much marine life close to shore. Some of them have interactions with fisheries."

Toxoplasmosis, also a significant cause of abortion in sheep, is recognised by DoC as a serious threat to the Māui population. Its draft management plan aims to reduce the toxoplasma loading to the marine environment by 2035 "so that the number of dolphin deaths attributable to toxoplasmosis is near zero".

But it is vague on how to achieve this.

"This plan will be adapted as our knowledge improves," DoC says.

It notes the lack of social licence to control domestic cats, whose faeces containing the toxoplasmosis bacteria contaminate waterways flowing to the coastal seas.

In the meantime, while DoC works on its response, the secrets of our most endangered cetacean are closer to being unlocked.

A separate challenge is convincing the international community that the New Zealand fishing industry is doing everything possible to safeguard Māui dolphins from harm.

Bioactives centre unlocks marine secrets



Aerial view of Sanford's new Bioactives plant in Blenheim.

The hidden properties of many species of New Zealand seafood will be explored and unlocked at a new marine extracts plant, recently opened in Blenheim, Marlborough.



Andrew Stanley, General Manager, Innovation, Sanford.

The \$20 million plus Bioactives innovation centre is the brainchild of New Zealand's largest seafood company, Sanford, and it will make the most of the beneficial properties of several of Aotearoa's under-appreciated marine products.

Sanford's General Manager of Innovation, Andrew Stanley, says the plant will do two key things.

"Firstly, Sanford Bioactives will take marine products which we already know have beneficial properties. That's products like Greenshell mussel powder, which has proven anti-inflammatory and joint health benefits. We already make it, we already sell it, it is very popular. Our new Bioactives centre introduces new tech and equipment which gives us a chance to double and eventually quadruple our output.

"Secondly, there are the new areas of marine extracts and science we are going to explore. The potential is huge, given that Sanford is a fishing and aquaculture company that works with more than 100 different marine species. We already know quite a bit about some of their hidden properties and we will be working to discover more. This science is being done with great partners like Cawthron, Plant



Hoki skin being prepared for collagen extraction.



Dried hoki skin ready to be turned into pure collagen.

& Food, and Massey University. Our Blenheim plant will be a home for much of that work."

Sanford CEO Peter Reidie says some of the products Sanford will be making in Blenheim can sound like science fiction the first time you hear about them.

"Hoki skin collagen is one of those. Sanford has been producing this at a relatively small scale. We extract the collagen from the hoki skins and then one of our partners turns it into a nanofibre. That fibre is then woven into beauty masks which melt on contact with damp skin, delivering the collagen deep into the dermis.

"These sell out in South Korea, showing that there is huge potential to grow and to make the

"The potential is huge, given that Sanford is a fishing and aquaculture company that works with more than 100 different marine species. We already know quite a bit about some of their hidden properties and we will be working to discover more."

most of a product, in this case a fish skin, which many people would previously have seen as waste.

"This all fits with Sanford's strategy to improve the value utilisation of the entire fish and eliminate waste. We see this approach as key to sustainability and getting more value out of New Zealand's precious seafood.

"Blenheim is currently world famous as a centre for beautiful New Zealand wines. We believe it can and should become famous as a home for marine products and extracts that can take the world by storm."

The Sanford Bioactives centre is creating new jobs for scientists and technicians in Marlborough. It will eventually employ up to 48 people.

Reidie says "what we know already is very exciting – more jobs, better value for our seafood – but what we don't know yet is equally exciting. What are the products of the future that will come out of this plant? They could be anything from new beauty products to compounds with medical benefits. There is so much potential from seafood such as our Greenshell mussels, which are unique to New Zealand, and we can't wait to see what our Bioactives team will do in the future."

Yellowtail kingfish offers a

The Northland Marine Research Centre in Ruakākā is where NIWA's 20-year-long vision to have an aquaculture facility growing premium fish is about to leap from small-scale research into large-scale commercial viability. These are exciting times, and a golden opportunity for industry to get onboard, as Lesley Hamilton reports.

Makoto Tokuyama serving Kingfish at Cocoro restaurant in Ponsonby, Auckland.

golden opportunity



The Northland Aquaculture Centre at Bream Bay. The tanks at an early stage of construction. The whole facility is completely covered in – ready for the production of 600 tonnes of Haku kingfish a year. Image: CB Civil.

It is pouring down in rural Northland. Torrential, monsoon-like rain as only the more tropical climes can deliver. A seemingly endless storm has been coming and going for nigh on 18 months up here, thanks to the La Niña weather pattern.

NIWA (National Institute of Water and Atmospheric Research) know a thing or two about weather and they cheerfully tell me the worst is yet to come today.

The Northland Aquaculture Centre (NAC) is on former Marsden Power Station land, and the large pipelines that were originally constructed to bring water from adjacent Bream Bay to cool the Marsden Power Stations are now being used to supply high-quality seawater to NIWA's land-based aquaculture facilities.

Only half of the 8.2-hectare site is developed but is already home to 200 research tanks, ranging between 200-70,000 litres capacity and recently completed the build of a commercial scale Recirculating Aquaculture System (RAS) consisting of eight 350,000 litre tanks that will be used to grow premium, highly sought-after yellowtail kingfish or Haku, which is both the Māori name and brand name. This \$18M RAS investment, jointly funded by NIWA and Northland Regional Council, will be fundamental to advancing commercial Haku production.

Dr Rob Murdoch is General Manager of science and Deputy Chief Executive at NIWA and says the

pending commercialisation is the culmination of work started in 2000.

"It was then that we decided to revisit our aquaculture research strategy and made the decision that we needed to concentrate our efforts on species that we knew had commercial potential. It is very easy to underestimate the time and cost to commercialise a new aquaculture species."

"Up until that point we had been studying a whole range of different species and it became apparent that some of those species were unlikely to be good candidates for New Zealand aquaculture," Murdoch says.

Scientists went through a process of looking at a whole range of different features of potential aquaculture species.

"Was the species known in the market already, either nationally or internationally? How complicated was their life cycle? How rapidly

"We are now at the exciting point where we can start to culture kingfish at commercial scale, and hence the development of the new RAS that will hopefully produce around 600 tonnes of kingfish or more per year."

did the species grow to market size and were the fish species amenable to commercial cage or tank culture in the first place? The other key element for us was, was it a high-value species with a plausible business case for commercial production?

"In 2000, our aquaculture sector was dominated by relatively low value species and focusing on only high value, high margin species was an opportunity to really grow the sector.

"We went through that exercise and came up with yellowtail kingfish. There was already, at that stage, some aquaculture of yellowtail kingfish in places like Australia so we knew it was feasible at least. And then the other species we came up with was hapuku – and the advantage of those two species was one is a warm water species, and the other is a cool-water species, so potentially we would have two high value species that could be grown at opposite ends of the country."

NIWA has been working on those two species ever since.

"With kingfish we have closed the lifecycle, through our brood stock programme we have managed to increase the growth rates of the fish and improve the food conversion rates, so we now have a fish that we can grow from a one-millimetre egg to three kilos in less than 12 months. We can also spawn the fish at any time of the year, which means we can theoretically produce the same size fish on a weekly basis."

He says the vision was to produce a high-value species that could maximise returns for the seafood sector in New Zealand. While there has been considerable interest in growing other high value species, such as scampi and rock lobster, these have culture characteristics that make them difficult to grow from a financial perspective.

"For example, scampi are incredibly cannibalistic. You put two scampi in a tank, and one is going to disappear."

Although kingfish also like the taste of their own, early size grading and good husbandry prevent small fish becoming dinner for larger ones.



Tank-reared Haku kingfish are ready for harvest at about 3kg after just one year at NIWA's Ruakākā aquaculture facility. Image: Stuart Mackay, NIWA.

Murdoch says they were looking for species that were reasonably well-known in other parts of the world and, as it turned out, the hapuku and yellowtail kingfish appear right round the Southern hemisphere, which is an advantage because people already know the fish.

"We are now at the exciting point where we can start to culture kingfish at commercial scale, and hence the development of the new RAS that will hopefully produce around 600 tonnes of kingfish or more per year."

Kingfish are first cab off the rank, but hapuku is showing promise for the future.

"We have just returned from a trip to Europe, and it is clear there is huge market opportunity for kingfish. In some places they are stopping their salmon culture and moving to kingfish because they are getting higher values for kingfish than for salmon."

In the beginning, the expectation was always that NIWA would on-grow the fish in sea cages.



NIWA's Northland Aquaculture Centre Chief Scientist Dr Andrew Forsythe with juvenile Haku kingfish. Image: Stuart Mackay, NIWA.

"But it has been extremely difficult, as we all know, to get access to good marine space. So, we ended up in a position where we had to start looking for alternatives and hence our focus on land-based development.

"We don't see it as a replacement necessarily, but it is exciting to have a system that can sit alongside sea-caging."

Murdoch says in Europe, there is a real move to land-based aquaculture systems.

"That is mainly because of some of the problems they are having around disease, parasites, warming oceans and social licence. You can control a lot of those things better on land using RAS technology."

Another advantage is that not a lot of land is needed, and the environmental footprint of growing the fish can be minimised.

"While RAS has been around for a long time, there have been a lot of technology changes and with that a lot of cost changes and it has now become economically feasible to farm on land using these systems."

Over the next 18 months NIWA will ramp up its experimental commercial scale production of kingfish to 600 tonnes per year, while working with marketing and distribution specialists to ensure this fish sits alongside the very best of NZ aquaculture products.

"Marketing it is not NIWA's traditional role. We did go out to industry some years ago and while they recognised the opportunity, they weren't convinced we could grow our kingfish at scale. Since that time our applied research has produced between 500 and 1000 kg of fish per week which we have supplied to select customers to gain insight

into market demand. With that understanding of the market combined with the technical, the biological, and the financial feasibility of growing these fish we will prove our ability to produce premium product at commercial scale over the coming year."

Based on observations overseas, NIWA is confident of taking 600 tonnes of fish out of the facility each year but is confident that it will be able to exceed this level of production.

"We need to see how the fish perform in the system we have developed, establish how the systems perform when stocked and forecast practical production levels. A fundamental consideration is the wellbeing of the fish. Kingfish are visual feeders and therefore most active during the day. We know that the fish do best when the environment is consistently favourable in terms of temperature, oxygen, and pH and that ammonia, carbon dioxide and particulates in the water column remain low. This is best achieved when the fish are maintained under constant light with regular feeding. While 24-hour light may seem counter intuitive, our experiments and the research of others tells is that this consistency is key to fish health and system performance," says Murdoch.

