September 2026

CONTENTS

IMPORTANT DATES

WOAA Networking Event: 13 October

AQNZ Conference: 14-15 October

ANZSA Seaweed Summit: 5 October

MFCAP Light Audits Due: 31 October

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Mike Mandeno's GM Comment

AGM and Conference

We had a great AGM and conference in Nelson on the 14th of August. The event was sold out and feedback about the day (and night) was very positive.

A huge thank you to our sponsors, speakers and attendees - without you it simply would not be possible to stage the event. It also wouldn't be possible without Nic and Kiah, who do a great job organising and running the event.

PM's Visit to MFA

In June the association was privileged to host Rt Hon Chris Luxon and Hon Stuart Smith. It was a great opportunity to talk to the PM about the opportunities for Aquaculture to deliver sustainable growth for NZ and in particular to discuss the Fast-Track application.

L to R: Mike Mandeno, Stuart Smith, Teena Hale-Pennington, PM Christopher Luxon, Jonathan Large, Mark Preece, Ned Wells, Monique Hatfull.

Fast-Track Update

MFA members were offered an opportunity to participate in the association's Fast-Track site and that offer was over-subscribed. More than 30 members have chosen to participate and reserve lines on the new site.

Fast-Track recently approved Ngai Tahu's *Hananui* application for a significant salmon farming site North of Stewart Island. That decision is very encouraging for the

Marlborough Aquaculture Fast-Track application. It's progressing well, with our substantive application nearly ready to lodge.

El Nino is Coming

Forecasts are for a very strong 'Super' El Nino this spring and summer. That means very strong Westerly winds. Initially SW winds but transitioning into classic Nor'wester winds later in Spring and into summer. We can expect dry hot conditions in the East and very strong equinox gales.

We all know how sapping that Nor'wester can be. Long, hot, dry and windy days increase the risk of crew fatigue and therefore the risk of accidents. Hydration, electrolytes and adequate breaks are crucial to staying safe out there.

We can expect abundant phytoplankton as Westerly winds cause upwelling of nutrient rich waters and push them into Nelson Bays and the Marlborough Sounds. It's a tough gig predicting what mussels will do but … once winds transition into NW, the combination of abundant mussel food and warm temperatures should allow good mussel condition. Last time we had a solid El Nino spring, mussels grown from Kaitaia spat were fat in October. Fingers crossed for a great start to the season.

Regards,

Mike

Marine Farm Compliance Audit Programme

Declarations are Due

31st October 2026

If you have not sent in your declaration for the 4th quarter, please do so as soon as possible

ONE **DECLARATION FORM PER SITE**
DUE BY THE END OF EACH PERIOD

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February, March, April	(2)
May, June, July	(3)
August, September, October	**(4)**

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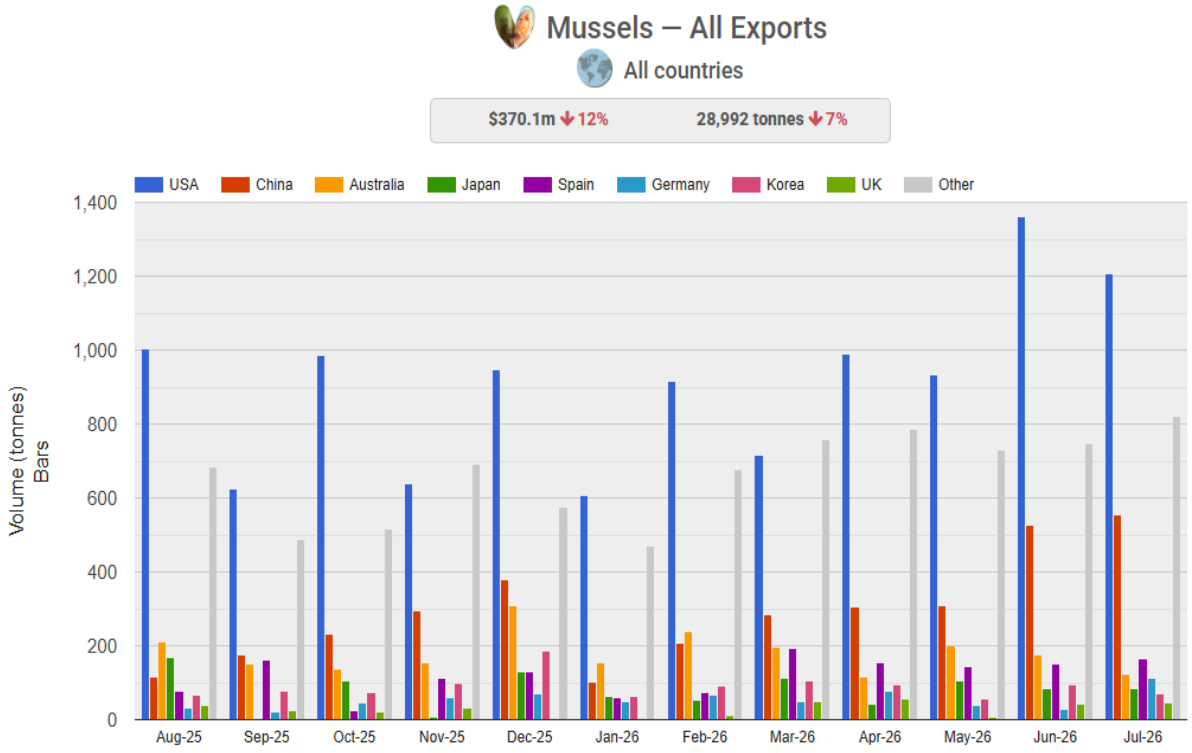

