

Premium Seas Case Study

ESTABLISHED COMPANY



Company Profile



Markets

- » Preserved food
- » Health supplements
- » Cosmetics



Products

- » Salted wakame (food)
- » Fucoidan (health & beauty extract)



Seaweed species

- » *Undaria pinnatifida* (wakame)
- » *Cladosiphon okamuranus* (mozuku)
- » *Ecklonia radiata* (brown kelp)



Supply chain

- » Wakame is sourced domestically as mussel farm by-catch, while mozuku is imported dried from Tonga
- » Salted wakame has mainly been exported to Australia and Japan, while fucoidan is sold locally and exported to Europe.



Selling points

- » Pristine cool waters of New Zealand
- » Sustainable resource
- » Nutrition with broad health benefits



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Premium Seas



Origin story

Over 10 years ago Lucas Evans fell into seaweed by accident. Originally from Australia, Lucas was on holiday in the Coromandel with his New Zealand wife when he discovered the prolific seaweed growing on green shell mussel farm lines. After a few conversations with locals, so began the idea of a seaweed food business that eventually led to the family relocating to the Coromandel.

With a local partner, Lucas founded Wakame Fresh to export *Undaria* (wakame) to Australia and Japan. They teamed up with Gold Ridge Marine Farm, a pioneering mussel farm operator that also saw potential in seaweed. Almost immediately they faced regulatory challenges as *Undaria* is classified as a pest so couldn't be farmed locally. Food safety and export regulations presented further challenges. *"I've been through the trenches of applying for all those certifications that are required."*

Important support came in 2019 with a government grant and assistance to support wakame export trials to Japan. Working with Japanese wakame suppliers, they were able to gain unique insights to the market and product processing requirements. It also highlighted the need for a reliable supply of high quality wakame to meet market expectations. Without farming, consistency of quality and yield was a barrier to scaling to meet the requirements of large export markets.

In 2020, Premium Seas was established with broader expertise and funding to focus on a range of seaweed opportunities. The company has since expanded into fucoidan production and embarked on a range of pioneering seaweed projects with partners. One of the most important of these is a seaweed hatchery and farming trial of native *Ecklonia* (brown kelp), led by EnviroStrat with local partners and support from GreenWave in the United States.



Growth aspirations

10 years from now, Premium Seas aims to be cultivating multiple seaweeds and capturing maximum value with a range of products that utilise the entire biomass. They are already taking steps towards this with a range of initiatives to improve supply, processing, and product range.

To ensure a reliable supply of quality seaweed, Premium Seas intends to operate a seaweed hatchery and marine seaweed farms. The company will need to pioneer the practical knowledge with

partners as there aren't relevant examples locally and researchers haven't focused on this.

Premium Seas believe that collaborative models such as GreenWave will be an important part of a future New Zealand seaweed sector. This is because of the high costs of equipment for hatcheries, blast freezers, drying, milling etc. Farmed seaweed supply comes in large batches so these expensive assets can sit idle unless there are cooperative models or contract processing.

Case Study

The emergence of “frozen to chilled” seaweed consumption in Australia presents opportunities for Premium Seas to expand its food offering under the Wakame Fresh brand. This allows for more efficient frozen bulk supply than current individually packaged products.

Premium Seas aims to switch from imported seaweed to locally supplied *Undaria* for its fucoidan

production when/if *Undaria* farming is made possible in the Haruaki Gulf. *Undaria* farming would remove growth constraints on the business and open up new product opportunities.

Higher value opportunities in the health and beauty sector are on the horizon. These tend to rely on the right international partner with unique intellectual property and/or market access.



Barriers to growth

The challenges to establish a seaweed farm in New Zealand present the biggest barrier to growth. There aren't any hatcheries to supply juvenile seaweed, nor are there established seaweed farms to learn from. Beyond this lack of practical knowledge, there are significant regulatory hurdles that make it expensive and time consuming to get water space consented for seaweed. Finally, the economics of seaweed farming in New Zealand are unknown so investors are hesitant.

Seaweed sector leadership has been sporadic and relied on unpaid volunteers who struggle to keep up this commitment. Self-interest and perceptions of competition among sector participants has at times hindered cooperation. Government leadership and support for the seaweed sector has been sporadic and inconsistent across different agencies.

Higher value markets for New Zealand seaweed are emerging but not well understood. Pioneers like Premium Seas face high personal and financial risks to explore these “start-up” opportunities. Once proven, it is likely that others will quickly follow without needing to take the same risks.

Workforce capacity constraints in the mussel industry are likely to also present challenges for Premium Seas as they use the same boats and crews. Social and economic challenges in coastal communities make it hard to retain good quality staff on water and on land.

Government financial support for early-stage seaweed projects has improved recently, but the co-funding requirements tends to favour corporates with deep pockets over small businesses. Corporate control of the sector would likely reduce the benefits for coastal communities.



Required sector responses

The development of a Seaweed Sector Framework is great for the sector, particularly for highlighting sector priorities. Galvanising action behind these priorities is now the challenge. There needs to be a planned approach between Government and the sector to achieve results.

Unlocking seaweed farming in New Zealand requires streamlined regulations for early-stage hatchery and farm trials. This including special permits to quickly try, fail, and learn at low cost. It also requires a supportive and consistent approach to seaweed farm consent decisions by regional councils. A single person in central government tasked with facilitating this would help.

Direct government support for research and development from agencies like Callaghan has been helpful for Premium Seas. Early-stage support for other sector pioneers will important and direct financial assistance may be required for smaller

businesses that are paving the way.

The recent establishment of the Aotearoa New Zealand Seaweed Association (ANZSA) is a positive development. Early leadership on common interests will help to foster cooperation. ANZSA will need to be properly funded to be effective and avoid capture by interest groups.

The immediate future of the sector lies in established products with unmet demand due to supply constraints. New Zealand needs to learn how to supply farmed seaweed at scale to these markets in parallel with investigating higher value opportunities.

Finally, more Government funding is needed to for projects that help reduce the risks for private investors. Sharing practical knowledge along with costs and productivity data will be important.



About Sustainable Seas Challenge

Our vision is for Aotearoa New Zealand to have healthy marine ecosystems that provide value for all New Zealanders. We have 60+ research projects that bring together around 250 scientists, social scientists, economists, and experts in mātauranga Māori and policy from across Aotearoa New Zealand. We are one of 11 National Science Challenges, funded by Ministry of Business, Innovation & Employment.

For more information on this project, visit:

www.sustainableseaschallenge.co.nz/our-research/building-a-seaweed-economy

