

Submitted to Fast-track approval applications
Submitted on 2024-05-03 17:50:09

Submitter details

Is this application for section 2a or 2b?

2A

1 Submitter name

Individual or organisation name:
Ōnuku Rūnanga Incorporated ("Ōnuku")

2 Contact person

Contact person name:
Rik Tainui

3 What is your job title

Job title:
Chairman

4 What is your contact email address?

Email:
s 9(2)(a)

5 What is your phone number?

Phone number:
s 9(2)(a)

6 What is your postal address?

Postal address:
s 9(2)(a)

7 Is your address for service different from your postal address?

No

Organisation:

Contact person:

Phone number:

Email address:

Job title:

Please enter your service address:

Section 1: Project location

Site address or location

Add the address or describe the location:

Akaroa Harbour

File upload:
Akaroa.png was uploaded

Upload file here:
No file uploaded

Do you have a current copy of the relevant Record(s) of Title?

No

upload file:
No file uploaded

Who are the registered legal land owner(s)?

Please write your answer here:

His Majesty the King

Detail the nature of the applicant's legal interest (if any) in the land on which the project will occur

Please write your answer here:

Ōnuku has no legal interest in the area. Ōnuku seeks approval to fast track coastal permit applications, be granted under the Resource Management Act 1991 ("RMA"). The RMA authorises aquaculture activities to be undertaken in the coastal marine area, with a maximum license duration of 35 years.

Ōnuku Runanga are the representative body of Ngāi Tarewa, Ngāti Irakehu. Ngāi Tarewa and Ngāti Irakehu are the mana whenua mana moana of Akaroa Harbour. Ōnuku is one of eighteen Ngāi Tahu papatipu rūnanga. Ōnuku seeks to undertake the proposed activity as an exercise of rangatiratanga and as the intergenerational kaitiaki of Akaroa harbour.

Section 2: Project details

What is the project name?

Please write your answer here:

Ōnuku Kelp Farm - A partnership of Ōnuku Rūnanga Inc. ("Onuku") with Kelp Blue Aotearoa Forestry Limited ("Kelp Blue")

What is the project summary?

Please write your answer here:

Ōnuku Rūnanga is the legal tribal authority of >13,000 Ngāi Tarewa, Ngāti Irakehu, Ngāi Tahu beneficiaries, who are the mana whenua mana moana of Ōnuku, Akaroa. Ōnuku is one of eighteen (18) papatipu runanga forming Te Rūnanga o Ngāi Tahu (Te Waipounamu, South Island). Ōnuku seeks coastal permits under the Resource Management Act 1991 to undertake marine farming at Akaroa harbour, which would authorise aquaculture activities to be undertaken over 130 hectares of water space. The coastal permits would cover the erection and placement of structures and associated disturbance of the seabed, occupation of the coastal marine area, and various other associated activities.

When successful, Ōnuku intends to lease the consented marine space to a jointly owned kelp farming business between Ōnuku and Kelp Blue (project partnership). The project partnership intends to cultivate the indigenous seaweed bladder kelp (*Macrocystis Pyrifera*) at Ocean Beach, Bluff and/or an Akaroa hatchery (to be established). The business will outplant kelp back to marine structures on marine farm sites, harvest the canopy of the kelp forest, leaving the rest of the forest to grow and the marine life to flourish. The business will process the harvested kelp using Kelp Blue's unique IP biorefinery approach, to process the bioactive components into high-value products for a global market. The core product is a kelp biostimulant that Kelp Blue sells for commercial agricultural use, through Kelp Blue's globally established supply chain.

What are the project details?

Please write your answer here:

Purpose:

The Ōnuku led project partnership will cultivate a 130 ha in-shore kelp forest at Akaroa harbour; growing and farming bladder kelp: *Macrocystis* to produce high value kelp-based products including: biostimulant, kelp leather, fucoidan, and alginates. The project partnership's operation will also generate carbon revenues scaling to 1300 tonnes (sequestered) per year. The project partnership evidences indigenous led solutions for environmentally sustainable economies with social, cultural and environmental impact for Ōnuku, the Akaroa community and New Zealand

By creating kelp forests, the project partnership would also scale up the inherent ecosystem benefits of kelp by boosting biodiversity, improving ocean health and sequestering carbon.