Andrew Forsythe is NIWA's chief scientist of aquaculture and biotechnology and has been working on this project for twenty years and is especially excited by the development of the new RAS.

He says that with RAS there are several processes that water needs to go through before it is recycled to the fish.

"As in all farming systems, our aim is to grow the stock in the most efficient way possible. That efficiency comes via good animal health and welfare. In short, we remove the waste products the fish produce and restore those things the fish consume. This starts with careful feed management while minimising wastage. We employ highly digestible feeds which result in faeces which stick together. The first thing we do then with water leaving the fish tanks is to pass the water through special screens to remove as much particulate waste as possible.

"The second thing we do is reduce the ammonia. This ammonia is produced when fish metabolise protein. Ammonia passes from the fish to the water through the gills. If ammonia is allowed to accumulate it is toxic, so we provide a chamber which is filled with plastic biomedica, to support bacterial colonies which consume wastes which are too small to be captured by the screen filters and convert ammonia, first to nitrite and then to nitrate which is effectively non-toxic. Fish breathe through their gills: they take up oxygen and return carbon dioxide to the water. Biofilter bacteria also respire, so the next step is carbon dioxide removal. This is called degassing and achieved in a tank where we vigorously bubble large volumes of air through the water. In this chamber, carbon dioxide moves from the water into the air and vented to the outside. UV sterilisers assure the system remains free of unwanted organisms. We then pump the water back to the fish and just before it enters the tank side, we add oxygen to ensure the fish are never deprived or distressed.

"So, we are trying to replicate all the processes that happen in nature to maintain a fish-friendly environment in a very compact space. Twenty years ago, the equipment to allow this process would have been as big as the tanks that the fish are in – these days it is only 20 percent of that size. The more efficient we can make this process and the lower the energy requirements to do so, the lower the cost is to produce these fish. The equivalent of one 350,000 litre tank of water, will be through the process every 20 minutes or so and, when the tanks refill, 98 percent of the water will be water that has been cleaned and reticulated through the system

"Each spawning female fish produces around two million eggs a week, and the spawning season can span two months, so a large female can produce more than 10 million eggs per year."



NIWA Deputy Chief Executive and General Manager, Science, Dr Rob Murdoch. Image: Rebekah Parsons-King, NIWA.

with the other two percent being new seawater from the Bay," says Forsythe.

So, you really could use nearly 100 percent recirculated water and grow fish in a desert?

"Technically, yes. But economically, no. These challenges excite scientists and engineers, but our business is to deliver economic value through sustainable management of New Zealand's aquatic resources. We have the water, so we should use the water appropriately," he says.

Steve Pether is Principal Technician Operations and explains how productive kingfish are in tanks.

"Each spawning female fish produces around two million eggs a week, and the spawning season can span two months, so a large female can produce more than 10 million eggs per year."

He says there is a reason they produce so many eggs.

"In the wild, she has to put so many out because the survival of eggs in the wild is really, really low. The fish are in the plankton and the eggs become food for everything else. Perhaps two fish will reach maturity from 40 million eggs spawned. In the tanks, eighty percent of the eggs will hatch and about 4-8 percent of the eggs will turn into fish. That is millions of times better than the survival rate in the wild."

When the female is about to spawn, males will swim behind her in the tank around and around, then change direction and do the same faster and faster. In the wild this may result in the selection of the most persistent male.

Pether says the second she releases millions of eggs; the courting males release their sperm to fertilise them.



Haku kingfish sashimi expertly prepared by Makoto Tokuyama. Image: Rebekah Parsons-King, NIWA.

“Most of the males will contribute to every spawn in the tank,” says Pether. The eggs are then scooped out and taken to another tank. If we want individual male female pairings, we give them the privacy of their own tank.”

Every tank is individually electronically monitored and the whole operation is backed up

by state-of-the-art generators. The lights that are constantly on the fish tanks do not even flicker if generator power needs to take over and the whole operation could run on generator power indefinitely if there was a catastrophic loss of power to the site.

“To give an idea of scale, we expect a single large tank will hold up to 30 tonnes of fish. You can imagine the logistics involved in managing, moving or harvesting thousands of fish; it’s a big and largely manual operation. Our processes are very similar to those used to harvest salmon. The harvest fish are captured in a special seine

then brailled or pumped to an automatic stunner, ikejimed, bled and into an ice slurry. The fish go from swimming in the tank to ice in less than 10 seconds – preferably under five.” says Forsythe.

Rob Murdoch does not believe the value of the kingfish will decrease when the scale of production is increased.

Haku handlers have a gentle touch

Getting NIWA’s kingfish from the tanks to domestic and international markets is the job of Lee Fishing.

Based in the historic fishing village of Leigh since 1957, they have grown their wild, line-caught fishing business to be a trusted name for quality product globally.

Kingfish, or Haku, is the first aquaculture product the company has been involved with and its processing, packaging, and distribution is given the same meticulous care as its sustainable wild-caught fish.

Lee Fishing Manager Tom Searle says they have been collaborating with NIWA for eight years, processing, packaging, and distributing the kingfish to domestic and export markets.

“Initially, we would just do some minor processing and deliver some sample boxes to a restaurant or chef that NIWA may have been talking with. It’s only been in the past five years that we have become their agent for selling the total volume they are producing.”

NIWA will soon assess interest in the business when they upscale the production to 600 tonnes, and Searle hopes Lee Fishing will be part of the final plan.

“At the moment we have an exclusive agreement to take all of their product but that is only about 800 kilograms a week right now but that is set to get a lot larger. NIWA harvest about 320 fish a week for us, but a small number, maybe 60 of those fish, are going to LA and Vancouver export markets.”

Searle says there is definitely a domestic demand for more fish.

“Particularly over summer, a chef might double his order from three fish to six, and we are still unable to supply some very good restaurants.”

The Lee Fishing sales team start gathering orders on a Sunday.

"When you think about Norway, which we visited recently, they're releasing something like 1.5m tonnes of salmon into the marketplace and prices are holding. Of the few places in Europe that are farming kingfish, and there is only two or three, they can't meet market demand, and have no difficulty selling fish. One of the kingfish farms we saw was currently producing 1,500 tonnes a year and they are in the process of expanding to enable them to produce 4,000 tonnes. When you think of what we are going to be doing here, at 600 tonnes, it is just a drop in the bucket and, even if we can get industry interested in developing the rest of the land here, which would deliver 3,500 tonnes annually that is still a relatively low volume of product into the marketplace."

At the moment in Europe, kingfish is getting a higher price than salmon.

"We have a huge amount of interest. Not just from the seafood sector but from investors who are keen to get involved, but we think someone already in the seafood market would be most likely to take up this opportunity," Murdoch says. The RAS development also represents opportunity for regional development, and one of the reasons that the Northland Regional Council

has co-invested in the development of the NIWA based RAS.

The expansion will be good news for New Zealand chefs who have made Haku a staple of their menu and welcomed by those restaurants who have not been able to source the kingfish due to supply restraints.

Makoto Tokuyama of Cocoro restaurant in Ponsonby (cover image) loves the farmed fish and says it is quite different, and superior to wild kingfish.

He says the kingfish is excellently balanced and the texture is firm and crisp with really clean flavour.

"It is the most amazing product. It is one of the best farmed fish in the world, not just in New Zealand. Even compared with the quality of Japanese farmed fish, Haku is amazing. It is fatty but it is not overwhelming. It is a beautiful, beautiful fish."

Tokuyama says wild kingfish quality is up and down and it is usually very hard to find a nice, wild kingfish and once my customers eat Haku, they prefer it to wild kingfish.

"Land-based aquaculture can control the water temperature, which is important with the oceans warming. This project has blown my mind. It has a very bright future."

"They talk to NIWA about how many fish they need harvested, and those fish are harvested on a Tuesday morning. The fish are then transported to Leigh that afternoon by Lee Fishing trucks, where they are processed on Wednesday morning."

Searle says Lee Fishing gill and gut them, but the export fish are sent gut intact, as they do for their wild-caught catch.

"Our chefs seem to want gilled and gutted so we do that and then send them off by count, not by weight – so, for example, Cocoro want four Haku today."

At the moment, the kingfish is only harvested once a week but that will change once the volumes increase.

"Kingfish have an incredible shelf life, especially when they are treated with the care NIWA and Lee Fishing give them."

However, despite NIWA and Lee Fishing pulling out all stops to get the Haku to restaurants incredibly fresh, some chefs prefer to dry age it for five days.

"So, we race the clock to get it to them real fast and they just hang it up for five days," Searle says.



Tom Searle, Manager, Lee Fishing Limited.

Making a hero out of Haku kingfish

Lesley Hamilton

Jeremy Singleton, chef, marine biologist, and NIWA's Haku Kingfish ambassador.

NIWA's kingfish (Haku) ambassador has had a unique career path and it is his specific set of skills that has Jeremy Singleton perfectly placed to liaise between aquaculture science and restaurant chefs.

Singleton worked for New Zealand's three-times Chef of the Nation, Steve Morris, doing high end corporate catering at Wellington's stadium before moving on to Bisque on Bolton (now Artisan at the Bolton Hotel), Under the tutelage of his mentor, he was named Wellington's chef of the capital when he was just 24.

"Steve had also worked at Huka Lodge, and I credit him for my passion and foundational skills in cooking," Singleton says.

After Bisque, Singleton moved on to working at Ortega Fish Shack with the legendary Mark Limacher then onto Logan Brown where he worked with Shaun Clouston and Steve Logan.

Ben Shewry of Melbourne's Attica, voted one of the world's top 50 restaurants in 2018, started out working under Limacher as well.

"The time I spent at Ortega and Logan Brown was outstanding for the development of my culinary skills and philosophy towards hospitality."

The connection with NIWA came at Logan Brown when they were first launching their farmed kingfish and were promoting it to the hospitality industry.

Hungry to expand his portfolio, he headed abroad. After falling in love with scuba diving and all the underwater environment has to offer, Singleton went on to become a divemaster, a seed was sown, and funds were exhausted.



Logan Brown.



CHEFS ON SEAFOOD

Ortega Fish Shack.