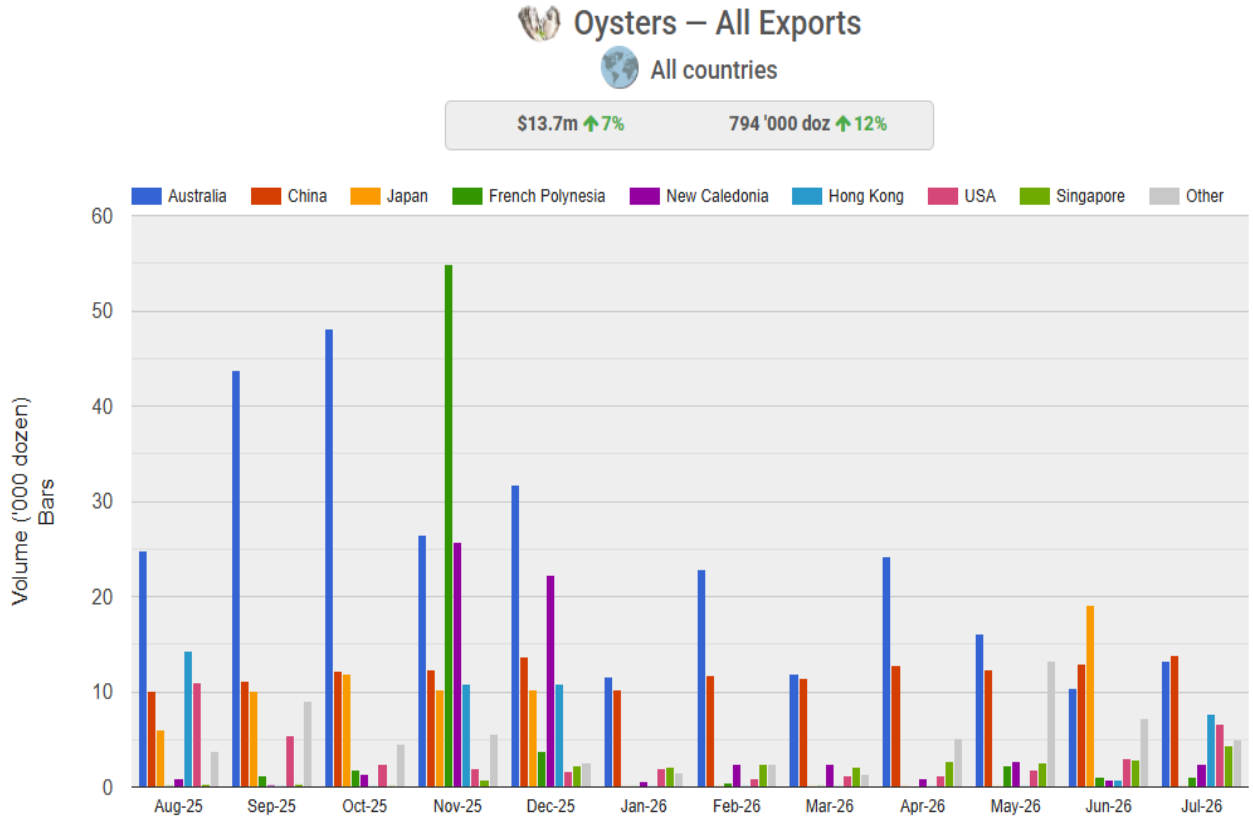

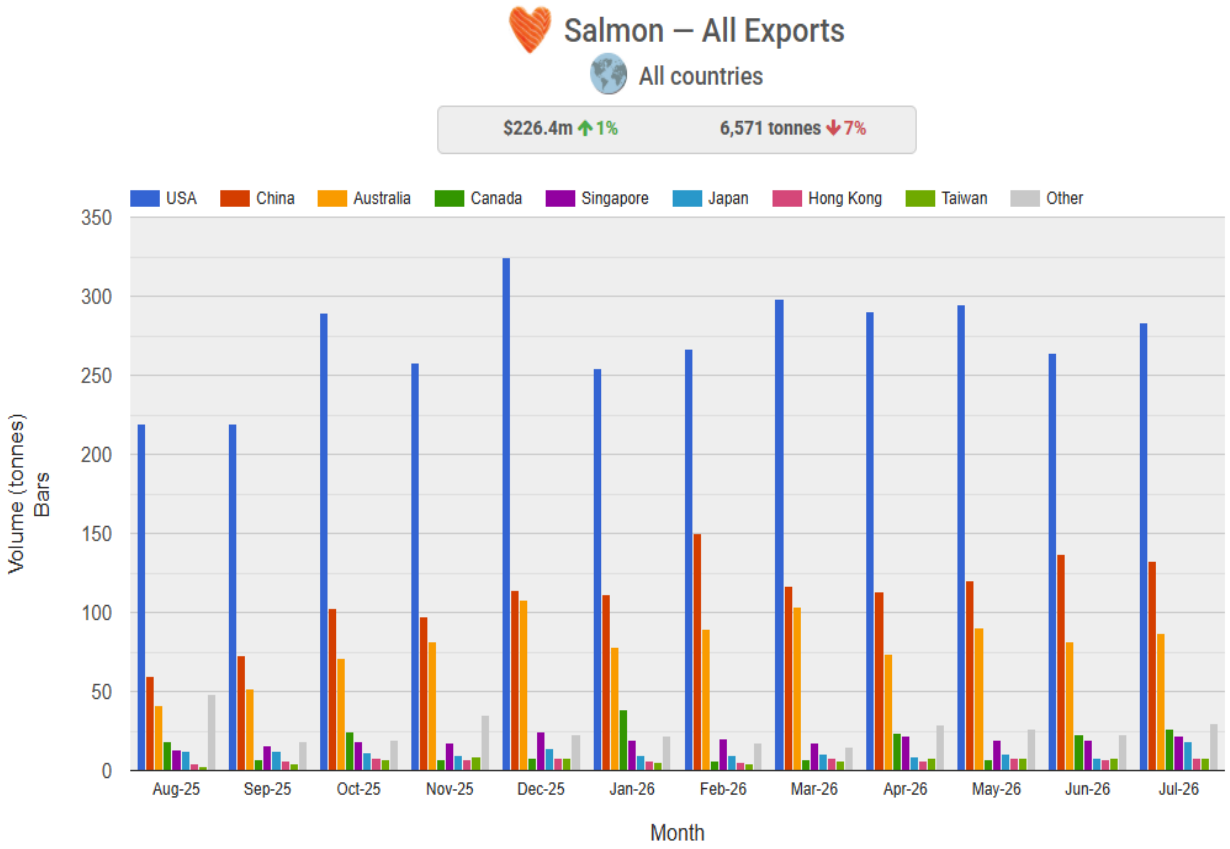

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Spring Winds: A Reminder to Check Your Gear

The spring winds have well and truly arrived, and if previous years are anything to go by, we can expect them to continue through spring and into the start of summer.

That makes now a good time for marine farmers to get out on their farms, when conditions allow, and make sure gear is secure and in good condition.

Farmers are encouraged to check float lashings, replacing or re-lashing any that are showing signs of wear or movement. Float bundles should also be checked to make sure they are secured in line with MFA Standard Operating Procedures.

Particular attention should be given to any gear that has been exposed to recent rough weather, as repeated movement and loading can place extra pressure on lashings and connections.

Keeping gear secure is important not only for farm operations, but also for reducing the risk of loose equipment ending up on beaches or creating a navigation hazard.

MFA's Standard Operating Procedures include guidance on float bundling and securing gear, and farmers should make sure these are being followed across their sites.

If you are unsure about any of the requirements, or would like a copy of the relevant SOP, please get in touch with the team at MFA. We are happy to help.

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Blue Horizon: Building pathways into the growing blue economy

Guard Safety's new Blue Horizon programme is helping job seekers build the confidence, practical skills and industry connections needed to begin careers in New Zealand's growing blue economy, including aquaculture.
Delivered with support from industry partners and funded by the Ministry of Social Development, the pilot programme combined hands-on training, workplace-focused learning and exposure to a wide range of marine-sector opportunities. Participants gained practical qualifications and experience including first aid, forklift operation, working at heights, interview preparation and visits to businesses across the industry.

A key strength of the programme was its diverse group of participants, ranging from young people entering the workforce to those with more work and life experience. Participants spoke positively about learning from one another, becoming more comfortable in formal situations and gaining the confidence to pursue new opportunities.
Participants also receive a further eight weeks of ongoing pastoral care and support, helping them remain connected, navigate early employment and continue building confidence as they moved into work. Blue Horizon is supporting people into meaningful employment while helping strengthen the workforce pipeline for the wider marine sector.

At the time of the article, eight of the nine participants had secured employment, including in the aquaculture sector. This strong result reflects the value of practical training, tailored mentoring, and connections with employers.
Watch the video to hear directly from participants about their experience and the opportunities Blue Horizon has opened up:
https://www.youtube.com/watch?v=RSFhqbG5-CQ

Turning Ocean Data into Action: AI-Powered Buoys Aim to Transform Marine Monitoring

For decades, New Zealand's aquaculture industry has relied on a combination of laboratory testing, field observations and experience to understand changing ocean conditions. While these methods provide valuable information, they often deliver a snapshot of what has already happened rather than what is happening right now.

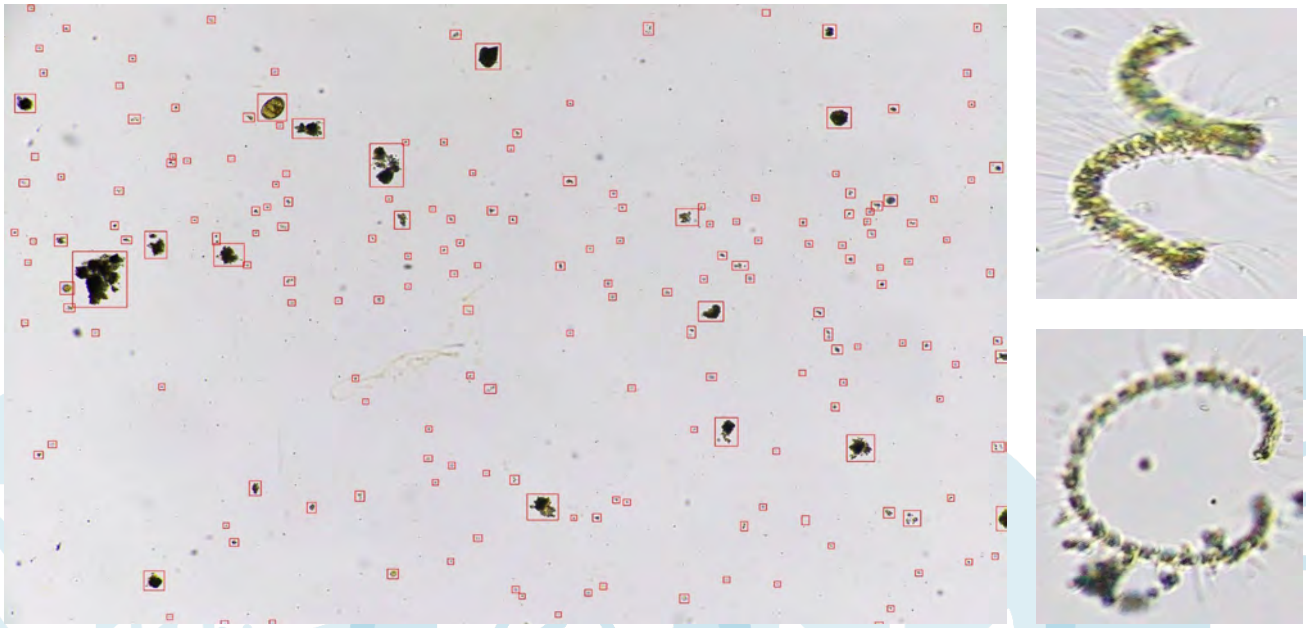
A pilot project led by Christchurch technology company Mogeo is exploring whether low-cost artificial intelligence and computer vision can help change that. By combining autonomous smart buoys with AI, the project aims to provide growers with more frequent environmental insights and, ultimately, earlier warning of harmful algal blooms.