The project will create year round, varied high value (innovation) employment, for Ōnuku whānau, and the wider Akaroa/NZ, labour market as well as local pathways for gaining international experiences and expertise.

The project partners have mariculture capacity and are committed to deploying a long-term (200 year+) commitment to regenerative economies

Ōnuku rūnanga are the manawhenua/mana moana of Akaroa, situated from their harbour-side Marae - Karaweko, at Ōnuku. Ōnuku co-own Ahi Mokopuna (trading as Akaroa Salmon) and have an intergenerational role as first people, chiefs (rangatira) and stewards of the land (kaitiaki).

In New Zealand, Kelp Blue currently has a hatchery at Ocean Beach in Bluff and leases two small marine farms in Akaroa. Globally, Kelp Blue also operates a farm in Namibia, is establishing a farm in Alaska, and is exploring opportunities in other regions

Objectives:

Economic (Direct and Multipliers)

Ōnuku and Kelp Blue investors will invest start up capital of \$8.2M into developing the project partnership to full capacity (Y4). When fully operational (Y4) - the project partnership expects to generate annual revenue of NZ\$8.1 million per annum EBITDA from kelp product supply and carbon credit revenue. The project partnership will employ 4-11 staff when fully functional.

The major market for the kelp harvested will be Kelp Blue Aotearoa Biotech Limited, who are part of the global group who have a US\$26 million off-take agreement from one of the world's largest FMCG companies.

The project partnerships projects attracting a major bond facilitated through the HineMoana Halo (H20) Partnership. Validation of the science is projected (conservatively) to generate NZ\$30,00 to \$100,00 per annum in carbon revenue (global markets)

The economic output generated from Y4 will stimulate an additional \$970k of indirect contributions to Canterbury's GDP p.a from ancillary support businesses and a further \$500k induced household spending.

The operation will create around 9FTE positions p.a. in ancillary business and a further 5FTE positions p.a. due to the increase in household spending.

Social and Cultural Impact

Ōnuku brings local indigenous Māori leadership to the project partnership. Since February 2022, Ōnuku rūnanga has consulted with all key interest groups of the Akaroa community, and regulators, including potential submitters (Dolphins/Marine Reserves) on establishing aquaculture in the Akaroa harbour. Kelp farming has been socialised and public consultation is not a zero start.

The project partnership will target employing Ōnuku whānau, Akaroa locals, utilise the expertise of the global Kelp Blue team to support the local team to run the operations. Proactive staff training with integration of mātauranga will inform all levels from leadership training to defensive driving, diving and boat skills. The project partnership will grow highly valuable skills, knowledge talent through rolling traineeships (includes master's students and internships) and close working relationship with institutions such as our developing relationships with the Southern Institute of Technology, AUT, NMIT and groups such as Te Rūnanga o Ngāi Tahu's Capability and Attraction Team.

Environmental Impact

Te Kori ā Te Kō guides the project and is Ōnuku's 200 year+ strategic vision for regenerating Akaroa harbour (Ki Uta Ki Tai – mountains to sea) ensuring Mauri (life-force) restoration and sustainable economies.

Bladder kelp forests are positive ecosystem engineers and are arguably the most potent foundational species in temperate waters. These forests provide a nursery for a myriad of marine species while introducing an entire trophic cascade into the environment they grow in, boosting regional biodiversity on a significant scale.

Kelp is known to have a positive impact on waste reduction and by filtering water. This can support existing and future aquaculture activity (i.e. salmon farming). Kelp farming can have a positive impact on waste reduction and filtering of salmon waste streams thus supporting/balancing future salmon/finfish farming expansion with climate positive activities.

The project aligns with ŌngāiRo - Akaroa Habitat Mapping project. This innovative partnership involves Ōnuku, Wairewa rūnanga, Environment Canterbury and the Department of Conservation. The University of Otago School of Marine Science provides the research capability. The kelp business will use information from this project for marine site selection and management as well as future environmental monitoring.

