



# THE UPDATE

Captain's Blog



## Bold but ambiguous plans for aquaculture

The Government's aquaculture strategy has the bold aim of a five-fold increase in annual sales from \$600 million to \$3 billion.

It is less forthcoming on exactly how that might be achieved.

Based on current annual sales, a strong record of growth and opportunities for transformational development, there is the prospect of a \$3 billion industry by 2035, Fisheries Minister Stuart Nash told Aquaculture New Zealand's annual conference last month.

So how realistic is that?

Or is it a wishful aim, like Predator Free New Zealand by 2050, that few, if any, of the present players will be around to be judged on.

The projection is not broken down in the accompanying Aquaculture Strategy document but for it to be realistic, a huge expansion in farmed salmon will have to be the key.

"Aquaculture can be extremely valuable for the space it uses," the strategy says.

"A 10-hectare salmon farm can be worth \$140 million in annual revenue."

The comparative returns on similar space are calculated as \$850,000 for mussels, \$800,000 for oysters and kiwifruit, \$77,000 for dairy and a mere \$8500 for sheep and beef.

Frozen half shell mussels were the main aquaculture export in 2018, making up half the total and returning \$230 million.

Salmon was at number two, representing 17 percent of the total, followed by mussel oil, frozen whole mussels and frozen oysters.

The sector provides at least 3000 jobs throughout the country.

The major aquaculture areas – Northland, Auckland, Coromandel, Tasman and Golden bays, Marlborough, Canterbury and Southland – have averaged an annual seven percent growth since 2012.

It took 40 years for mussels to achieve an annual 100,000 tonne production and “many areas have reached their social carrying capacity”.

Open ocean farming in cooler, deeper waters away from competing uses is seen as the way of the future.

The only current open water mussel farm is operated by Opotiki-based Whakatohea in the eastern Bay of Plenty, which has received support from the Provincial Growth Fund.

Several other sites have been identified and the local authority is supportive.

“The Government will lead development of a framework to manage open ocean farming,” the strategy says.

“The technology to farm salmon and other fish in the open ocean is advancing rapidly and expected to be commercialised within 10 years.”

Its biggest advocate is King Salmon chief executive Grant Rosewarne, currently seeking resource consent for a farm in the open ocean north of Marlborough in Cook Strait.

The farm’s potential capacity is 4000 tonnes, about half the existing production from nine farms in the Sounds.

A second farm of equal size is proposed.

A proposal to relocate existing farms to more suitable waters has been before the Fisheries Minister since last year.

There is potential for greater development on land as well, with expansion of aquaculture hatcheries.

This includes rearing juveniles that could better withstand climate change, ocean acidification or pests and diseases.

Macro-algae farming to provide ecosystem services, buffering ocean acidification and storing carbon is seen as another opportunity.

The strategy does not specify a financial commitment from government but substantial investment would be essential.

Just as Landcorp was formed to develop marginal farming land, an Aquacorp with a similar brief would be an ideal vehicle.

The strategy success will be judged across four measures – sector value, regional jobs and income, emissions and waste and adverse environmental effects.

A similar visionary strategy for the wild catch sector, which currently returns more than double aquaculture’s export earnings, is awaited.

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## Underwater vision eyed up for selective aquaculture breeding

Plant & Food Research have joined forces with Dutch company Hendrix Genetics to co-develop new ways of measuring aquaculture breeding stock.

Hendrix Genetics are a leading multi-species breeding company specialising in turkey, poultry, swine, Atlantic salmon, coho salmon, rainbow trout and shrimp. They provide expertise and resources to producers in more than 100 countries and employ nearly 3500 staff worldwide, with a strong portfolio of brands behind them.

Conventional methods for selecting breeding individuals requires tracking key characteristics such as body weight, size and shape, using scales or labour intensive methods. Collecting data on specific individuals is also often challenging.

Plant & Food's new 'underwater vision technology' hopes to address this and enhance Hendrix's breeding programme.

The image-based technology measures a range of fish automatically, using species-specific distinguishing features, such as visual patterning, to identify individuals and track their growth over time. Not only is it more efficient, the system will enhance the accuracy of selecting individuals that offer ideal 'parent' characteristics for breeding programmes.

"Underwater Vision technology has the potential for a huge leap in breeding accuracy and further genetic improvement," Plant & Food researcher Dr Maren Wellenreuther said. "We look forward to continuing the development of this technology and seeing it adopted by industry partners like Hendrix Genetics."

The duo will first assess the viability of the technology in a commercial environment, using trout as test cases. Techniques will then be developed further to improve the frequency and accuracy in the technology's trait measurements.

"This project will increase accuracy of selection in breeding, which translates to healthy, efficient products for the entire aquaculture industry," Plant & Food said.



The 'TroutLodge' spawning crew at Hendrix Genetics. Image, Hendrix Genetics.

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## Ocean Bounty season three - Ling

The Ocean Bounty crew board Talley's long liner *FV Janus* out on the Chatham Rise targeting ling. There is more to this species than fish fillets and fish meal. Research has produced innovation and a lucrative export opportunity.

Tune in this Sunday, 5pm on TV Three.



## Seabird Smart Awards 2019

The 2019 Seabird Smart Awards winners have been finalised and are set to be announced on 16 October.

The ceremony will be held at Te Papa, at 6.30pm, in recognition of the individuals, companies or vessel crews who have shown a commitment to making a difference to seabirds.

In addition to the Seabird Smart Award, two special recognition awards will also be distributed.

The evening will be attended by a range of seafood industry sponsors, environmental groups and primary industry invitees including Fisheries New Zealand, Department of Conservation, WWF New Zealand, Te Ohu Kaimoana and Seafood New Zealand.

For more information about the ceremony, contact [Jill Gower](#).

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## News

A Taranaki woman caught pāua poaching has been ordered to forfeit her dive gear used to gather the shellfish, *Stuff* reported. Nicole Joan Margaret Patterson appeared before Judge Gregory Hikaka in New Plymouth District Court on Thursday on charges of taking excess pāua with the intention of obtaining benefit. MPI laid the charges after being alerted by members of the public who saw Patterson's social media posts offering fresh pāua for sale between February 11 and March 5, 2019. Patterson's brother Ashley Barnett went out on multiple occasions during February and gathered pāua in the New Plymouth district from an unknown beach, the summary of facts stated. When fisheries officers searched the duo's house, 110 whole pāua were discovered, 92 of which were undersized. A kilogram of shucked pāua was also in the fridge. Text data obtained from the cell phone number listed on the Facebook ads also found messages relating to the sale of shellfish. The pāua were offered at \$25 per kilogram and the pair arranged to meet customers in the carpark of a local supermarket. Patterson claimed she was giving away pāua her brother had gifted her. Crown prosecutor Georgia Milne said MPI was seeking forfeiture of the dive gear used to gather the pāua, which was granted by the judge. Hikaka remanded Patterson on bail, with no conditions, for sentencing on November 14 and ordered electronic options to be considered. Barnett's sentencing is due to take place in the Whanganui District Court later this year.

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