Out of money, he headed to Melbourne to work for Andrew McConnell at Cutler and Co the two-hat restaurant and then on to the McConnell owned Luxembourg Bar and Bistro with ex Cutler chef Chris Watson at the helm.

Drawing on a passion that had been ignited within and fostered by his peers and mentors, Singleton started to consider there was more to this underwater world.

"It was at Luxembourg that I started thinking about how difficult it was for small restaurants to find a reliable source of quality seafood and I wanted to know more about the whole process of sourcing sustainable seafood for the hospitality industry."

Rather than just talk to marine experts, he decided to become one, leaving his chef job to spend three years at Victoria University getting a Marine Biology degree.

"I really loved it. I was passionate about the stuff I was learning."

However, at the conclusion of his degree, he decided there was more to marine biology than just the academic side.

"Through that course, it was aquaculture that most resonated, mostly because it had such a close connection to hospitality – farmers were growing sustainable seafood that chefs demanded."

Singleton's university lecturer introduced him to NIWA's chief scientist of aquaculture and biotechnology, Andrew Forsythe.

"Andrew had been at the forefront of the kingfish aquaculture project, and he was excited about my mix of chef and science skills. Our philosophies about how the aquaculture and hospitality are connected was very much aligned.

"I came up to Bream Bay from Wellington where they offered me an internship and then a permanent job."

Officially, Singleton is an aquaculture technician with all that involves, such as cleaning tanks, system supervision, and making sure the kingfish is fed and healthy among many more responsibilities, and he says that knowledge is imperative for his role as a kingfish ambassador.

"I sort of liken it to starting as a kitchen hand then progressing up the kitchen ranks. You do a much better job if you know learn all aspects of the business. I have managed to pick up such a unique skillset of knowledge that when I go out and talk to chefs, I can talk about it with this passion from the food aspect and the knowledge of sustainable farming and what that means for the future of the sector."

Singleton says there was a need to have a conduit between the production and preparing of the product.

"NIWA never set out to become a fish farmer, but the aquaculture industry needed NIWA to prove it was viable to push forward. The intention is to hand it over to a commercial entity but, until that happens, someone must farm the fish and create the story that will educate the people about the RAS farming process. I mean NIWA have all these science credentials and expertise, but sometimes you need someone to put a face to the fish. Someone who can talk the language of restaurateurs".

Singleton says some of the country's best chefs, such as Makoto Tokuyama at Cocoro and Cameron Knox of Signal Hill, are invaluable in getting the word out about the credentials and quality of the product, and once production is increased at Bream Bay, more restaurants will be able to see what the fuss is about.

Haku kingfish tartare



This recipe was created by Jeremy Singleton, NIWA Haku/kingfish ambassador and chef and is his rendition of a classic beef tartare recipe he loves.

"When you use great quality ingredients, the layers of flavour you add should make the primary ingredient take centre stage," he says.

"With Haku, there is such a clean balanced taste, there was no need to make it complicated."

Singleton recommends serving with Copper Kettle garlic aioli chips to "guarantee extra smiles".

Ingredients

500g of Haku Kingfish, finely diced
 2 tablespoons finely diced shallots
 2 tablespoons chopped cornichons/pickles
 1 tablespoon chopped chives
 1 teaspoon toasted black sesame seeds
 1 teaspoon Togarashi pepper (optional)
 Good quality olive oil
 Crème Fraiche
 Taipa Salt Pig – Natural Sea Salt

Method

1. In a large bowl, combine the Haku Kingfish, shallots, cornichons/pickles, sesame seeds, Togarashi pepper (if using) and chives.
2. Mix well adding a touch of olive oil and salt for seasoning.
3. Form the mixture into 4 equal-sized balls, or place in small bowls to mould.
4. Chill until ready to serve then turn out of moulds and place a spoon of Crème Fraiche on top.

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SEALORD

Seafood New Zealand

Nelson's festival quarter at the Top of Trafalgar Street is set to host the inaugural Seafood Saturday on 25 March.

Brought to you by Seafood NZ, this community event is a celebration of everything kaimoana – the people, places and products, from the sea to the table.

Nelson's Seafood Saturday will set the scene for Seafood Saturdays in other regions. The event places great seafood at the centre – a delicious degustation meal.

A range of free or affordable community activities will round out the day, including a "build your own burger" bar, free fish and chips for children, a fish filleting demonstration and competition, and ocean-themed activities hosted by Nelson Provincial Museum.

For those curious about careers, Seafood Saturday will also be chance to meet people in different roles across the industry.

"We want to have community events that celebrate everything great about seafood – from the people who harvest, process, distribute and cook it, through

to the amazing range of kaimoana that Aotearoa New Zealand has to offer," says Seafood NZ chief executive Dr Jeremy Helson.

"Bringing Seafood Saturday to Nelson first, highlights the importance of the Blue Economy to Nelson and Te Taihū, the Top of the South.

"Nelson is home to Australasia's largest fishing port. Te Taihū is also the region with New Zealand's highest share of employment dedicated to food production from the ocean, with around 2600 jobs in fishing, aquaculture and processing, about five per cent of all employment across the region."

Helson hopes that Seafood Saturday will inspire people to try different types of kaimoana, whether shopping to cook at home, at a market, festival or with friends and whānau.

"We're so lucky with the selection of sustainably produced seafood available to us, so take a look beyond snapper or blue cod and find a new favourite fish such as butterfish."

If you're tempted to the Top of the South, tickets are on sale now – see you there.

Cats, bananas, and whistling – superstitions of the sea

While superstitions play a much lesser part in maritime life in 2023, there is still an odd unease amongst fishermen if some of the more pervasive superstitions are not heeded. The New Zealand commercial fishing industry will never say no to a bit of good luck, so here's is a timely reminder from Lesley Hamilton of what is said to bring bad luck, and good, to seafarers.

Don't set sail on a Thursday

Just recently, a skipper told Seafood New Zealand that the last vessel he worked on always sailed Wednesday night, moored, and then only started fishing Thursday, purely because of this superstition that says you should not sail on a Thursday.

It all goes back to the God Thor, for which Thursday (Thor's Day) is named. Thor is the Norse God of storms and while the Met Service is probably more reliable, it is best not to annoy gods, particularly one who was quick to anger and acts impulsively.

Don't have bananas onboard

Having bananas on board still makes some people nervous in modern times.



Carry bananas on board at your peril.

There are a variety of explanations put forward, including that fisherman believed that traveling with bananas on board meant they would not catch any fish. This belief may have stemmed from the fact that ships transporting bananas had to sail as quickly as possible or the bananas would spoil before reaching their destination. Because the ships were sailing so quickly, fisherman attempting to fish by trolling rarely caught anything.

Another is that in the days of limited fresh food on a vessel, bananas would make other fruit spoil. This is a fact, as the ethylene gas in bananas does cause other fruits to ripen more quickly. The bad luck tag for bananas may also come from history, which shows that at the height of the trading empire between Spain and the Caribbean in the 1700s, most cases of ships that disappeared were carrying a cargo of bananas.

Get a ship's cat

Cats have been getting themselves around the world on boats since ancient times – and are considered lucky for good reason. The cat caught and killed rats on the boat to prevent them from gnawing on wood, ropes and later on electrical wiring.

Wives of fishermen sometimes kept black cats at home to protect their husbands while at sea.

A Southland whaler, Johnny Jones, was recorded as having over 200 cats. Jones owned at least seven whaling stations on the southern coast of the South Island in the mid-1800s.

History is full of stories about cats on vessels, including many great survivors. Aussie was a ship's cat that survived an explosion that tore through the trans-Pacific liner *Niagra* off the Northland coast in 1940. The crew tried to get him into a lifeboat, but he instead managed to cling to a water tank that deposited him on the shore near Hora Hora, north of Whangarei.



Cats on a boat are good omens.

Then there was Jenny the cat, who lived on board *Titanic*. When the ship berthed at Southampton in 1912, Jenny scarpered, taking her litter of kittens with her. The crewman who looked after Jenny decided this was a bad omen and left the ship as well, later claiming the cat had saved his life as the ship went down four days later.

Tattoos are lucky

Tattoos have been finding favour in seafarers since the 18th century, with some sources saying it was a tradition picked up on voyages to the South Pacific.



While anchors are traditional, a rooster and a pig tattoo on the feet was said to prevent you from drowning, the theory being that neither a rooster nor a pig could swim and would hightail it to the closest land.

A swallow tattoo was particularly good omen for future voyages but should only be worn after the mariner has travelled 5000 nautical miles. Seafarers would usually tattoo a nautical star on their bodies as the North Star represented a signal that they were nearing home.

Never change a vessel's name

In *Treasure Island*, Long John Silver says; "What a ship was christened, so let her stay." Author Robert Louis Stevenson had clearly also heard of the legend that says when every ship is christened, its name goes into a 'Ledger of the Deep' maintained by Neptune, or Poseidon.

Renaming a boat is another one of those superstitions that ignoring could land you in a god's bad books and should be avoided. However, if you perform a strictly choreographed re-naming ceremony, the gods are apparently okay with it.

There are many varieties of re-naming ceremonies, but most involve remove all traces of the old name. This means removing the name from the hull, burning the old logbook and paperwork, and requesting the gods to forget the old name. Then, you must re-christen the boat by offering alcohol first to the water, then to the boat, then to everyone else to toast the new vessel.

Other superstitions include:

- **Saying 'goodbye' and mentioning 'drowning' are not to be encouraged.** Both of those are terribly bad luck. Oddly, so is saying 'good luck' to someone who is about to set out on a voyage, and the only way to be rid of that curse is to draw blood – from someone else.

- **Albatrosses are good luck if you see one but bad luck if you kill one,** as they are said to carry the souls of dead seafarers. Take heed of English poet Samuel Taylor Coleridge's 'The Rime of the Ancient Mariner'.

- **Don't whistle onboard.** "Whistling up a gale" is what whistling on board apparently does and is very widespread amongst fishermen. Some say you should never whistle into the wind, but others say any whistling, in any direction will have stormy consequences.

- **And people with red hair are bad luck.** If you see a red-head before you set sail, you can stop the curse by making sure you say hello to them before they say hello to you.

The power of water



Darren Guard.

FirstMate New Zealand is a charity set up to support the health and wellbeing of hardworking people and their whānau across the commercial seafood sector. In each issue, the team behind this pilot project will share how it's going, the challenges the industry face, and the people that are ensuring it thrives.