Giant kelp is considered one of the most potent carbon sinks, possibly contributing between 1500-3000 tons of carbon sequestration per km², which is almost an order of magnitude larger than the carbon sequestration provided by rainforests.

Project partner Kelp Blue and the Kelp Forest Foundation are building a methodology to underpin and prove this with Gold Standard, the voluntary carbon accreditation body established by WWF, and this will in due course contribute an additional value stream.

Ōnuku is working with HineMoana Halo Partnership (H20). H20 are part of Conservation International and working with global 'nature capital' investment partners to establish the methodology, science and global investment for indigenous led Nature Based carbon solutions (Ki uta ki tai – mountains to the sea). H20 intend to attract premium global investment with carbon credit bonds from emerging offset markets. Ōnuku's kelp farm is one of their lead projects.

Inspirational

Indigenous-fused global innovation underpins every component of the value chain and is shared with all employees: Notably combined are Kelp Blue's IP fused with Ōnuku mātauranga. Innovation exists from the Ngai Tarewa mātauranga, the whānau business model, the growth phase at hatchery; to outplanting; to harvesting, to production of high-value products to the global market supply, along with the securement of carbon revenue.

Indigenous led biodiversity solutions are gaining recognition globally as attractors of higher premium carbon bonds from emerging markets and this is likely to increase as overseas and local demand for carbon credits requires new solutions/new approaches.

The project partnership, once established can inspire other Māori, NZ and overseas leadership, in areas as diverse as ocean health, land regeneration, value of seaweed, and of being a company who value the environment/social and financial elements of our work.

The project partnership can inspire other NZ mariculture exemplars specifically increasing investment through Māori collectives who are seeking for inspiration to balance economic development with kaitiakitanga

Local-led partnerships between Māori and global companies can rapidly accelerate capability upskills for Māori communities traditionally side-lined into low paid seasonal work

The project partnership will benefit from Kelp Blue's global IP, networks and through access to mariculture / nature based solutions skills and information. Kelp Blue has two sister organisations: the Blue School which was established to provide high quality primary school education with an emphasis on the ocean and environment in Luderitz, in Namibia; and the Kelp Forest Foundation an independent, philanthropically funded research institute who collaborate with institutions across the globe (including Cawthron Institute) to understand the carbon sequestration and biodiversity potential of kelp along with issues of afforestation and reforestation.

Kelp Blue takes any opportunity to share their story including as winners of the Zayed Sustainability Award for Climate Action in Dubai in December 2023, and speaking everywhere from primary schools to ministries and from podcasts to conferences around the world. Kelp Blue is #76 of 100 organisations (and #6 of 21 Ocean organisations) currently under consideration for Elon Musk's \$50M USD Carbon Removal prize.

Activities:

The marine space will be used to farm *Macrocystis* cultivated at Ocean Beach initially, then Akaroa from sori source under Ministry of Primary Industries regulations from Akaroa Harbour.

The sori from Akaroa will be cultivated and seeded onto twine in the hatchery under strict conditions. Once the sporophytes are mature, they will be outplanted onto the lines of the offshore structures.

The farm structure will consist of lines submerged around 5m below the water's surface under constant tension and secured by screw anchors designed by MarineFlex and installed by the holder of the exclusive license holder in New Zealand.

The design, materials and maintenance schedule have been chosen to maximise kelp growth while minimising any risk of marine mammal entanglement or impact on the visual landscape.

The kelp farming business will install land infrastructure at Akaroa and Ocean Beach, Bluff including: buildings, workshops, warehousing, and (land and marine) vessels. These are required to support the installation and operations of the farm, infrastructure in Akaroa harbour and the expanded hatchery at Ocean Beach.

The project partnership will grow a high-value workforce (focus on Ōnuku whānau first), with skilled, technical and management pathways that support the kelp farming business to become fully operational.

The business will develop an appropriate marine monitoring and evaluation framework fused with Ōnuku mātauranga, capable of verifying carbon sequestration, and verified using both the Kelp Blue Gold Standard methodology alongside the H20 partners blockchain system: the internationally accredited Centigrade Earth system (KPMG).