At the heart of the project is a deceptively simple idea.

Each buoy continuously draws seawater through a microscope and captures thousands of magnified images of microscopic organisms known as phytoplankton. Those images are transmitted via the mobile network to cloud-based servers, where a computer vision model is being trained to recognise different species and estimate changes in their abundance over time.

Rather than relying solely on scheduled sampling, the long-term vision is for the system to provide continuous monitoring, allowing growers to better understand changing conditions as they develop.

In simple terms, the team is teaching a computer to recognise phytoplankton in the same way a specialist would, only much faster and on a much larger scale.



Mogeo's AI learning to identify phytoplankton

The project has progressed rapidly over the past few months.

Following the successful deployment of the first buoy in Akaroa Harbour earlier this year, a second buoy has now been installed in the Kenepuru Sounds with support from Aroma, Marlborough Shellfish Quality Programme (MSQP) and Aquaculture New Zealand. The second site benefits from excellent 4G coverage, providing an ideal environment for testing long-term communications, image transmission and solar-powered operation.

The latest deployment also introduced a significant technical improvement.

Instead of imaging only a very small volume of water, the new system concentrates a much larger sample before imaging. This increases the likelihood of detecting lower-concentration phytoplankton species and provides a more representative picture of the surrounding water.

Collecting data is only the first step. The real value comes from transforming that information into insights that support better operational decisions.

That philosophy sits at the centre of the Mogeo project.

Every image collected helps improve the AI model. Each correctly labelled phytoplankton image becomes another example the system can learn from, gradually improving its ability to recognise species and identify changes in marine ecosystems.

The project has also launched a web-based classification platform that allows incoming images from both buoys to be reviewed, labelled and used to train the AI. Over time, this growing library of New Zealand marine imagery is expected to become one of the project's most valuable assets.

The project has been built through collaboration across industry, science and government.

Partners include Aquaculture New Zealand, the Marlborough Shellfish Quality Programme, Ocean Intelligence, Cawthron Institute, Oceanum, MPI and aquaculture companies including Akaroa Salmon and Aroma. The project is also supported through the Ministry for Primary Industries' Primary Growth Sector Fund (PSGF), with development currently running ahead of schedule.

Founder Adam Hutchinson says one of the biggest surprises has been the industry's willingness to embrace new approaches.

"What I've loved about working with the aquaculture sector is the willingness to try new ideas. In many industries, introducing a different way of doing things is often met with hesitation. Here, the attitude has consistently been one of curiosity, collaboration and 'let's give it a go.'"

With two operational buoys now collecting real-world data from different regions, the focus is increasingly shifting from hardware development to AI capability.

The next phase will concentrate on expanding the labelled image dataset, improving species recognition accuracy, refining long-term reliability and continuing to validate the platform in real operating conditions.

Mogeo has received funding from MBIE for two marine science students to work on the project over summer.

While there is still significant work ahead, the project represents an exciting example of how affordable sensors, artificial intelligence and industry collaboration could help deliver more timely environmental information for New Zealand aquaculture, supporting better decisions through better data.

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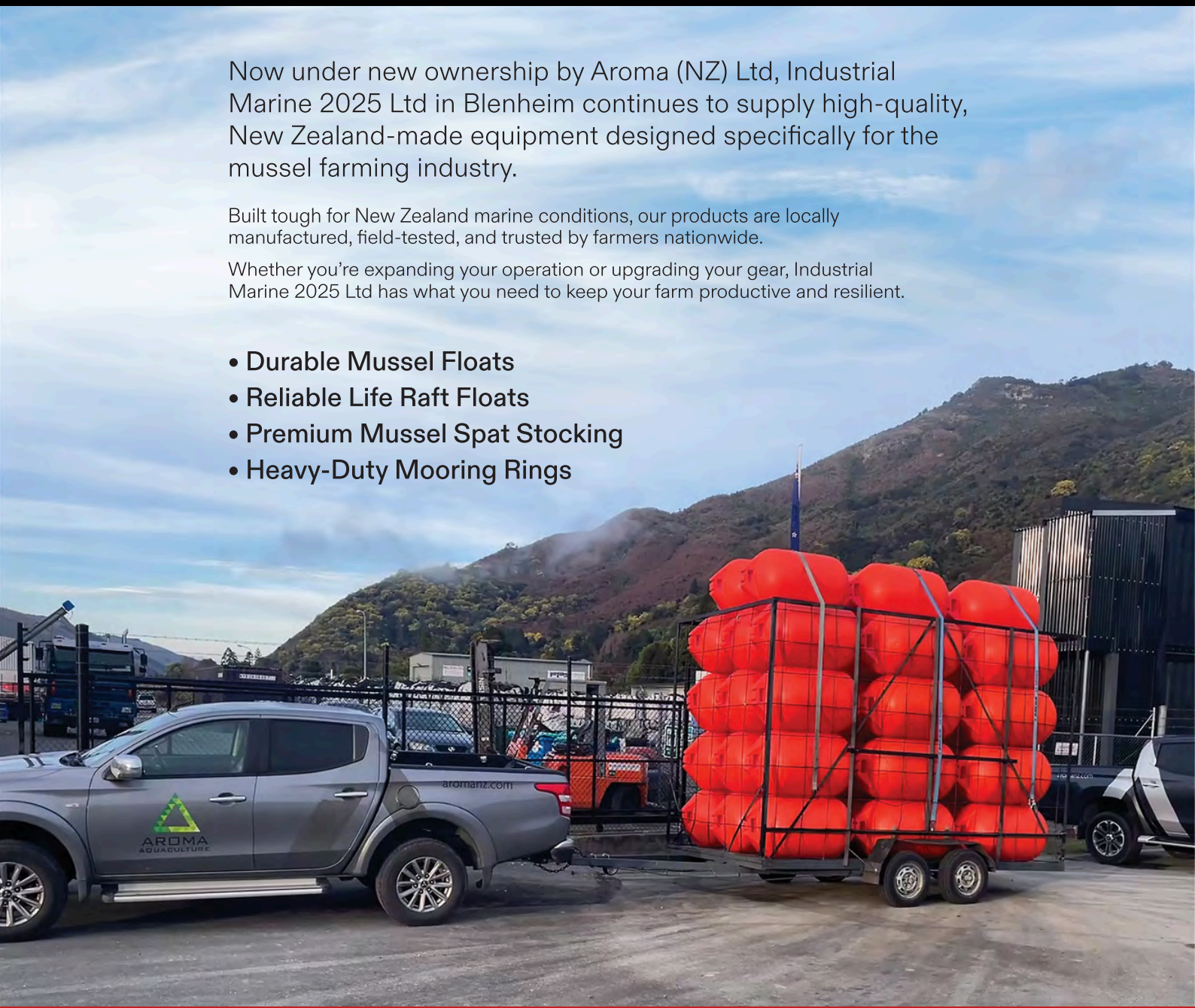

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Keeping an Eye Out for Bird Flu: A Guide for Marine Farmers and Boaties

H5 bird flu is a highly pathogenic strain of avian influenza that has spread globally since 2020 and had a significant impact on wild birds and poultry.
The wild birds that are most likely to be affected include waterfowl (ducks, geese and swans), shorebirds (godwits, stilts and plovers), and seabirds (gulls and terns). Marine Mammals have also been affected.
H5 bird flu has now been detected in individual wild birds in New Zealand. There have been no mass mortality events and no detections in poultry at this time.

Signs of Bird Flu in Birds
Marine farmers and boaties should be vigilant for signs of bird flu in seabirds, which include:
• Sudden death in multiple birds
• Weakness, tremors, and lack of coordination
• Difficulty breathing and nasal discharge
• Diarrhoea and swelling around the head and neck
Do not touch or move sick or dead wildlife.

Risk to Other Mammals
Bird flu can also pose a risk to other mammals, including seals, dogs, and cats. These animals can become infected through contact with sick birds or contaminated environments. Symptoms in mammals can include respiratory distress, lethargy, and neurological signs.
Keep pets and other animals away from sick or dead birds or wildlife.

Reporting Unwell Seabirds or Marine Mammals
If you encounter three or more sick or dead birds, marine mammals or other wildlife in a group report it immediately to MPI on 0800 80 99 66.
Provide detailed information, including the location, species, and number of affected birds. Do not handle sick or dead birds to avoid spreading the virus.

By staying informed and vigilant, marine farmers and boaties can play a crucial role in protecting New Zealand's bird populations and other wildlife from the spread of bird flu.
For more information head to the Ministry for Primary Industries and Department of Conservation websites:
• https://www.mpi.govt.nz/dmsdocument/64557-How-to-report-suspected-bird-flu
• https://www.mpi.govt.nz/biosecurity/pest-and-disease-threats-to-new-zealand/animal-disease-threats-to-new-zealand/high-pathogenicity-avian-influenza/
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MFA Annual Conference Brings Industry Together

MFA's Annual General Meeting, Conference and Awards Dinner returned to the Nelson Yacht Club on the 14th of August, with all tickets sold out and a great mix of marine farmers, industry partners, researchers, and guests there to take part.