Darren Guard, owner of Guard Safety and FirstMate partner, has worked in the industry for over 30 years. His fishing history dates back almost 200-years, with the Guard Family one of the oldest fishing families in New Zealand.

Guard has spent years working with academics and experts in the seafood sector. "I'm not a researcher but I bring industry knowledge and passion, and together we make a good team.

"There is so much more we need to understand about how to support those that work in the seafood sector.

"For example, we discovered that dehydration onboard vessels is a significant problem – and far more than in other sectors. We know that dehydration is linked to strains and sprains, impacts cognitive behaviours and creates fatigue. And we know that fatigue is the number one hazard in the seafood industry and has recently been also linked

to depression – and research shows that the New Zealand and Australian fishing industry have double the normal levels of depression when compared to other sectors.

"Could something as simple as drinking more water have positive impacts on our mental and physical health?"

Many in the sector suffer from a lot of gallstones, rheumatoid arthritis, gout and stomach conditions. Some of these ailments can be a result of years of chronic dehydration – meaning we aren't flushing our systems out enough.

"There are plenty of reasons we don't like drinking water – let's be honest, water on boats tastes like crap, or if you're in a factory in PPE gear then going to pee is just hard work. I reckon being surrounded and covered by water all day actually makes you less thirsty".

The irony is that the wind and salt actually dries you out and makes you more dehydrated.

"Once I began to understand about water, I realised I had been dehydrated for years, and it had an impact on my health. Now the first thing I do when waking up, and the last thing at night, is force myself to have a drink of water."

Dehydration, and its impacts (other than the obvious; if you don't drink, you die) is now of interest internationally. In the military, soldiers are required to drink a certain amount of water each day.

Guard is pushing for more research into the impact of dehydration in the seafood sector.

"Like anything, there are obvious reasons why our sector suffers from a large number of mental health problems, but we need the research to prove what's going on. There have certainly been a few ah-ha moments recently."

Guard and the FirstMate team have recently created a video, shared through social channels, encouraging seafood colleagues to think about putting their own wellbeing first.

"I wanted to normalise the mental health message and make it specific to our industry. Traditionally, in the seafood sector, it's something we just don't talk about. We almost deny there's an issue. I find videos are helpful because we know people want to connect to a message by seeing boats, water and fish – the things that means something to them.

"When I watch a video, I need to feel goosebumps and have the hair stand up on the back of my neck. I want people to turn the volume up loud, empty their mind and just absorb. This video does that, and I believe it will move them".



"Eventually, it would be amazing if everyone realised that mental health is every bit as important as physical health and needs care and attention just like our physical body does – even if that's drinking an extra bottle of water a day."

FirstMate is there to help you, so check out our website or pick up the phone.

You can Watch the video at firstmate.org.nz and read the paper 'Dehydration in NZ fishing vessel crews', Marion Edwin, Dave Moore, Darren Guard, 2019, vol 117, pages 314-319 at <https://www.sciencedirect.com/science/article/abs/pii/S0925753518316606>



SUPPORTING OUR
SEAFOOD WHĀNAU

**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.**

0800 ADRIFT (237438)

firstmate.org.nz

Seafood exports set to grow

Dan Bolger, Deputy Director General, Fisheries New Zealand

After a challenging few years, I'd like to start with some good news – seafood export revenue is forecast to increase 4 percent to \$2 billion in 2022/23 – driven by recovering prices and easing of freight issues caused by Covid19.

Aquaculture exports are expected to increase by 3 percent in 2022/23; emerging innovations such as mussel oil, seaweeds, and kingfish continue to provide opportunities for aquaculture to expand in the long term.

Fisheries New Zealand's vision is that New Zealand will be the world's most sustainable provider of high-value fisheries and aquaculture products. In 2023 we'll continue to progress a number of initiatives with this in mind.



Dan Bolger.

An important milestone will be the initial go-live of on-board cameras in March, with a staged rollout to follow through 2023 and 2024. Good data is fundamental to managing fisheries. Electronic reporting has increased the timeliness and quality of data from fishers, and I'd like to acknowledge the work that fishers did in transitioning to the new systems. The further step of camera verification of this reporting will mean we can make the best possible use of this data in fisheries management decisions.

One of our key focus areas this year will be the Fisheries Industry Transformation Plan (ITP) which is being created through partnership between business, workers, Māori, and Government. It is an important opportunity because it will set out a shared vision and action plan for the commercial fishing sector to lift environmental performance and increase the value received from our seafood harvest. Industry is well represented on the Leadership Group shaping the ITP. Everyone will be able to input when the draft plan goes out for public consultation around May 2023, so please look out for it.

The Hauraki Gulf is one of our most valued and intensively used coastal spaces. Early in the year, we will be consulting on the Hauraki Gulf Fisheries Plan, which has been developed with the support of an advisory group made up of a wide range of stakeholders. This will be New Zealand's first area-based fisheries plan, and it will take an ecosystem-based approach to fisheries management.

Aquaculture will continue to be a big priority in 2023 as we deliver key actions under the Government's Aquaculture Strategy, including setting the frameworks for future growth through resource management reform, and positioning the industry to respond to environmental challenges by increasing spat production and working towards climate resilience.

Operationally, some recent changes within the Ministry for Primary Industries (MPI) mean that the Fisheries Compliance team is now part of MPI's Fisheries New Zealand business unit – previously it had been in another part of the Ministry. In 2023 we'll be bedding in this change and working to ensure good alignment of all parts of the fisheries system.

Fisheries New Zealand is looking forward to working together with you through 2023.

FNZ project to help monitor health of the Hauraki Gulf

The Sustainable Seas Challenge and Fisheries New Zealand are co-leading a new project looking at Ecosystem-Based Fisheries Management (EBFM) in Te Moananui-a-Toi, Tikapa Moana or the Hauraki Gulf.

The project will help the Ministry for Primary Industries (MPI) implement one of the fisheries management components of 'Revitalising the Hauraki Gulf: Government action on the sea change plan'.

The project involves co-development with a variety of stakeholders including MPI, Tangata Whenua, the Department of Conservation, regional councils, commercial and recreational fishers, scientists, and local communities to establish suitable indicators for monitoring the Hauraki Gulf fisheries system, and is part of the response to the 2017 Sea Change Hauraki Gulf Marine Spatial Plan.

The new indicator framework will consider ecological, economic, social, and cultural components of the fisheries system, measure progress and evaluate the impact of the Hauraki Gulf Fisheries Plan and other future initiatives and identify potential indicators for which there are currently no data. The proposed framework will then be shared with stakeholders and the wider public at the conclusion of the project, which runs until mid-2024.

The *Revitalising the Gulf* project is being co-led by Darren Parsons (NIWA) and Adam Slater (MPI). Darren Parsons says that while EBFM is not a new concept, traditionally fisheries have been managed in New Zealand on a single-species basis.

"The quota management system does a good job but it's not broad, holistic, or interconnected. It doesn't fully take into account effects on the benthic environment or on other target species, bycatch species, or values from a variety of stakeholders and partners."

The Hauraki Gulf, or Te Moananui-a-Toi, Tikapa Moana, spans 1.2 million hectares and extends 12 nautical miles from the east coast of the Auckland and Waikato regions. With sheltered estuaries and open sea to depths of over 250 metres, it is a commercial port and transport route as well as a popular tourist destination.

With an abundance of diverse marine life, the Hauraki Gulf is highly valued for its commercial and recreational fisheries, but multiple stressors



Image: NIWA/James Williams.

including fishing, pollutants, sediments, invasive species, and the impacts of climate change are all taking a toll. In recent years many of the Hauraki Gulf's most valued fish species have been reduced, including tarakihi, kōura (rock lobster), tipa (scallops), and tuangi (cockles).

EBFM is an adaptive approach, meaning it identifies risks, vulnerabilities and opportunities and then responds to them with both short-term and long-term strategies to build resilient ecosystems that will benefit future generations. EBFM is a broader approach to fisheries management, encompassing the perspectives, values, and knowledge of diverse groups with vested interests and connections.

Significantly, the Hauraki Gulf has a rich cultural history and spiritual value for Tangata Whenua, who have an intimate knowledge of the Gulf from many centuries of settlement on its shores and the collection of kaimoana (seafood) in its waters.

Darren Parsons says the main goal of the 18-month project is to collectively agree on the most important indicators relating to the health of the Hauraki Gulf.

"We're looking for broader fisheries indicators, while taking into account partner and stakeholder values across socio-economic and cultural values. For example, are Tangata Whenua being enabled as kaitiaki, are our protected seabirds and benthic habitats responding positively?"

For more information, visit www.mpi.govt.nz/fishing-aquaculture/sustainable-fisheries/strengthening-fisheries-management/revitalising-the-hauraki-gulf-government-action-on-the-sea-change-plan/

Benefitting our fisheries

Caroline Read, Chief Executive FishServe

It's been almost a year since I joined the FishServe team. As I look ahead to all that 2023 has in store, I have been reflecting on the progress we made last year to implement our new strategic direction and vision to 'support fishers to feed the world for generations to come, ka tautoko i ngā kaihao ki te whāngai i te ao hei ngā reanga haere ake nei'.

Underpinned by our passion for those working to provide the best seafood in the world, our strategy rightly has fishers and the fishing industry at its core.

Central to successfully implementing this strategy is respecting our unique role in proving a conduit for information flow across the sector and our expertise in managing large quantities of sensitive data.

We know that there is a huge opportunity to improve



Caroline Read.

the information that is available to fishers to help them make informed decisions that supports more sustainable fishing practices. And our work to support the QMS system over the last 20 plus years means FishServe is well positioned to support this as an information services business.

However, for FishServe to be able to participate and contribute effectively in this we need to ensure that our attention is in the right space.

With this in mind, last year we reviewed the wider, non-fishery related work we support through our FINNZ subsidiary. This resulted in our decision to close FINNZ and bring their fisheries capability and activities into the FishServe fold.

Not only does this help to simplify our focus, but it will also enable us to utilise the specialist skills of our FINNZ colleagues to maintain our provision of the trusted, cost-effective systems; and to help us progress our work to make better use of this data to support informed decision-making and create more value from the same investment.

I'm excited about the opportunities this provides us to not only progress our strategy – and deliver greater value from the investment in the QMS – but how it will help FishServe to better align with the Fisheries Industry Transformation Plan (ITP) lead by Fisheries New Zealand.