Describe the staging of the project, including the nature and timing of the staging

Please write your answer here:

Stage one: 0-8 months (Y1) - Planning:

Approval and deployment of Ōnuku's mauri restoration strategy Te Kori ā Te Kō as the underlying framework and vision (moe moea) for all commercial and environmental growth. The planning phase includes developing, consulting and approving the mātauranga kelp plan outlining all the tikanga and protocols of mātauranga integrated with the operations; and a comprehensive marine monitoring plan. Confirm existing data for the proposed sites leveraging the Tōngairō habitat mapping partnership that Ōnuku co-leads with Environment Canterbury and the Department of Conservation as well as all our other research partnerships. Planning will include (but is not limited to) taonga species identification and tikanga (i.e. Bottlenose (Terehu) & Hector's Dolphins (Tūpoupou) and Yellow-eyed Penguin (Hoiho)), marine mammal and seabird monitoring, seabed and water column baseline assessments and geochemical condition monitoring. Consult and approve the installation plan (including WAI 26 consistent mātauranga taiao /-kelp measures for ensuring the whakapapa/providence of Akaroa *macrocystis*) and deploy building operational capacity for the various scale up stages. The business will implement learnings from Kelp Blue's Akaroa (5 ha) and Namibia kelp forest and farming business to best-manage financial, operational and environmental risks.

Stage two: 4-12 months (Y1): Installation:

Install 5 ha per month until an area of 40 hectares is reached. Ongoing marine monitoring (fused with mātauranga /tikanga) to ensure no adverse impacts occur along with validation of projected positive environmental impact. Spores taken from Akaroa, are grown at the hatchery in Ocean Beach and transported back to Akaroa to be seeded on the structures. Following set-up the business will establish an Akaroa hatchery. The project partners will train and develop high value career pathways, induct new employees with the Ōnuku values and moe moea. Ōnuku and other rangatahi cadets will be selected and inducted. The business will continue to work with Ōnuku whānau, and the Akaroa community to build the mariculture industry at Akaroa/Banks Peninsula (Horomaka). In this stage, the partners will work with existing global partners (HineMoanaHalo Partnership H20) and Kelp Forest Foundations, to share the story of indigenous-led innovation, to communicate the impact the business is having, and to attract premium "blue bonds", carbon credits and biodiversity credits.

Stage three: 12-24 months (Y2) - Scale Up:

First harvest of the Ōnuku kelp will be processed to produce high value seaweed biostimulants and other products, sold across New Zealand (leveraging the Ngāi Tahu tribal network) and via the Kelp Blue global market. Installation of structures will be gradually scaled from 5 to 15 ha/month until an area of 130 hectares is reached. Ongoing marine monitoring will ensure no adverse impacts occur along with validation of projected positive environmental impact. The results of 18 months to 2-years of environmental monitoring can be reported to evidence positive biodiversity impact with no adverse impact on marine animals. The project partners will continue to develop high value career pathways aligned with Ōnuku values growing the skilled indigenous-led mariculture industry at Akaroa. The partners foresee receipt of revenue from carbon credits and biodiversity credits, paying back 'blue bonds' and receiving recognition for leadership as an indigenous led-solution to climate change. The businesses' taiao monitoring and reporting of taiao (environmental), social and economic impact as a carbon positive business will be verified with global investment that continues to provide long term benefit to Ōnuku, Akaroa, and New Zealand; sustaining future harbour, foreshore, and surrounding whenua regeneration, showcasing indigenous leadership for nature-servicing solutions.

Stage four: 24 to 36 months (Y3) 130 hectares:

Steady state and ongoing. A long term marine monitoring management plan will be approved to ensure continuous marine monitoring and enable preventative measures for the farming structures, kelp management, kelp harvest and maintenance to occur. This phase will take a further additional year. The partners anticipate the kelp farm will be fully operational within 3 years from getting the resource consent. The business will be monitoring and reporting environmental, social and economic impact as a key exemplar, validating carbon sequestration (with blockchain verification) through the H2O or other blue bond global network. Partnering with H2O and Kelp Blue is a key strategy that contributes to building a global investment market for indigenous-led nature capital whole-eco-systems solutions. The kelp business will be recognised as an indigenous carbon positive venture, attracting new partners, new investors, and ongoing investment to sustain harbour regeneration and the business.