The morning started with a karakia from Archdeacon Harvey Ruru and was followed by the MSQP and MFA Annual General Meetings.

Bruce and the team at MSQP acknowledged the incredible service of Mike Holland, who had decided to step down from the executive after 17 years as he plans to retire at the end of the year. Mike was also later acknowledged by Jonathan and the MFA team as he also stepped down from the MFA Board. Also leaving the MFA Board this year was long-serving member and former president Rob Pooley. Rob had first joined the MFA Board in 1984, and while leaving the Board this year, remains a MFA life member and active marine farmer.

New to the MFA Board this year is Monique Hatfull, New Zealand King Salmon's GM of Relationships and Communication. Monique joined NZKS in 2023, bringing a background spanning aquaculture strategy, stakeholder engagement, communications, government, environmental policy and Māori resource management.

Before moving to other business Jonathan raised an additional item on the request of the MFA Board and asked the members present to accept a nomination for Life Membership to be presented to Graeme Clarke. This was enthusiastically agreed on and Clarkie was name MFA's 8th Life Member.

Following the AGMs morning tea was served and attendees had a chance to catch up while waiting for the conference event to begin.

This year's conference had a really good range of speakers, covering research, innovation, training, biosecurity, new farming developments and practical technology.

We were also pleased to welcome local MPs Jamie Arbuckle of New Zealand First and Stuart Smith of the National Party, along with Jenny Marcroft, who spoke on behalf of Hon Shane Jones. It was great to have them there and to hear their perspectives on some of the issues and opportunities facing the industry.

Our keynote speaker, Dr Chris Cornelisen from Cawthron Institute, spoke about building New Zealand's ocean technology advantage through aquaculture innovation. It was a great way to get the conference underway and highlighted some of the exciting work happening in and around our industry.

We also heard an update from New Zealand King Salmon on Blue Endeavour, along with presentations on biosecurity, industry training and the Fast-track process. Marine farmer Kevin Oldham gave a practical look at his experience using artificial intelligence in marine farming, while Lex and Neil from Mohua Marine Trust shared more about the Trust's work and its relationship with marine farmers.

One of the highlights of the afternoon was the panel discussion on fish predation on marine farms. Facilitated by MFA President Jonathan Large, the panel brought

together Brad Skelton (University of Auckland), Jake Bartrom (Gulf Mussels, Coromandel), and Brian Godsiff (Clearwater Mussels, Golden Bay) to discuss what they were seeing out on the water and to consider what practical steps could help. It was a topic that got people talking and made for a lively and useful discussion.

After a full day, it was time to shift gears for the Awards Dinner, once again generously sponsored by Kernohan Engineering.

Former All Black Wyatt Crockett joined us for the evening, hosting the awards and also putting everyone to the test as quizmaster during dinner.

The awards themselves were a chance to recognise some of the great people in our industry, across research and development, environmental work, community contribution, new entrants, seamanship, farming excellence and long-standing service. It is always one of the best parts of the evening, hearing the stories behind the recipients and celebrating the work that often happens quietly in the background.

A big thank you to everyone who helped make the day such a success. To our speakers for giving their time and sharing their knowledge, to everyone who came along and filled the Yacht Club, and of course to our sponsors whose ongoing support makes the event possible.

It was a great day from start to finish, and we're already looking forward to next year.

For more photos from the event, go to page 47.

And, the 2026 winners are…

Outstanding Marine Farmer Award – Presented by Mike Mandeno on behalf of Donaghey's NZ

The Outstanding Marine Farmer Award recognises someone who has made a real difference to marine farming here in the Top of the South – not only through the work they do, but through their leadership and contribution to the wider industry.

This year's recipient has dedicated decades to aquaculture and, in that time, has built an enormous depth of knowledge and experience in farming New Zealand King salmon.

He started out as a shift worker and worked his way through the industry into senior leadership, where today he has responsibility for seawater operations and the people, vessels and infrastructure that go with them.

Over those three decades, he has played an important part in the growth and development of New Zealand's salmon farming sector. But perhaps one of the biggest challenges – and opportunities – of his career has come more recently.

He has been a key figure in turning Blue Endeavour from an ambitious idea into an operating open-ocean salmon farm. While something of that scale is very much a team effort, this year's recipient has provided the practical leadership needed to make it happen – from getting the pens installed and fish safely transferred, through to integrating a wellboat and adapting farming practices to an entirely new environment.

His contribution also extends well beyond the farm. He is a strong supporter of training and developing people within the industry,and is always willing to share what he has learned. Whether that means talking to the community, presenting to industry, supporting staff development or explaining the latest stage of Blue Endeavour, he is a knowledgeable and trusted ambassador for aquaculture.

Those who know him describe him as a quiet leader. He's not someone who needs to make a lot of noise about what he's doing – he just gets on with the job, brings people with him, and gets things done.

And apparently, after more than 30 years working around some fairly unforgiving marine environments, he still hasn't been convinced that long trousers are necessary.

Please join me in congratulating the winner of the **Outstanding Marine Farmer Award — Mark Preece, from New Zealand King Salmon.**

Award Dinner photo credit: Brant Adam Photography www.brantadamphotography.nz

Environment Award – Presented by Simon Pooley of Waimana Marine

The Environment Award recognises an individual or organisation that has demonstrated an outstanding commitment to protecting our marine environment – through leadership, best practice, innovation, or simply being prepared to get out there and do the work.

This year's recipient comes with a particularly strong endorsement, having been nominated by our Environmental Mentor, Darren Clarke. And given the standards Darren expects when it comes to environmental performance, that's pretty high praise.

With more than 35 years in marine farming, this person has been a long-standing supporter of the MFA and our environmental work. He served for many years on the MFA Environment and Compliance Committee, bringing a wealth of practical experience to the table and helping drive good environmental practice across the industry.

But perhaps more importantly, he's always been prepared to back that up with action.

When Darren needed some extra hands after a storm left one of our local beaches needing a major clean-up, there was no hesitation. This recipient committed his crew to the job, parking up operations for two days while they worked their way along the beach to make sure it was left in great condition.

He's also been closely involved in finding practical ways to reduce waste from marine farming. He worked on the development of peg floats and helped create the Retro Float Attachment, providing farmers with an alternative to traditional float lashing. Importantly, the attachment can be fitted to most types of existing floats, allowing older floats to be repurposed.

That combination of practical thinking and willingness to get involved sums up the contribution he has made over many years. Whether it's his own time, his crew, his resources or simply finding a better way of doing something, he's always willing to help.

For now, please join me in congratulating the winner of the **Environment Award — Mike Holland, from Clearwater Mussels.**

R&D Award – Presented by Dorien Ver Maas from Marlborough District Council

The R&D Award recognises an individual or organisation making an important contribution to our industry through research, innovation and the development of new ideas.

This year's recipient is working at the forefront of fish health and welfare, helping tackle some of the challenges facing New Zealand's salmon sector, and building knowledge that will help shape its future.

As a Fish Veterinarian, he brings highly specialised expertise to the industry and has been leading a number of significant research initiatives. These include work with the Ruakākā trial pens, live vaccine trials, and research looking at how salmon respond to warmer water temperatures.

His work also extends into areas such as genomics and the development of new approaches to fish health and disease prevention – research that has practical applications on farm, while also contributing to a much wider understanding of salmon health and performance.

What makes his contribution particularly significant is the connection between the science and what happens out on the farm. The research he leads is helping find practical ways to improve fish health and welfare, strengthen resilience and prepare for the challenges the sector may face in the future.

New Zealand King Salmon is currently the only company in New Zealand with a dedicated in-house Fish Veterinarian, reflecting the importance it places on best-practice fish health and welfare. Through that role, this year's recipient is not only contributing to the company's own operations, but to knowledge and research that can have positive impacts across the wider sector.

Please join me in congratulating the winner of this year's **R&D Award — Dr Zac Waddington, from New Zealand King Salmon.**

Unfortunately Zac can't make it tonight so his award will be received by Monique Hatfull of NZKS.

Recent Entrant Award – presented by Clive Holmes from Skipper Training NZ

The Recent Entrant Award recognises someone who, in their first few years in the industry, has already made a strong impression through their enthusiasm, commitment and contribution to aquaculture.

This year's recipient has been in the industry for less than two years, but in that short time she has thrown herself into learning all aspects of the business, with a particular focus on understanding on-water farming operations.

She has embraced the challenges of working in a dynamic marine environment and quickly developed a strong understanding of mussel farming, from the practical realities of operating on the water through to the importance of quality across the production cycle.

But she hasn't just been learning how things are done – she's already helping find ways to do them better.

One of her standout contributions has been leading the development and implementation of the AI Harvest Hub assessment tool. This innovative technology is being used to assess mussel meat condition, helping improve consistency, decision-making and understanding of crop quality. It's a great example of someone relatively new to the industry bringing curiosity, technology and practical thinking together to solve a real-world problem.