Working collectively to establish initiatives to improve the environmental performance of our industry while increasing the value created from fishing is an important goal. Keeping FishServe's focus squarely on fishery related work will ensure we are in the best position possible to provide meaningful input to programmes like ITP and to deliver value to Aotearoa New Zealand's fisheries.

NEWS

Political changes by both major parties

Both the Government and the National Party have announced changes to their fisheries portfolios.

Stuart Nash, who was previously Fisheries Minister from 2017 to 2020, was appointed Oceans and Fisheries Minister in a Cabinet reshuffle in late January. Nash takes the job from David Parker who has held the position since 2020.

Coromandel MP, Scott Simpson is the new National Party spokesman for Oceans and Fisheries after a reshuffle by National Party Leader, Christopher Luxon.

National's Todd Muller, who previously held Oceans

and Fisheries, and was acting Agriculture spokesman after the resignation of the portfolio by Barbara Kuriger in October, has also taken Climate Change from Simpson.

And National's Rotorua MP Todd McClay will give a voice to recreational fishers and hunters in New Zealand after being given a new portfolio.

National leader Christopher Luxon made the announcement of a Hunting and Fishing portfolio at the National Party caucus retreat in Napier recently.

The blue tick of approval



Fishing for New Zealand hoki on the Sealord Otakou trawler. Image: Marine Stewardship Council.

Sustainable fish stocks are crucial for New Zealand. When fish stocks are harvested beyond sustainable limits, they can take decades to recover, affecting ecosystems and putting livelihoods and communities at risk. Fish prices can also soar as supply falls — even putting our national dish of fish and chips under threat.

Globally there is much work to do to tackle overfishing. According to the United Nations FAO's 2022 State of World Fisheries and Aquaculture report, more than a third of the world's fish stocks have been fished beyond sustainable limits.

Sealord's in-house scientist, Charles Heaphy, says that while this is not the trend in New Zealand, it is important to understand the ocean and changes to it that affect fish productivity and abundance.

"We want to bring fish on deck that are in good condition, we want it to be the right species, the right size and we want to bring it up with minimal environmental effect. A big part of my role is working on innovations so that we fish better. We also study how fishing impacts the seabed and all protected species including birds and seals."

Meanwhile, the Prime Minister's chief science advisor, Professor Dame Juliet Gerrard, says the Government

is also looking to improve an already robust regulatory environment.

"Aotearoa has a generally well-respected fisheries management system from which further steps towards sustainability can undoubtedly be taken, and many of which the Government is beginning to research and implement," she says.

A report published by Gerrard in 2021 called for evidence-based action to ensure the long-term health of New Zealand's ocean ecosystems.

"We were delighted to see a detailed government response to our specific recommendations, with the Government having already started to work towards some recommendations," she says.

Gerrard says the Marine Stewardship Council (MSC)'s Fisheries Standard also has an important role to play in changing consumer habits.

The standard is a global certification to highlight sustainable and environmentally responsible fishing, driving greater sustainability. It reflects the most up-to-date, internationally accepted fisheries science and management, with the MSC reviewing the scientific relevance of the standard with scientists, the seafood industry, and conservation groups. Each fishery is



New Zealand orange roughy was recertified last year for another five years. Image: Deepwater Group.

independently assessed on sustainable fish stocks, efforts to minimise environmental impacts, and effective fisheries management.

One in two fish caught in New Zealand waters is certified as sustainable to the MSC Fisheries standard. These fish are harvested using a range of methods, including long lining, midwater trawling, and bottom trawling.

Aaron Irving, chief executive of Deepwater Group, says deepwater fisheries in New Zealand adhere to strict environmental principles and carefully manage the fishing within our fishing grounds.

"Just as on land, where we manage National Parks, including those around large mountains, such as Mt Ruapehu and Mt Taranaki, the seafood industry recognises the need to maintain New Zealand's biodiversity, including seamounts, by setting aside and protecting large marine areas," Irving says.

"Eighty-five per cent [according to NIWA, 2022] of the seamounts in the New Zealand Exclusive Economic Zone (EEZ) have never been trawled. And, within our large EEZ, 31 per cent is closed by law to bottom trawling – protection initiated by the deepwater seafood industry in 2006 – an area four and a half times larger than New Zealand's entire landmass."

"There are few countries in the world that can demonstrate effective, inclusive, transparent, science-based, and sustainable fisheries management and aquatic environmental stewardship to the extent that New Zealand can," he says.

"It is the Kiwi way. When we see a problem, we work together to create solutions to fix it. The changes we

have made to how we fish, particularly over more recent years, have had dramatic, positive results, demonstrated in part by fisheries' MSC certification.

"Orange roughy is a case in point. Our orange roughy fisheries were re-certified sustainable for the second time late last year, meeting the very high MSC standards. Our orange roughy fisheries join our hoki, hake, ling and southern blue whiting fisheries as being among the top 5 per cent of the best-managed fisheries in the world."

The MSC's programme director Anne Gabriel believes that sustainable fishing practices will benefit Aotearoa New Zealand now and in the future.

"Sustainable seafood means it's been caught at a level where they'll be around in the future. All food systems need to be responsibly and sustainably managed, whether on land or sea. When shopping or dining out, we all have the power to make a difference to the health of our ocean simply by asking questions about where seafood comes from or looking for a label like the MSC blue fish tick. By securing the long-term supply of fish stocks, we're able to ensure that seafood remains an affordable option well into the future."

The MSC is also helping to empower students through their ocean literacy programme, Te Kawa O Tangaroa, which contains free curriculum-aligned resources for teachers. This programme designed by teachers was launched last year with the support of the Prime Minister.

For more information about sustainable fishing and ocean literacy, visit the Marine Stewardship Council website www.msc.org

Join Women in Seafood Australasia



and support the interests of seafood women

Women in Seafood Australasia (WISA) is a network inclusive of those who support furthering the interests, positioning and opportunities for women in the seafood industry. From women working on the boats, in farms and factories, post-harvest and processing, leading innovation or research, new ventures, management, or government and policy making, WISA welcomes members across the entire supply chain. WISA also welcomes men and non-binary members who align with our vision and mission.

What WISA do

WISA's aim is to shift cultural and systemic barriers that prevent women from reaching their full potential.

Networking

WISA is a unique network. We believe that building genuine connections builds resilience. Through networking activities and communications, WISA provides visibility and support to seafood women and, disseminates relevant information to our members and the wider industry.

Increasing capacity and capabilities

WISA takes a practical, evidence-based, grassroots approach to the professional development of women and raising the profile of women involved in the seafood industry, with experiential and interactive learning at its heart.

Shifting culture

WISA aims to create a more inclusive industry that values, supports and listens to women. This starts through open conversation at all levels of industry. WISA believes that a more inclusive and diverse industry improves the working conditions, performance and wellbeing of all.

Become a WISA member today

WISA welcome New Zealanders to join our network. It is easy to become a member, and memberships cost AUD\$66 annually. Visit our website at www.womeninseafood.org.au/get-involved/membership for more information.

Are you interested in becoming an Independent Director of Women in Seafood Australasia?

We are looking to increase WISA's visibility throughout the New Zealand seafood industry. As such, are looking to appoint a NZ based Director to join the dynamic WISA Board. WISA has a position open for an independent director (12-month term). **To register your interest, please email Heidi Mumme: president@womeninseafood.org.au by 1 March, 2023.**



Mangōnui: Fishing in the far North

Mangōnui, in the far North of New Zealand, is known mostly as a picturesque holiday destination but, as Lesley Hamilton reports, its bustling fishing port is equally as important to the small community.

Driving down the hill into the historic seaside village of Mangōnui is not as scenic as usual. The waters of the bay are brown and opaque. The murk still roiling with the strong winds that accompany the constant, heavy rain.

The vessels in the bay are yanking at their moorings and those berthed at the wharf have extra fenders protecting their hulls from a bashing.

Most of the vessels in port are fishing vessels, their skippers and crew long gone back to the home fires to wait the storm out. In more colourful times, they would all be at the Mangōnui pub giving Paddy the publican and his parrot Barney hell, but the seafarers are now mostly too young and sensible or too old and tired. Besides, the pub is not the same since Paddy had a fatal fall and Barney the cockatoo died shortly after of a broken heart. Well, that's the legend. They also tell me there is a new parrot on the pub's perch, a macaw, but that sounds way too posh for a port parrot.



Roger Rawlinson – before the mohawk.

It has a long fishing reputation, this village, beginning with the first whaler, a gentleman from the island of Nantucket, in Massachusetts, USA. Nantucket was the whaling capital of the world from around 1690 until the early 1800s. Captain Eber Bunker sailed into Doubtless Bay in 1792 and it is likely Mangōnui reminded him of home, another historic fishing town on the other side of the world. Bunker was a bit of a trailblazer, with 500 whaling ships subsequently arriving in Mangōnui between 1833-1894 – and most of them were American.

Mangōnui was rough and lawless back then – chances are that Barney was not the first resident parrot at the pub, nor Paddy the first publican to come to an untimely end.

Doubtless Bay, by the way, was named that because Captain James Cook sailed past the entrance in 1769 and with little enthusiasm declared “that was doubtless a bay” before continuing his circumnavigation of New Zealand.

The first chance to talk to our fishers arrives out of the blue, literally, after I check in to the Airbnb, having resigned myself to having to personally track down the skippers and crew who had headed for the hills because of the weather.

But there, emerging over the horizon is the unmistakable hull of *Hikurangi* making its way into port.

After spending the night sheltering in another bay, they are as surprised to see me waiting for them at the wharf as I was surprised to see them steam in. Equally surprising is the sight of Curly Brown standing next to Roger Rawlinson on the deck. The last time we spoke to the Taranaki-based Brown was June 2022 when he was getting out of the industry. Turns out, he did put his vessel on the market but is about to take over as skipper on the state-of-the-art, *Hikurangi* for Rawlinson.

Lyttleton's Stark Brothers bought the 23-metre *Hikurangi* off Sanford and Rawlinson says they snatched it off Craig Boote of Westfleet who also wanted it.

“Andrew and Tim Stark raced up to Auckland,

talked to Sanford, bought the boat and took it back to Lyttleton where they spent three years upgrading it," says Rawlinson, whose company RMD Marine purchased it after the refit. That was after he insisted it was repainted in Moana colours and a kowhaiwhai was painted on it, a design that combines depictions of mangōpare (hammerhead sharks) and ngaru (waves).