What are the details of the regime under which approval is being sought?

Please write your answer here:

Resource Management Act 1991

- Resource consent

-Notice of requirement

- Certificate of compliance

-Coastal permit that authorises aquaculture activities to be undertaken in the coastal marine area and requires decisions under Part 9A of the Fisheries Act 1996

Wildlife Act 1953 - Authority to do anything otherwise prohibited

Conservation Act 1987 - Approval

Reserves Act 1977 - Approval

Fisheries Act - Approval

Freshwater Fisheries Regulations 1983 - Approval

Heritage New Zealand Pouhere Taonga Act 2014 - Archaeological authority

Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012
marine consent

Crown Minerals Act 1991 - Land access arrangement under section 61 or 61B

Public Works Act 1981 - Proclamation under section 26 to take or deal with land

If you seeking approval under the Resource Management Act, who are the relevant local authorities?

Please write your answer here:

Ōnuku seeks coastal permits under the Resource Management Act 1991 to undertake marine farming at Akaroa harbour, which would authorise aquaculture activities to be undertaken in the coastal marine area and requires decisions under Part 9A of the Fisheries Act 1996.

The coastal permits would cover the erection and placement of structures and associated disturbance of the seabed, occupation of the coastal marine area, and various other associated activities.

What applications have you already made for approvals on the same or a similar project?

Please write your answer here:

None

Is approval required for the project by someone other than the applicant?

No

Please explain your answer here:

No further approval is required

If the approval(s) are granted, when do you anticipate construction activities will begin, and be completed?

Please write your answer here:

Year 1 - Stage 1 and Stage 2

Quarter One ((starting from the moment the resource consent is obtained)

Milestones

- Obtain resource consent for marine sites
- Install First 4 hectares

Key Activities

- Approve/review Marine Monitoring Management Plan
- Approve Strategic/Business
- Approve Mātauranga Plan to govern recognition of kelp as a taonga species plus the protocols for working with, growing, seeding, out-planting, processing, sales and marketing of kelp aligned with Ōnuku whakapapa and mātauranga
- Pōwhiri Ōnuku / whakawatea (blessings) of the sites / launch with the community
- Develop recruitment, training and development plan for Rangatahi Māori cadets
- Recruit, induct, train additional team members
- Finalise environmental baseline
- Start procurement and set up operational collaborations
- Gather sori (Akaroa) transport to Ocean Beach Hatchery / ensure all staff are trained to practice the tikanga as per the mātauranga mana whenua mana moana management protocols

Quarter Two

Milestones

- Continuous installation rate around 10 hectares per quarter
- Review and share learnings

Key Activities

- Taiao and marine monitoring, evaluation and continuous improvement
- Approve Mātauranga Plan: learning, management embedding and continuous improvement of the business labour force to ensure the indigenous innovation framework is valid, and thus is verifiable, inspirational as well as securing any indigenous premium for carbon / biodiversity credits
- Review, improve design and installation method
- Continues structural monitoring and maintenance
- Operational review, learning, training, adoption of lessons learnt
- Develop marketing plan and communication messaging, for the indigenous premium products produced with Ōnuku mātauranga (premium carbon credits)
- Approve Rangatahi Māori recruitment plan

Quarter Three

Milestones

- First Harvest

Key Activities

- Harvest kelp consistent with mātauranga management plan (protocols followed and documented)
- Mātauranga Plan: learning, management embedding and continuous improvement of the business labour force to ensure the indigenous innovation framework is valid, and thus is verifiable, inspirational as well as securing any indigenous premium for carbon / biodiversity credits
- Taiao and marine monitoring, evaluation and continuous improvement
- Sales of harvested biomass as per tikanga and to attract premium from the global market
- Trials / start production of other high value products
- Improve automation tools for ease of operations
- Expand investor interest and "blue bond" opportunities
- Commence recruitment process for Rangatahi Māori cadets