Her potential as an emerging leader has also been recognised through the Aquaculture New Zealand Scholarship programme, where she was selected to take part in the Women of Aquaculture Aotearoa Leadership Development Programme.

Throughout her time with MacLab, she has earned the respect of her colleagues through her enthusiasm, willingness to learn and readiness to take on new challenges.

In less than two years, she has already made a meaningful contribution to both MacLab and the wider industry – and we look forward to seeing where that enthusiasm and drive takes her next.

Please join me in congratulating the winner of the **Recent Entrant Award — Kim Kubala, from MacLab.**

Community Award – Community Award presented by Mike Mandeno of MFA

The Community Award recognises someone who acts as an ambassador for our industry and makes a positive contribution to the communities where we operate.

This year's recipient is someone who has spent most of his life in marine farming. In fact, he first started heading out on mussel boats with his father when he was just nine years old. Nearly four decades later, he's still on the water and still contributing to the industry – although these days, his contribution extends well beyond the day job.

After many years farming in the Marlborough Sounds, he moved to Golden Bay in 2013, initially planning to stay for just a couple of years. More than a decade later, he has become an important link between the marine farming industry and the Golden Bay community.

One example is his involvement with the Mohua Marine Trust, who we heard from earlier today. He has been working alongside the Trust on its reef ball project, helping support an initiative that brings together the local community, marine farmers and environmental restoration.

He's also become the person who helps make our float collection programme work on the ground in Golden Bay. When members of the public find and collect marine farming floats, he helps coordinate their collection, connects them back with the industry and organises payment. Having someone local who is approachable, responsive and willing to get things sorted makes a real difference to our relationship with the community.

And that probably sums up this year's recipient pretty well. He's someone who is always willing to help, gets involved without needing a lot of fuss, and genuinely cares about the industry and the community he is part of.

After a lifetime around marine farming, he continues to be a great ambassador for our industry – and, quite simply, a genuinely good guy.

Please join me in congratulating the winner of the **Community Award — Brian Godsiff, from Clearwater Mussels.**

Ivan Godsiff Memorial Award – Presented by Brian Godsiff and Stoney Bourke

The Ivan Godsiff Memorial Award recognises a skipper who demonstrates outstanding seamanship, takes pride in looking after their team and vessel, and shows a genuine commitment to environmental stewardship.

This year's recipient has been with his company for more than eight years, joining in its early days and developing over that time into a highly capable and well-respected skipper. The team describe him as a huge asset to the company.

His connection to mussel farming goes back much further than that. His father, worked for many years on the *Pelorus Trader* under skipper Ivan Godsiff, and as a youngster our recipient would often head out on the vessel to lend a hand — although apparently there was also plenty of time spent catching snapper off the back while they were harvesting.

That early introduction to the industry clearly stuck. He has always had a love of the ocean, spending time as a commercial diver, before returning to Marlborough and finding his way back into mussel farming.

He's someone who can turn his hand to pretty much whatever is needed. Whether he's running the float boat *Juliet* and keeping the farms up to scratch, at the helm of the *Kakara* harvesting and seeding, or out walking beaches, he approaches the job with the same attitude – do it properly and do it well.

He takes real pride in the vessels he operates and in keeping them well looked after, safe and running as they should. He brings that same approach to his crew – looking after the people around him, leading by example and creating a team that works well together. Combined with his seamanship, he's the sort of skipper you can rely on to maintain high standards and get the job done properly.

Importantly for an award carrying Ivan Godsiff's name, his contribution isn't limited to what happens aboard the boat. Whether it's maintaining farms or getting out and walking beaches, he understands the responsibility that comes with farming in the marine environment and is prepared to put in the work to look after it.

Please join me in congratulating the winner of the **Ivan Godsiff Memorial Award — Julius Bradley, from Aroma Aquaculture.**

Merit Award – Presented by Jonathan Large from MFA

The Merit Award recognises an individual or organisation that has made a significant and beneficial difference to our industry over a sustained period of time.

And for this year's recipient, "sustained" is certainly the right word.

He has spent more than 40 years in marine farming, beginning his career in 1985 after coming north from Southland, where he had worked in sawmilling and shearing. One of ten siblings from a farming family, he needed to establish himself away from the family farm and found his way into the industry working for his brother-in-law, John Pickering.

He gained his Skipper's Ticket in 1989, and by 1990 was skipper of the barge *Miro*, towed by the *Westland*. In 1996, he took the helm of the new vessel *Pelorus Image*, and went on to spend many years as a skipper before moving ashore in 2007 to take on an operations management role with Clearwater Mussels.

As a skipper, he was particular about keeping his vessel running well, clean and tidy. That same attention to detail has stayed with him throughout his career.

Since moving ashore, he has become one of those people who seems to have a hand in just about everything. Managing vessels, supporting crews, solving problems, contributing to industry projects and, perhaps most importantly, being willing to share the knowledge and experience he has built up over a lifetime in marine farming.

The transition from skipper to Operations Manager was a significant one. For someone who was once frightened of computers, he has gone on to manage an increasingly complex operation and become known as a stickler for detail – tracking every cent, keeping a close eye on how things are running and expecting the same high standards from those around him.

He is recognised as tough, but fair. There are not too many grey areas. He expects fairness from his crews and equally expects it from management. Combined with a good dose of his Southland Irish "get in and get the job done" heritage, that approach has helped build loyalty, longevity and buy-in from the people he manages.

He has also invested a huge amount in developing people. Over the years, he has encouraged many crew members to further their education, gain qualifications and work their way up through the industry into skipper and management roles. It may not always have worked exactly as intended, but generally it has been hugely successful, and his influence can be seen in the careers of many people across the industry today.

The scale of the operation he has helped manage has changed enormously as well. When he took on the Operations Manager role in 2007, Clearwater was producing around 4,000 tonnes annually. By 2028, the company is projected to produce more than 30,000 tonnes.

That is a considerable change, and he has played an exceptional role in helping manage Clearwater through that growth. His contribution also extends well beyond his day job.

He has served on the MFA Board since 2014, bringing a practical marine farmer's perspective to the table for more than a decade. His commitment goes back even further with the Marlborough Shellfish Quality Programme, where he has served on the Board for an impressive 17 years. That is a considerable amount of time spent representing the industry, attending meetings, working through issues and contributing to decisions – much of it quietly done alongside the demands of a very busy day job.

He has also been an innovator. When he sees a practical problem, his instinct is to find a practical solution. That has included his involvement in the development of peg floats and

the Retro Float Attachment – finding ways to improve farming practices while allowing existing equipment to be repurposed and kept in use.

He's also someone who has always been willing to put his company's resources behind the wider industry. Whether that means providing a vessel for beach cleaning, committing a crew, helping with an environmental clean-up or simply giving his own time and experience, he has consistently stepped up when asked.

In fact, his contribution to marine farming has been recognised by the MFA before, when he was named Marine Farmer of the Year in 2011. Fifteen years later, he is still contributing.

He has seen the industry change enormously over that time – from what could probably be described as the "cowboy" era, with plenty of enthusiasm, youth, experimentation and the occasional mistake, through to the much more professional industry we have today. And he has been part of that transition, not only through his own work, but through the standards he has expected, the people he has mentored and the experience he has shared with the wider industry.

This year makes this award particularly fitting, as he prepares to retire. After more than 40 years in marine farming, it will be sad to see him step away, but there is also an enormous amount to be grateful for – not only for what he has contributed through his work, but for the time and energy he has given back to the industry around him.

As one colleague put it, it is perhaps a shame he is leaving now – we've made it from the cowboy era to professionalism, but we're only halfway to exceptionalism.

And we should also acknowledge his wife, Lavinia. A career and contribution of this length rarely happens without a huge amount of support behind the scenes, and Lavinia has been an incredible support to him throughout the years.

So, as he heads towards a very well-earned retirement, this award is our opportunity to recognise and thank someone who has given an enormous amount to marine farming – as a skipper, manager, mentor, innovator, industry representative, Board member and colleague.

Please join me in congratulating the recipient of the **2026 Merit Award — Mike Holland, from Clearwater Mussels.**

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Feedback Opportunity for Shellfish Farmers

Kia ora,

For those who don't know me I'm Jess Ericson. I have worked for the past 18 years across both the commercial shellfish aquaculture and science sectors. I'm lucky enough to be completing the Kellogg Rural Leadership Programme as the sole aquaculture representative among a fantastic group of New Zealand primary-sector professionals.

As part of the programme, I'm undertaking a project exploring how the shellfish industry engages with science, and how we can strengthen trust, communication and collaboration between farmers and researchers. **This is a chance to have your say on what works and doesn't work for you.**

If you'd rather have a root canal than do a survey, I hear ya. This one is quick and painless (actual quote from a marine farmer), and you'll help me identify practical ways to improve the system we work in.