"Cost me fifty grand because Starks had just painted it orange, and I made them change it."

Hikurangi fishes exclusively to Moana and is crewed with a skipper, a floating engineer/cook, and three deckhands.

Rawlinson also provides training opportunities for young Māori looking to start out in the industry.

"I have one of the young fellas on here at the moment, Aiden. He's been on other little boats, but he wants to step up."

Rawlinson says he will give all young people a helping hand if they are keen. The initiative started as a result of the customary fishing he does, delivering fresh fish once a week to those who need it in Northland.

"I have been able to reach out to the young guys who come and collect the fish for distribution.

"It's pretty heart-wrenching stuff when you see where it is delivered. These people have nothing. It makes you appreciate what we can do to help. I don't care what circumstances got them there – if someone is hungry you give them something to eat if you can,"



Simon MacNicol.



Curly Brown on *Hikurangi*.

he says, "and a job for young Māori if they show interest."

Rawlinson and Brown apologise for the state they are in, explaining that a tank had broken onboard and that had prevented them showering for days.

Hikurangi is chasing mostly trevally on both the East and West coasts but there is so much snapper around that they just can't avoid it as bycatch.

"At night-time we also chase tarakihi and shark and a bit of red snapper," says Rawlinson. The red snapper mostly goes to the US.

Mangōnui is the closest and biggest port accessible to the West coast without a bar, except New Plymouth.

Curly's experience on the wild waters of the West coast will be invaluable, and he says he way prefers it.

"The East coast has too many obstacles. There are bloody yachts and stuff you have to avoid. The West coast only has fishing boats."

Rawlinson is still based in Tauranga but has a place in Mangōnui where his son Andre lives and runs his Northland base from.

Finding crew is not as challenging as other ports as Rawlinson says the local iwi grapevine helps out.

"When we had a guy leave us a few months back, the locals rang around, and I had someone else 10 minutes later."

Brown says Rawlinson had been trying to get him to come and fish for him for years.

"I know he didn't actually want me; he wanted my quota."

He admits he batted off making the decision to exit running his own operation longer than he should have.

"But it is so difficult for smaller vessels to make a living these days, and last year I didn't make any money because of the snapper and lack of quota for it."

PORT FOCUS



Manakai is heading for new adventures including charter work for scientific research.

Brown has not yet made the permanent move up North and still lives in New Plymouth with wife Mel.

"Mel's a 'naki girl and both our families are there. I mean, that's why I persevered for so long. I should have moved to Tauranga years ago. In fact, Roger should be working for me."

FishServe data shows that 32 vessels landed into Mangōnui in the past 12 months.

Brown says a lot of fish go across this wharf, "particularly now Roger is here".

Rawlinson says, "I get the *Santy (Maria)* up here too."

Santy Maria is another good-looking vessel and Rawlinson says we can thank Craig Boote for that. "Booty wanted it to look good and go good."

After three weeks at sea, Rawlinson is heading off to get a haircut.

"Going to get a mohawk because my wife hates it."

The Mangōnui wharf holds a small scattering of offices. Moana's depot manager is there and so is Frosty the ice man. Rawlinson always uses Frosty's ice, as he likes to support local.

"I mean, if Frosty closes down that wouldn't be good. Frosty needs my ice business."

Frosty, real name Colin Frear has owned Mangōnui Ice for 17 years but worked for Moana before that. He says he used to be supplying 250 tonnes a month, but these days he's lucky to do 90, so he has branched out into supplying recreational users with bagged ice and bait.

We are looking out at the boats in port right now and Frosty says it's unusual to see so many of the

fleet tied up at one time. There are five cray boats that we can see, a surface liner, a bottom liner, and a trawler.

Moana's depot manager Dave Shepherd says there is nowhere near the number of boats using the port as there used to be. He was driving a truck for many of the 20 years he has worked for Moana but is now based in Mangōnui.



Dave Shepherd, Moana's Mangōnui depot manager.

"We have snapper, gurnard, trevally, and tarakihi being unloaded but we don't service the cray boats – that's done through our partnership with Port Nicholson Fisheries." Shephard says.

However, Mangōnui still has the highest tonnage of fish coming over the wharf.

Shepherd says he has seen lots of changes at the port.

"Things have tidied up. It used to be quite wild here. The wharf used to be one long party, but not anymore, which is probably a good thing."

As I head off, I mention I am interviewing Simon MacNicol, a young fisher who is due in port soon.

"Those MacNicol boys, Simon and Will, are a rare breed. They just don't stop working, they are driven. It's unbelievable for their age and I really take my hat off to them," he says.

Shepherd is not wrong about that.

Simon MacNicol has just unloaded the 52-foot, steel-hulled bottom-liner *Kiella*. He has come in from a weeklong trip up at North Cape with three crew.

He says his brother Will and him, as well as Adam Davey on *Manakai* were all heavily into hapuku, but they all saw the writing on the wall.

"We were warning that the hapuku stocks were diminishing way before the TACC cuts last year.

"My brother Will and Adam Davey were the biggest hapuku skippers in Area 1, if not the country, and we saw those stocks depleting."

They have moved their focus to snapper and other species.

MacNicol is relaxed about the advent of cameras. "It doesn't really worry us. It is a cost, but we are big enough for it not to worry us, but I know that is different for smaller fishers."

He says the biggest issue for them is Maritime New Zealand's crackdown on watchkeeping, particularly for his brother who operates the offshore vessel. He says it may be the law, but it makes no sense.

"They are telling me we need anchor watchers on the boat at all times. Will had to employ another crew member to do watchkeeping and that is a loss of income. I mean, we

have AOS watch alarms and that is really accurate.

If you set it to alarm when you move 10 metres, you will hear that alarm. But the law says it needs to be a person doing the watching. If you have your AOS on, a container ship can see you from 100 miles and your alarm is going off and his alarm is going off."

But no regulation is going to dampen MacNicol's passion for the job.

"We love fishing. If that's what we've got to do to fish, then we will do it in the end. My brother, Will, found fishing first and we are the first generation in my family to do it. I was roofing at the time and as soon as I did a bit of crewing on Will's boat, I was hooked and gave the roofing up.

Mangōnui seems to a hub for impressive vessels.

Manakai was purpose built for Adam and Nat Davey. The 72-foot vessel took 18 months to build and cost \$4 million.

Adam Davey says it is "built like a brick shithouse" and has top of the line technology.

"It can sleep up to 13 but I only run it with myself and three deckhands. My brother Nat lives in Cable Bay – I live in Russell in the Bay of Islands but we pretty much run everything out of Mangōnui.

Manakai is surveyed 'unlimited' so we can fish anywhere, including the high seas. But most of our fishing is done around the Three Kings, or out of Gisborne targeting hapuku.

"We don't think MPI (Ministry for Primary Industries) went far enough with the hapuku quota cuts. We told them we need bigger cuts. The prices



Hamish and Nicole Apatu of Apatu Aqua.



Apatu Aqua's smoked salmon.

are great, so you don't have to catch a lot to make money out of it, but you still have to keep an eye on your expenses," he says.

Davey is semi-retiring *Manakai* and himself from fishing. "I just want a year or two off from fishing. We might do a bit of scientific chartering work while I figure out what I want to do next, but I am hoping my son and daughter, who are still quite young, might want to go fishing when they leave school."

The break has been sparked by many things.

"It is the politics – that really annoys me in this country at the moment – and it is crew. At the

moment, I have good guys, but you go through phases when you just want to cut your wrists. We can't sack anyone anymore. I had a guy who was dangerous on the boat, I sacked him, and he took me to court and won. Maritime New Zealand walked away from me, the fishing industry tried to help, but there is nothing they can do."

You can't blame Davey for loading the family onto *Manakai* and heading up to the Pacific Islands for winter instead.

Up on the hill above Cook's Beach, one of the last wood-fired fish smokers in the country is supplying New Zealand retailers.

Hamish and Nicole Apatu started Apatu Aqua around 15 years ago when they were diving for kina and catching a few eels. Hamish Apatu longlines in his vessel *Valiant* but buys other fish in as well. The couple secured a Foodstuffs contract early on and supply major supermarkets with smoked fish from their small Far North base.

Nicole Apatu says they have an advantage because a lot of smoked product is either cold smoked, or smoked by electric means, while their product is laboriously smoked over a manuka wood fire for 10-12 hours.

She says they load the smoking room with fish at night.

"Then at two in the morning, we have someone come in and light the fire, and they stay until five. At seven, we take over. So, the fire is stoked every hour through the process, then the fish is turned around nine in the morning and is ready by midday or 1pm."

The rain hasn't stopped in three days in Mangōnui, but it will take much more than an annoying La Niña weather pattern to take the smile off the faces of those who choose to live and work here.

Mangōnui by the numbers



36

vessels



100

number of
species



**snapper
trevally
tarakihi**

top
species



683

landings



1,896

tonnage
landed

Fisheries Act – an opportunity lost?

Tom Clark, the policy manager for the inshore sector, provides a summary and perspective of the legislative changes introduced in the Fisheries Act in late 2022.

The Headline Changes

On 31 October 2022, the Fisheries Amendment Act 2022 was enacted and passed into law. With it came the first significant amendments to the Fisheries Act since 1999 when catch balancing requirements and the deemed values system were introduced. Former Minister David Parker introduced the changes to the Fisheries Act “to strengthen and modernise New Zealand’s fisheries management system to create a more sustainable, higher-value operating model for fisheries and to better incentivise good commercial fishing practices”.

The Bill contained enabling provisions to introduce:

- an amended landings and return to the sea framework
- a new graduated offences and penalties framework

Unlike the Fisheries Act, which provides regulated details on the operations of provisions, these amendments provide powers to enable a Minister to make detailed operational decisions, without the oversight of Parliament. There have been no decisions yet that might indicate to where he intends to take fisheries management.

Under the amendments:

- All fish caught, Quota Management System (QMS) or non-QMS, will be reported (no change to existing requirements)
- All QMS fish other than those permitted to be returned to the sea will be landed (no immediate change to existing requirements)
- The return to sea provisions (previously Schedule 6 and Minimum Legal Size (MLS)) continue without change until further notice but will be reviewed over the next four years against the following criteria – an acceptable likelihood of survival, a negative effect on other retained catch, an avoidable circumstance such as diseased or predated fish, and a biological or fisheries management, or an ecosystem benefit. The MLS for red cod will be reviewed in early 2023 and may provide an indicator of the Minister’s broader intentions.

- The Ministry is working on new mechanisms that will allow fishers to dispose of their catch if Licensed Fish Receivers choose not to accept all caught fish that has to be landed. The options might include fishers sending their fish directly to landfills, to charitable organisations, or allowing fishers to sell more of their fish direct to consumers. The Ministry has recently consulted on these options and if approved would expect to have the new regulations in place in April 2023.
- The Ministry will introduce a new infringement offence for illegal discards. Infringements are effectively instant fines without the need for Court proceedings. The Ministry has recently consulted on infringement offences and fees and expect to have the new regulations in place in April 2023.
- A new penalty provision exists from 1 November 2022 that any person convicted of discarding illegally more than once within a three-year period may, at the discretion of the Court, be prohibited from holding any licence or permit to fish, engaging in any fishing activity or derive any income from fishing activity.
- Fishers will be able to return any fish to the sea if that release arises from the need to release a live marine mammal.

While the Bill contained provisions to facilitate the greater use of pre-set decision rules, Minister Parker withdrew those amendments at the last possible moment, justifying that action on the basis that the use of pre-set rules did not have universal support. Pre-set decision rules or harvest control rules can still be used but the processes have not been streamlined.

The Wider Context

The commercial wild catch sector currently generates some \$1.5 bn of export receipts, generates employment opportunities for over 13,500 people, and provides domestic fish to Kiwi consumers.

In presenting his reform package to Cabinet, Minister Parker had identified the need to improve the sustainability of fisheries, the need to embrace an ecosystem approach, the need to lighten the environmental impact, and the need to avail ourselves of the benefits of new technology and innovation. Minister Parker supported the principle and continuation of the QMS but considered it needed tweaking to modernise it and provide better social outcomes.

While we pride ourselves on the quality of New Zealand's QMS and wider fisheries management regime, it is resource hungry and is currently starved of the scientific information it needs.

The Government has announced and is proceeding with the implementation of cameras on an estimated 300 inshore vessels by 2026 at an estimated cost of \$68 million over the first four years. The cameras allow for catch verification and activity monitoring on a fleet where logistical factors have hampered such monitoring in the past. The transparency that comes with cameras and the review of footage, when coupled with the introduction of positional reporting and improved catch reporting, is a significant regime shift particularly for the inshore finfish sector. The changes to the Act need to be viewed in the context of that wider development.

An Industry Perspective

The changes to the Act failed to capitalise on an opportunity to make New Zealand's fisheries management regime world leading and position it for a data and information led future. The changes are reactive, based on a mixture of misinformation, historical events that have been addressed, and poor advice from the resource management agencies. There is no evidence or informed belief of widespread, significant illegal commercial behaviour that would



Tom Clark.

compromise the sustainability of New Zealand's fisheries resources. The voluble cries for change come from our detractors or those with alternative agendas in mind.

The changes do not look to build a better, more sustainable, more profitable, and more strategic

future. They signal a perpetuation of constraint, and invasive mediocre management that substitutes enforcement for sound and informed resource management. At present \$60 million is spent annually on compliance and enforcement against an annual spend of \$25 million on research and management information. In industry's opinion, that does not reflect the needs of a sound fisheries resource management regime. The Fisheries Act changes serve only to perpetuate that imbalance.

While infringement offences are needed to address low level offending, unless fisheries are managed in an informed and sound regime, the infringement offences can only be viewed as an additional tool to enforce poor resource management. Enforcement actions such as prosecutions and infringements should only be used where there is an intentional offence committed. The Fisheries Act is one of the few jurisdictions that permits incidental breaches of law or third-party actions to be addressed with enforcement penalties, that can result in the loss of a business and livelihoods.

While promoted as new policy, fishers have been required since 1986 to land all QMS fish caught unless permitted, or required, by law not to do so. The latest Fisheries Act amendments are merely a restatement of that existing policy. Similarly, since the introduction of electronic reporting, commercial fishers have been required to report the species and weight of all fish taken, QMS or not, and report on how that catch is disposed of, whether landed, used for bait, eaten, or returned to the sea. The latest Fisheries Act amendments are merely a restatement of that existing policy principle.

The prevailing, but incorrect, view that fishers must now land all fish caught is counter to good resource management. Sound fisheries management requires robust information on the extraction of fish, not the killing of every fish to verify that count.

The thought that fishers can selectively catch only those fish which society wants is utopian and does not reflect the reality of New Zealand's fisheries where fish of different species and different ages will school together and occupy the same sea space.

Not all fish caught are wanted and harvesting options, internationally, are not sufficiently selective to exclude catching fish fishers don't want to catch. Fishers are resourceful and have made significant steps through gear changes, changes in fishing practices, and more attention to the spatial variation in fish distributions to reduce the catch of unwanted fish. Fishers will continue to explore and adopt new innovative and technological initiatives to improve their selectivity, and do not need additional costs imposed on them to pursue productivity and selectivity objectives.



The commercial wild catch sector currently generates some \$1.5 bn of export receipts.

Landing fish that nobody wants or can utilise will only see the fish going to landfills at an additional cost to the fisher and to the sustainability of the wider aquatic food webs which utilise available resources. An overriding principle in the changes is that all QMS fish should be landed unless there are strong reasons for it not to be landed. Why would anyone conscientiously consider requiring fishers to kill all live sub-adult fish to be environmentally acceptable or contribute to sustainable fishing? Live juvenile fish should be required to be returned to the sea to grow and spawn and protect the sustainability of fishstocks. They have no value in a landfill.

In the wider context, why would anyone think that returning unwanted live fish of any size or any species could be a bad thing? No fish in a landfill has value. Companies have always pursued and will continue to pursue options to maximise the value they can receive from fish landed to them.

Fishers are more than willing to be accountable for the fish that die in their nets or on their hooks or as a consequence of their interactions, but being told to kill every unwanted live fish they catch unintentionally is not acceptable to them.

The review process for the previous Schedule 6 and MLS provisions is estimated to take four years. The existing species provisions may or may not continue, may or may not have different conditions, and may or may not be offset by TACC adjustments. Such decisions are at the discretion of the Minister. Fishers and their families are left to face a prolonged period of uncertainty as to the regulatory framework and the

future profitability of their operations. How do we retain existing fishers, attract new entrants, or assure New Zealanders they will be able to exercise their right to eat their fish with such uncertainty?

There are existing management processes that provide opportunities for fishers to enter the retail trade sector to sell their fish direct to consumers. There is no justification for the Ministry to enable fishers to sell fish direct to consumers outside those existing processes just because it believes the distribution of benefits within the fishing industry is inappropriate. Wages and returns to crews paid in the sector are already well above New Zealand norms. Is the Government allowing its social agendas to replace sound resource management?

Cameras are being placed on inshore vessels to monitor compliance with the new rules and instruments. Having used its own cameras to monitor fishing activity, the industry is aware that the capability of the cameras to verify catch of fish and protected species has been oversold. Industry is concerned further operational changes will be imposed on industry to overcome those deficiencies.

Industry has advocated that, with innovation and development of digital recognition, the cameras can provide greater management and science benefits than are currently being delivered by the \$68 million programme to put cameras on vessels. Where is the Government commitment to add value from that investment?

A better resource management solution would have been to allow fishers to return unwanted fish to the sea but under camera-monitored verification and using digital innovation to record the species and details of the returns. Matched with cameras in processing sheds, New Zealand could have a wealth of new information on the commercial catch to improve the management of our fisheries resources.

The Fisheries Act changes do not provide scope for such developments. They lack a strategic outlook and are mired in an historical and falsely informed mindset.

All this will come at a cost to the fishing industry, a cost that is excessive relative to the rewards offered or the risks being addressed, and a cost that consumers will bear to access their share of New Zealand's fisheries resources. The introduction of cameras on vessels should have provided another management option to achieve the same outcomes but without the need for unnecessary killing and landing of unwanted fish. There were so many opportunities available to use new technology and thinking, yet the Government chose to implement what the industry can only perceive of as regressive processes. Industry ponders what were the real objectives of the Government in making these changes? Are they beneficial to sustainable fisheries?

Maritime NZ: Changes to engine rules

A summary from Maritime New Zealand of the recently introduced engine rules for New Zealand commercial vessels and recreational boats (that don't visit overseas ports).

This year, new rules were introduced for engines over 130kW on boats. The rules are part of New Zealand's commitment to MARPOL Annex VI, an international agreement that aims to reduce air pollution from ships. The 'Part 199' marine protection rules apply to New Zealand commercial vessels and recreational boats.

As ship and boat owners, we all have a part to play in protecting our marine environment and we can all help to reduce the impact of climate change.

The key rules that affect commercial or recreational vessels are the rules for engines over 130kW (174.3HP).

The engine rules reduce the emissions of nitrogen oxides which are harmful to both people and the environment.

In general, engines installed before 19 May 2005 that have not been majorly modified, or engines used solely for emergency purposes or on boats that operate only in lakes or rivers, do not need to adhere to these rules.

Please visit [maritimenz.govt.nz/airpollution](https://www.maritimenz.govt.nz/airpollution) to find out whether your boat needs to comply.

For vessels or boats in the NZ fleet on 31 December 2022	Summary of engine requirements
Engines over 130kW installed between 19 May 2005 and 1 January 2023	<p>Commercial vessels: these engines need to meet emissions limits and have the required documentation at the vessel's next major survey on or after 1 January 2029 (and by 30 June 2032).</p> <p>Recreational boats: these engines need to meet emissions limits and have the required documentation by 30 June 2032.</p>
Engines over 130kW installed on or after 1 January 2023	<p>Commercial vessels and recreational boats need to meet emissions limits and have the required documentation for these engines from the date of install.</p> <p>Commercial vessels will need to present the required documentation at the vessel's next survey after 1 April 2023.</p>
Engines over 130kW installed before 19 May 2005	Commercial vessels and recreational boats are not required to meet emissions limits or have documentation for these engines.

These rules apply regardless of the size of the vessel or boat the engine is installed on.

There are different requirements for engines:

- that undergo or have undergone a major conversion;
- on vessels or boats that voyage to overseas ports or waters outside of NZ jurisdiction;
- on vessels or boats that come into the New Zealand fleet on or after 1 January 2023.