The survey is completely anonymous and takes 10-15 mins. Access the link here: **https://lincoln.az1.qualtrics.com/jfe/form/SV_4VNDlyQo7FGEGkC**

I'm also conducting interviews, so if you'd rather have a chat, please call me on **027 636 8663**. Thanks for taking the time to help. I really appreciate it.

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New Zealand King Salmon marks major milestone with Blue Endeavour pilot farm opening

New Zealand King Salmon (NZKS) is celebrating a significant recent milestone in the company's Blue Endeavour project, officially commencing operations at the world's first open ocean King salmon farm.

Blue Endeavour, located seven kilometres off Cape Lambert outside the Marlborough Sounds, now has all key infrastructure in place and the first cohort of fish have been successfully relocated to their new home in the open ocean.

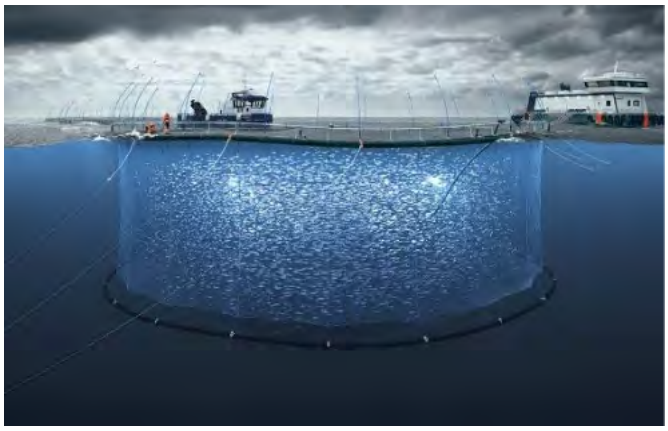
The Blue Endeavour pilot pens are now in place in the open ocean, with the first fish delivered during May and June. Credit: Jim Tannock.

NZKS Chief Executive Carl Carrington said the opening of the pilot farm represents the next step in a journey that has been more than a decade in the making.

"Open ocean farming is the next frontier for the King salmon sector. While inshore salmon farming faces growth constraints, open ocean environments offer significant opportunities for future development, despite their additional complexities," says Carl.

"Reaching this milestone reflects years of planning, research, consultation and regulatory work, along with a strong commitment to working collaboratively with government, iwi, partners, and our wider community.

"It is important to recognise the many team members at NZKS who have been involved over the past decade or more, and the collective effort involved to get to this point. I also want to acknowledge the relationships that have underpinned the success of the Blue Endeavour project to date, and the fact that we could not have achieved this milestone alone."



The location of the Blue Endeavour 1 (South), labelled as 'K' on key. Concept image of a Blue Endeavour open ocean pen, Credit. ScaleAQ.

Local collaboration and strong international partnerships are playing a critical role in delivering the pilot project. NZKS is working with ScaleAQ, a world leader in aquaculture infrastructure, which has supplied the specialist pen technology used at Blue Endeavour.

"We are proud to contribute to the Blue Endeavour project together with New Zealand King Salmon," adds Martin Søreide, CTO Seabased, ScaleAQ.

"Developing and adapting technology for open ocean environments is an important step for the future of aquaculture, and we have greatly appreciated the close collaboration with the team in Picton during the build and launch of the pilot pens.

"This project demonstrates how global experience can be combined with local expertise to create robust solutions tailored to New Zealand's unique conditions."

Sølvtrans is another key international partnership enabling Blue Endeavour, through the long-term lease of the *Ronja King* wellboat - the first vessel of its type to operate in New Zealand waters (Ronja King Wellboat Arrives in Picton | NZ King Salmon). As well as supporting our inshore farms, Ronja King delivered the first fish from Clay Point to Blue Endeavour during May and June.

Together, these partnerships bring proven offshore farming capability and fish-welfare technology to the New Zealand context.

Our local contractors and partners have also played an important role in building and installing the mooring grid and pens, including Johnsons Barge Service Ltd, O'Donnell Park Barging Limited, Nautilus Pacific, and Port Marlborough.

Blue Endeavour is initially being developed at a 'pilot' scale, which means only two of the 10 pens from the southernmost 'farm one' will be developed first. Carrington said the pilot phase is focused on learning and evidence-building and will be used to

test technology and operational parameters at a commercially relevant scale before any future investment decisions are made.

“This pilot is about proving what’s possible - safely, responsibly and then eventually at commercial scale,” says Carl.

“The insights gained here won’t just inform decisions for our business, they will help shape the future of open ocean aquaculture in New Zealand and support the country’s export-led recovery.”

The Blue Endeavour pilot project is being developed as part of the ‘Future Farming: A Blueprint to Accelerate Salmon Farming in Aotearoa’ programme, a partnership between New Zealand King Salmon and the New Zealand Government under the Sustainable Food and Fibre Futures fund (replaced by the Primary Sector Growth Fund).

By co-funding the pilot, NZKS and the New Zealand Government aim to help establish a blueprint for open-ocean aquaculture in New Zealand.

The fish currently at sea are due to be harvested later this year.

Blue Endeavour has the potential to materially increase New Zealand King Salmon’s farming capacity by an additional ~10,000 metric tonnes/year (more than doubling current volumes) and ~$350million in additional revenue. It will also contribute to long-term regional and national economic outcomes.

“This is the most significant project in our company’s history of more than 35 years,” adds Carl.

“We are now moving into significant growth mode, not just talking about it, but actually doing it. There aren’t many New Zealand primary sector businesses that are on a growth trajectory. We are looking forward to proving up Blue Endeavour, and unlocking the immense potential of New Zealand’s Blue Economy.

“New Zealand King Salmon is really proud to be able to deliver this project in the heart of Te Tauihu, alongside key local partners who share our passion and commitment for the region.”

About Blue Endeavour:

- Blue Endeavour will be New Zealand’s first open ocean salmon farm. It will also be the world’s first farm of its type for the valuable King salmon (Chinook) fish species.
- Open ocean salmon aquaculture is the farming of salmon in enclosed fish pens, anchored in place to the seabed, in exposed marine environments.
- The Blue Endeavour pilot consists of two circular pens, each with an internal diameter of 53.5 metres. When fully operational, it is estimated the nets will span 30 metres below the ocean’s surface - or approximately 10 stories deep, with a ratio of approximately one percent salmon to 99 percent water.
- When fully operational, the farm will comprise two blocks of ten circular pens; the total farm area will be less than 12 surface hectares in size. Blue Endeavour will have the capacity to produce ~10,000 metric tonnes of King salmon, with an anticipated annual revenue of ~$350 million per annum.

- Watch the video here to see the latest developments, and visit our website Open Ocean – Blue Endeavour | New Zealand King Salmon for more information on Blue Endeavour.

For further information, please contact Chantelle Te Haara, Corporate Communications Manager, chantelle.tehaara@kingsalmon.co.nz or +64 21 307 908.

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NMIT’s first Master of Applied Science graduate’s award-winning work already being trialled by industry.

Jamie graduated with distinction as the first student to complete NMIT's **Master of Applied Science**, following research into improving the success of farmed Chinook salmon. Her findings are already being tested by aquaculture companies and have paved the way for the next stage of her research journey - a PhD.

Originally from Seattle, Jamie moved to New Zealand with her family in 2018 after a career teaching science, mathematics and engineering in the United States. Looking to stay connected to biology and environmental science, she discovered NMIT's aquaculture programme.

"I never really left!" says Jamie. "I loved the research I was doing, and that led to opportunities to stay on at NMIT."

Since then, Jamie has progressed from postgraduate student to Technical Coordinator and Laboratory Manager, supporting NMIT's science facilities while continuing to build her own research career.

Jamie's master's research focused on improving the success of Chinook salmon as they transition from freshwater to seawater – a critical stage in salmon farming.

Her work investigated whether changing the amount of daylight young fish receive before transfer could improve their development. The results were significant, dramatically reducing the number of fish that failed to thrive after entering seawater.

While further industry testing is underway, aquaculture companies have already begun trialling the lighting approach in commercial settings. "That's the part I enjoy most," Jamie says. “I've always loved research that has a direct impact on industry and on people who can actually use the information. I enjoy solving problems that have practical answers.”

For Aquaculture Programme Manager and research supervisor Mark Burdass, Jamie's achievement reflects exactly what the programme was designed to achieve.

"Jamie's work is a great example of what applied research at NMIT is all about," says Mark. "She has taken a real challenge facing the aquaculture industry, approached it with curiosity, diligence and scientific rigour, and produced findings that have genuine potential to improve industry practice."

Her research also explored the use of artificial intelligence to identify, from photographs, which fish may be likely to struggle later in life – work she hopes to continue through future research. Alongside her own research, Jamie manages

laboratories across NMIT's science programmes and continues to work closely with industry partners on applied research projects.