For details of the emissions limits, required documentation and more, <https://www.maritimenz.govt.nz/>

ARE YOU BUYING AN ENGINE OVER 174 HP?

Make sure you're installing one that's compliant with the new environmental rules and has the right documentation.



Commercial operators check

maritimenz.govt.nz/airpollution

Recreational boat owners check

maritimenz.govt.nz/recboatemissions



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Email: nzfcf@seafood.co.nz

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Marlborough Events Centre, 42A Alfred Street, Blenheim

Go to www.nzfishfed.co.nz/conference to register online
or call Mellissa Waiari on 04 802 1501

FORMAL NOTICE OF MEETING

The 65th Annual General Meeting of the
New Zealand Federation of Commercial Fishermen (Inc)
Friday 2nd June 2023, 10.30am,
Marlborough Events Centre, 42A Alfred Street, Blenheim

Neil Penwarden's scampi legacy

Tim Pankhurst

Christmas was a melancholy time for Sam Penwarden.

It was bad enough that he was in isolation suffering through a Covid bout.

But it was also the first so-called festive season where family patriarch Neil Penwarden was missing.

Penwarden senior, a pioneer of the New Zealand scampi industry, died suddenly last March.

But he was with the family in spirit when Sam, his sister Kristie, their combined five children and mother Lyn all got together at their bach at New Year.

Neil and Lyn established the family fishing business in Australia's northern prawn fishery in the 1970s.

As well as managing their vessel *Chromatt* from ashore and marketing the catch to Australian exporters, Neil alternated fishing trips.

The couple then purchased the 19.7m *Bilyara*, new from the shipyard in 1988.

But they felt the pull of home and when Neil became aware of the discovery of scampi in New Zealand waters, he took the gamble of 1990 of moving his young family and the business, complete with *Bilyara*, across the Tasman.

Bilyara is aboriginal for eagle hawk and that was the inspiration for the establishment of Penwarden Holdings' Sea Eagle Scampi brand.

A second vessel was added four years ago, the 23.9m *Karearea*, named after the New Zealand falcon, the first new scampi vessel to enter the New Zealand fleet in 30 years.

Exporting, fishing and the sea were constants in Neil Penwarden's life.

He was born in New Plymouth and grew up surfing and swimming at Fitzroy.

He was a champion competitive swimmer and represented Taranaki in surf lifesaving when still a junior.

In 1973, aged 17, he won the Junior Beltman title at a Royal surf lifesaving carnival at Mt Maunganui attended by Queen Elizabeth and Prince Phillip.

After moving to Wellington, he twice made the New Zealand surf lifesaving team, competing against Australia.

He also represented New Zealand in water polo and played rugby for the Wellington club.

His first job was as a cadet with Borthwicks in the meat export industry before working on tuna purse seiners in the US for three years.



Scampi fishing pioneer Neil Penwarden with son Sam.

He went on to oversee Penwarden Holdings become the largest independently-owned scampi company with a Total Allowable Commercial Catch of 70 tonnes.

New Zealand scampi (*Metanephrops challengeri*) are a small lobster-like species with long, delicate pincers that grow to 25 to 30cm. As their scientific name implies, they are a challenge to catch. The species do not aggregate and are widely scattered.

Bottom trawling tows with lightweight low headline nets are necessarily of long duration, as much as eight hours at depths of around 350 to 450m.

The commercial fishery is divided into five areas – Bay of Plenty, Wairarapa, Chatham Rise, Chatham Island, and Auckland Islands.

China is the main export market, followed by Japan, Australia, and the US, with minor sales into Canada and Tahiti.

The small domestic market takes primarily tails, rather than whole specimens.

Scampi are an expensive delicacy, although they command only about two thirds the price of rock lobster sold live into China.

And scampi were on the menu at the Penwardens' New Year get together.

Sam Penwarden is fussy about their preparation, saying they are easy to overcook.

He favours coating in garlic butter, caramelising the surface, and removing from a hot plate when the meat is just warmed to bring out its full flavour and sweetness. Or simply serving it raw as sashimi.

Neil Penwarden was very much there in spirit at the celebration.

"He lived for his grandchildren," daughter Kristie says.

"He was a huge family man.

"He was quite a private man, very modest but always available to give advice, happy to pick up the phone.

"He was tough but very fair."

And sorely missed.

Neil Mills

Tim Pankhurst

Neil Mills, a key figure in Sanford's expansion of its inshore and deepwater fleet and the many company acquisitions in the 1980s and 90s, has died in Auckland aged 94.

Mills was one of the company's longest standing senior employees, serving variously as accountant, secretary, sales manager, general manager, managing director until his retirement in 1991. He continued to serve on the board of Sanford as a director until 2006.

During his time the company extended into joint ventures, purchased its own deepwater vessels and expanded into the Greenshell mussel industry.

Mills was also prominent in the wider seafood sector

as head of the NZ Seafood Processors Association and as its representative on the Fishing Industry Board.

Born in Auckland in 1928, he was educated at Auckland Grammar and Auckland University where he qualified as an accountant.

He joined Sanford Ltd in 1954 as accountant after seven years with a firm of public accountants.

He was promoted to secretary several years later and in the early 1960s was transferred to the company's Sydney branch to develop improved stock control for overseas operations.

On returning home following the sale of the company's Sydney interests, Mills was

appointed group sales manager.

In this role he drove fresh and frozen sales of snapper to Japan in particular.

The development of both that market and the expansion of the New Zealand inshore fishery supported by

Government export incentives, led to the commissioning and delivery of four Japanese-built 29 metre trawlers.

They were named *Albert Sanford* (after the company's 1881 founder), *San Rakino*, *San Hauraki*, and *San Manukau*.

Mills was appointed general manager in 1973, managing director in 1978 and headed the company until his retirement in 1991.

Mills, his succeeding managing directors David Anderson in 1991 and Eric Barratt in 1998 were all qualified accountants and left handed, leading to the joke that right handers need not apply.

Mills stayed close to the sea all his life. His family were boating fans and he inherited that love. He built the B class keeler *Fandango* before owning a Farr 11.6m yacht, which he purchased as a hull and fitted out himself.

He and wife Colleen owned a holiday property in the Bay of Islands near Russell.

Mills is survived by Colleen, children Brett, Stuart, and Maryanne and eight grandchildren.

Longtime colleague Eric Barratt offered a fitting epitaph: "Neil was a wonderfully kind gentleman who could call a spade a spade at the right time."



Mills, accompanied by his wife Colleen, in May 1979.



Neil E. Mills - General Manager

Mr N. E. Mills, the present General Manager of the Company and a Director, joined Sanford Ltd in 1954 as accountant to be promoted to secretary in 1957. Born in Auckland in 1928, he was educated at Auckland Grammar and Auckland University where he qualified to become a member of the New Zealand Society of Accountants and went on to serve with a firm of Auckland public accountants for seven years before joining Sanford Ltd. In the early 1960s he was transferred to the Company's Sydney branch for the purpose of revising and establishing an efficient system of stock control for our overseas branches and in 1963 he was appointed Australian manager. On his return to New Zealand in 1964, following the sale of the Company's Sydney interests, he was appointed Sales Manager for the Group and was instrumental in establishing new export markets in several overseas countries including Japan.

Mills appears in Paul Titchener's *The Story of Sanford*.

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Built Legend Boat Builders 2003
LOA 14m x B 4.4m x D 0.7m
2 x Scania DI12 - 6,144 hours
2 x Hamilton Jet 322 overhauled October 2022
Speed 24/36 knots
5 berths
Saloon, Galley & toilet/shower
Pot hauler starboard side
Survey to October 2023 (mid term not done)
Designed and built for present owner

POA



5354 TRAWLER TROLLER
L16.47m x B 5.2m x D 2.7m
Built 1981, Whangarei
Caterpillar D3408 370hp
Twin Disc box. Kortz Nozzle.
Ford aux. 20kVA generator
Hold 25 ton bulk (43m3).
700 lki bins. 5 Berths.
Good electronic incl WASSP
New big survey Sept. 2022

PRICE REDUCED \$395,000



5378 LINER & TROLLER.
Aluminium built Canada
LOA 13.53m x B4.88m
Cummins KT19
Isuzu driving 20kVAC
Refrigerated Fish hold
33m3 - 15tons.
New Survey Offshore
100 miles Expiry 2027

\$295,000



5309 LONG LINER TROLLER
L15.5M x B4.9m x D2.3m
Detroit 6/71 180hp
Sea Wasp 10kVA genset
5,000 litres fuel
Fish rooms 9 tonnes total
Long line drum. Tuna poles
Good electronics
Survey 100 miles May 2026

PRICE REDUCED \$175,000



5359 TRAWLER TROLLER
L 14.11 x B 4.23 x D 2.77
Detroit 6/71 174hp
Fuel 4,500L. Water 500L
Ice hold 7 ton/140 bins
Double drum winches
Area 7 flounder quota
available. Survey limits
Coastal restricted to VHF
coverage

\$100,000



5345 WESTCOASTER 60
L18.636mx B5.95m
Main Cummins N14400hp
Aux Cummins 35Kva gen
Fuel 8,000 litres
Hold 10 tonnes + 3 t bait
32M tuna drum & spare
Survey to 30/10 2027
VERY WELL PRESENTED

\$850,000



5376 TRAWLER TROLLER
L17.3m x B4.5m x D3m
Steel hull, alloy house
Doosan 360hp. Aux Hino
150hp driving winches.
Fishhold 9 tonnes 400 bin
3 berths. Tuna poles
Trawl winch - no nets
Survey 100 miles. Shaft
due 2025

\$60,000

5371 VERY CAPABLE DEEP WATER TRAWLER

LOA 19.81 x B 5.54 x D 3.07
1981 Timber - built by Hoedemaekers
Main Cummins KT19 272kW
Aux Isuzu & 25kVA generator
Twin Disc 516 5:1 gearbox
Fuel 7,500 litres in 2 tanks. Water 2,000 litres
2 x refrigerated fish holds 560 bins or 35t bulk
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\$250,000



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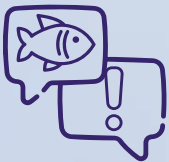
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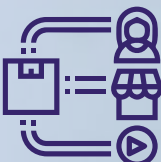
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