She credits much of her success to the people around her. Throughout her master's, she received support from NMIT's Research Office, Campus Services, her supervisors and colleagues, as well as industry partners who contributed expertise, facilities and funding. "I felt supported the entire way," she says. "It's a lot of work, but it feels like a small family and you feel looked after. I feel very fortunate to have had the opportunity."

That support also enabled Jamie to present her research at an international aquaculture conference in Darwin, where she shared her findings with researchers from around the world and received strong interest in the artificial intelligence component of her work.

Mark says Jamie's success also highlights what makes applied research at NMIT distinctive. "Jamie has set a fantastic benchmark as the first graduate of our Master of Applied Science," he says.

"She has shown what's possible when talented researchers are supported by the right people, facilities and industry connections. That's exactly the kind of environment we're continuing to build, and we hope Jamie will be the first of many graduates making an impact through applied research."

Jamie isn't stopping at a master's degree. Her research has already opened the door to a PhD, which she plans to begin later this year. Based at NMIT in partnership with AUT, the project will continue investigating ways to improve salmon health and production while expanding the use of emerging technologies such as AI.

For Jamie, it feels like the natural next step. "I love the research and I love working with salmon," she says. "I'm passionate about asking questions and exploring the answers." As NMIT's first Master of Applied Science graduate, Jamie hopes she won't be the last. "Hopefully there are lots more to come."

- NMIT

Andy Ritchie Scholarship Applications now open!

Jamie was also the recipient of MFA's Andy Ritchie Scholarship in 2025. This scholarship was created in 2000 in memory of marine scientist Andy Ritchie and is awarded annually to a student to support their study and research in the field of aquaculture. The scholarship is open to tertiary students nationwide with emphasis on study that benefits aquaculture in Te Tau Ihu.

Applications for the 2026 scholarship are NOW OPEN – please apply via our website:

All about the Andy Ritchie Scholarship fund | Marine Farming Association Incorporated

Applying Winter Photoperiod Significantly Reduces Stunting in Chinook Salmon

Jamie Bellamy[1], Mark Burdass[1], Sobhan R. Akhavan[1] and Zac Waddington[2]

[1]Nelson Marlborough Institute of Technology [2]New Zealand King Salmon

jamie.bellamy@nmit.ac.nz

KEY FINDING:

An 8-week winter photoperiod (8L:16D) significantly reduced Failed Smolt Syndrome/ stunting in Chinook salmon. Common biomarkers NKA and ATPase did not predict stunting.

PROBLEM/ CONTEXT

Stunting in Chinook salmon reflects an adaptation failure during the transition to seawater.

Strongly linked to impaired osmoregulation, stunting **increases disease susceptibility, chronic stress, and mortality.**

Stunting **reduces production performance and profitability** in the New Zealand salmon industry.

AIM

1. Does a winter photoperiod signal reduce stunting in RAS-reared Chinook salmon?
2. Does the duration of photoperiod enhance this effect?
3. Do standard gill biomarkers (ATPase and NKA) predict stunting prior to seawater transfer?

FAILED SMOLT SYNDROME

NORMAL GROWTH

Average specific growth rate (SGR): **1.4 %day^{-1}**

STUNTED GROWTH

Average specific growth rate (SGR): **0.7 %day^{-1}**

30 days after seawater transfer

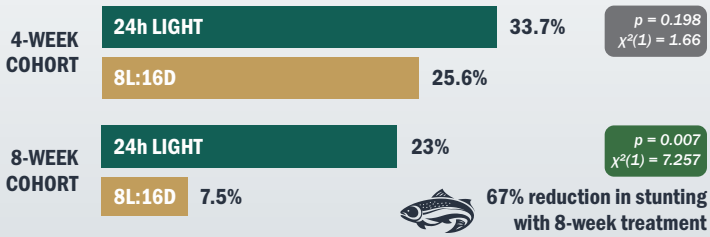
METHODS

CONCURRENT

1. **PIT tagged 1200 salmon**
   6 treatment tanks &
   2 control tanks
2. **Gill sampling**
   ATPase index
   NKA activity
3. **Photoperiod**
   24hr light 8L:16D
   4- & 8-week duration
4. **Seawater transfer**
   Grown for 30 days
   SGR measured

RESULTS | PHOTOPERIOD

% Stunted Salmon after SW transfer



RESULTS | BIOMARKERS

Biomarkers Fail to Differentiate Cohorts

NKA Activity Levels Remain Similar

4-WEEK COHORT **7.59** μmol ADP hr^{-1} mg protein^{-1} — p > 0.091 (Not significant) — **5.64** μmol ADP hr^{-1} mg protein^{-1} 8-WEEK COHORT

ATPase Index Shows No Gap

4-WEEK COHORT **109.3** — p > 0.841 (Not significant) — **91.8** 8-WEEK COHORT

CONCLUSION

An 8-week winter photoperiod of 8L:16D, applied from approximately 60 g in freshwater RAS, **significantly reduces the incidence of failed smolt syndrome.**

Neither the 4-week treatment nor continuous light resulted in significant improvement in stunting, suggesting that current industry practices may be insufficient, and **an extended photoperiod duration should be considered.**

This study found that the **conventional smoltification biomarkers**, gill NKA enzyme activity and ATPase index, **did not differ significantly** between the 4- and 8-week cohorts prior to seawater transfer, hindering accurate prediction of which fish will thrive in seawater.

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Being Proactive with Marine Biosecurity

Marine biosecurity is one of those tasks that is easy to overlook when day-to-day farm operations are busy. Yet for New Zealand's mussel industry, strong biosecurity practices remain one of the most important tools to protect farms, livelihoods, and the wider marine environment.

The movement of vessels, equipment, seed stock, and harvested mussels between growing areas is a routine and essential part of marine farming. However, these same activities also provide pathways for the spread of marine pests and diseases. Once established, marine pests can be extremely difficult, and often impossible, to eradicate.

The consequences of a new pest or disease becoming established, can include increased operational costs, restrictions on stock movements, impacts on farm productivity, and risks to other marine industries and ecosystems.

This is why having practical marine biosecurity protocols in place is so important. Simple actions such as maintaining clean vessels and equipment, following movement controls, undertaking regular inspections, and understanding biosecurity requirements before moving stock can significantly reduce the risk of spreading harmful organisms.

Effective biosecurity is not only about protecting your own operation; it is also about supporting neighbouring farmers and helping maintain the reputation and resilience of New Zealand's aquaculture industry.

Importantly, proactive biosecurity planning can help businesses remain operational during a biosecurity response. Having systems and procedures already established means farms are better positioned to adapt quickly if movement restrictions or additional controls are introduced.

Mussel droppers being picked up and craned straight into a salt slurry within a Dolav™ on the deck of the MacLab vessel, 'Vanguard', during treatment trials.

Over the past five years, the Ministry for Primary Industries (MPI) has funded an operational research programme led by the Cawthron Institute, focused on developing practical tools and techniques to help manage marine pest risks in New Zealand.

One of the programme's key workstreams explored methods for enabling the biosecure movement of mussels. Researchers and mussel farmers co-designed, developed and tested a treatment process to neutralise marine pests growing on mussels, while minimising impacts on mussel growth and survival. The work has relevance for both commercial aquaculture operations and mussel reef restoration projects, where the safe movement of mussels can be an important requirement.

The results of this research have recently been published in a peer-reviewed scientific journal, and this article, along with the Cawthorn report is available on this Biosecurity New Zealand webpage. A simple Standard Operating Procedure (SOP) is also being developed, providing practical guidance and suitable for inclusion in the wheelhouse of mussel harvesting vessels. We would greatly appreciate your input into the refinement of this SOP - please contact tim.riding@mpi.govt.nz to have your say.

Mussel droppers soaking in a salt slurry within a Dolav™, during trials to kill marine pests and biofouling attached to mussels.

While the treatment process can be implemented at small scale using a tank (e.g. a Dolav™) and a salt slurry without significant additional equipment, opportunities exist to integrate the process into larger harvesting operations. For vessels undergoing refurbishment or replacement, consideration could be given to incorporating an automated mechanised treatment capability as part of existing stripping, de-clumping and grading systems.

This type of future-ready infrastructure could provide operators with greater flexibility during a biosecurity response and may help support the continued movement and harvesting of mussels under certain biosecurity management scenarios. Additionally, it demonstrates the industry's commitment to being part of the solution when addressing emerging marine biosecurity challenges.

By continuing to invest in practical biosecurity measures and adopting proven tools where appropriate, mussel farmers can help protect both their own businesses and the wider industry for years to come.

We thank all those mussel farmers and industry groups who were part of the design and implementation of this project, particularly Maclab, Apex, Aquaculture New Zealand, EJ Consulting, the Marine Farming Association, Smith Engineering, Sanford, Spat NZ, Wakatu, Whakatohea Mussels, and Ngai Tahu Seafoods.

https://www.mpi.govt.nz/biosecurity/how-to-find-report-and-prevent-pests-and-diseases/biosecurity-for-aquaculture-farmers

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- Jo, SRL Graduate

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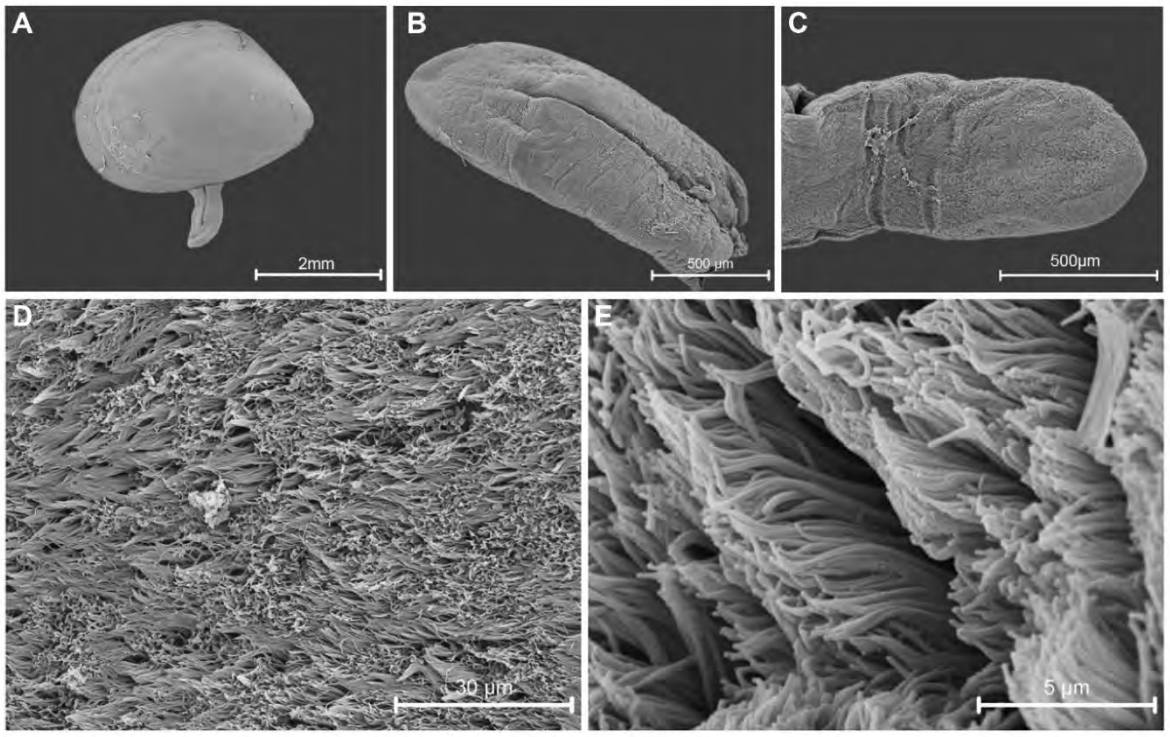
Tiny Mussels with Big Hairy Feet

If you've ever watched *The Lord of the Rings*, you'll know that hobbits are famous for one thing above all else – their big, hairy feet. It turns out that baby Greenshell™ mussels have something in common with Middle-Earth's most famous residents.

Researchers at the University of Auckland have discovered that newly settled mussel spat have surprisingly large and hairy feet, what's more spat use their hairy foot to feed themselves. Rather than relying only on filtering food particles from the water like adult mussels, these youngsters use many thousands of tiny hairs (called cilia) covering their entire foot to gather food and transport it to their mouth.

This discovery helps explain a long-standing puzzle in mussel farming. Very young spat have only poorly developed gills, making them very inefficient filter feeders. Producing enough live microalgae for them to eat is expensive and one of the major costs of nursery production.

To investigate whether the "hobbit foot" could provide another way to feed spat, researchers offered juvenile mussels flocculated (clumped) algae that settled onto the bottom of the culture tanks instead of remaining suspended in the water. The spat happily gathered and ate the settled algae using their foot, growing almost twice as fast as unfed mussels and achieving growth rates comparable to spat fed conventional suspended algae.



Pictures: Scanning electron microscope images of the foot of 2 mm Greenshell™ mussel spat. (A) Juvenile mussel with foot extended, (B) Under surface of the foot showing the central groove used for gathering food, (C) Upper surface of the foot, (D) Close up of the surface of the foot showing the thick layer of hairs used for sweeping up food particles, (E) Even closer view of fine hairs used for food sweeping that cover the entire foot of the spat.

The work suggests there may be opportunities to develop new feeds specifically designed for this early life stage. Instead of relying entirely on expensive live algae suspended in the water, future nursery systems may be able to provide specially formulated feeds that settle onto surfaces where young spat can simply "walk up to dinner".

There is still work to do before this becomes a commercial reality. The researchers found that some of the flocculated algae was rejected, so improving feed quality and particle characteristics will be an important next step.

Sometimes the biggest breakthroughs come from looking at familiar animals in a completely different way. In this case, it turns out that the secret to feeding tiny mussels may have been right under our feet all along—or, more accurately, under theirs.

- *Theresa Huang, Leslie Sampollo, Andrew Jeffs – University of Auckland*

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Going with the flow – optimising husbandry conditions for Greenshell™ nursery culture

The implementation of a dedicated nursery culture system and stage into the Greenshell™ production cycle would help alleviate heavy losses seen on commercial farms. The process involves growing spat to larger sizes before seeding, which makes them much more resilient to open-ocean conditions.

However, many unknown husbandry factors need to be addressed before they can be applied commercially.

For instance, the rate of water flow within nursery systems is crucial to their success; it controls food delivery, feeding efficiency, oxygen replenishment, and waste removal. However, we do not currently know what flow rates are optimal for Greenshell™ mussel spat.

If flow rates are too high, spat feeding will be inhibited; on the other hand, if flow rates are too low, spat will not receive enough food for growth and development. As such, before we can scale nursery systems for commercial use, we need to build strong foundational knowledge to better understand the best husbandry practices for spat.

Figure 1. Photograph of spat reared in the nursery system with dark spots indicating a full gut.

To address this, our research focused on assessing the impact of different flow rates on mussel spat held in an experimental upwelling nursery system.

Upweller systems were selected for this experiment because they are widely used for oysters and clams and have great potential to utilise both available space and water flow for optimal spat performance.

The results from this study have been promising; upweller systems seem suitable for Greenshell™ nursery culture. Higher flow rates increased growth in medium spat (~ 3 mm), but increasing flow rates had no effect on small (~ 1.7 mm) and large (~ 7 mm) spat (Figure. 2).

The difference in the way different sized spat responded to increasingly flow is crucial; it suggests that for commercial use, an adaptive management style for flow rates is best, where flow rates should be adjusted depending on the size of spat to be grown in nursery systems.

Further refinement of both the upweller nursery and the flow rates is likely to yield additional benefits for mussel spat.

Overall, the use and implementation of nursery systems appear to be a suitable method for growing spat to larger sizes prior to seeding, which will significantly help to address the large-scale losses of spat currently experienced by farms.

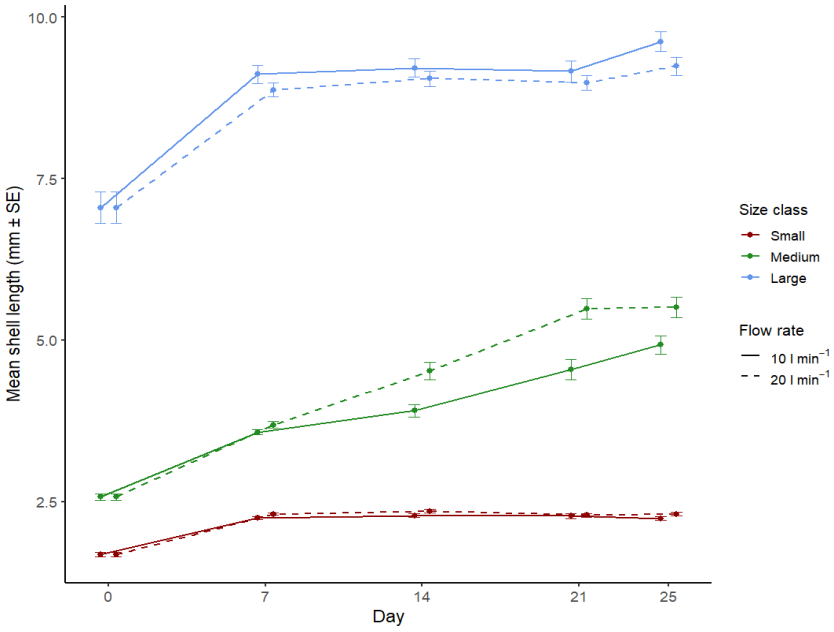

Figure 2. Change in shell length of spat from each size class reared under two flow rates throughout the experiment.

- *Joseph Woo, Doctoral Candidate in Marine Science - University of Auckland. joseph.woo@auckland.ac.nz*


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