Quarter Four

Milestones:

- 40 hectares installed
- Off-take agreements in place
- 1st Environmental Audit and Report
- Go/No Go for Stage 3 (Scale to 130ha)

Key Activities:

- Expansion of activities from Quarter Three
- Induct Rangatahi Māori
- Approve detailed plan for Stage 3

Strategy, Planning, Mātauranga: The planning phase includes alignment with Ōnuku's moe moea vision Te Kori ā Te Kō; developing, consulting and approving a mātauranga kelp plan outlining: taonga species, appropriate whakapapa, & tikanga (management protocols). Aligning Ōnuku tikanga and protocols with Kelp Blue's operational process will commence with training for 'seconded' overseas staff. This is an ongoing continuous improvement process led out by management, and all staff with Ōnuku kaitikai. Mātauranga also informs the development of the businesses comprehensive marine monitoring plan.

Staffing: The partnership will begin recruiting personnel for key work streams: taiao-environmental monitoring, engineering, marine operations, biosystems and support. First preference will be given to grow skills in Ōnuku whānau members, which evidences the project partners commitment to rangatiratanga: indigenous leadership. Tikanga, Reo and Mātauranga training commences and continues.

During different stages; the kelp farming business would 'co-opt' staff from Kelp Blue from Namibia or the Netherlands to enable the business to start work quickly, support the learning of the local staff, and most efficiently coordinate with Kelp Blue's global expertise.

Baseline Monitoring: Field work to validate and enhance the baseline environmental data for our site focussing on current geochemical conditions and monitoring the biodiversity.

Detailed design: based on Kelp Blue's experience from designing and installing farms in Namibia, and setting up in Alaska, and growing kelp from the leased farms in Akaroa Harbour. There is an existing design for the project, that is already fine tuned with local expertise for the local conditions around Akaroa Harbour and based upon Kelp Blue's 5 hectare operation. The project partners will continue to optimise the project design, when new learnings (global network), information and technologies become available.

Procurement: The business would obtain facilities and assets to increase the operational capacity as soon as the resource consent comes in. This will include an office space, a workshop area, vessels and cars. The kelp farming business would also procure all materials needed to install the first 4 hectares. Finalisation of contracts can occur with different local engineering and installation companies, to install the structures. This is not a zero start and leverages Kelp Blue's 2 years of kelp farming and operation from Akaroa.

Section 3: Consultation

Who are the persons affected by the project?

Please write your answer here:

Relevant local authorities: Environment Canterbury

Relevant iwi authorities: Te Rūnanga o Ngāi Tahu (the iwi authority), Ōnuku Runanga (hapu and marae)

Relevant Treaty settlement entities: Te Rūnanga o Ngāi Tahu

No protected customary rights groups

No customary marine title groups:

Relevant applicant groups under the Marine and Coastal (Takutai Moana) Act 2011: Te Rūnanga o Ngāi Tahu and Te Ngāi Tū Ahuriri Rūnanga Inc.

Ngā hapū o Ngāti Porou: N/a - Te Rūnanga o Ngāi Tahu

Any person with a registered interest in land that may need to be acquired under the Public Works Act 1981: Not applicable

Detail all consultation undertaken with the persons referred to above. Include a statement explaining how engagement has informed the project.

Please write your answer here:

Ōnuku has consulted with key stakeholders of the Akaroa community, Banks Peninsula and the regulators (Christchurch City) since 2021 on the kelp farm and related aquaculture, as detailed in the attached spreadsheet. The attachment includes all consultation, the people consulted, and details of how such engagement has informed the evolution and future opportunities that fast tracking can attract for the project partnership.

Upload file here:

Ōnuku Kelp Ōnuku Kelp Farming (Aquaculture) Consultation 2021-2024.xlsx was uploaded

Describe any processes already undertaken under the Public Works Act 1981 in relation to the land or any part of the land on which the project will occur:

Please write your answer here:

Not applicable

Section 4: Iwi authorities and Treaty settlements

What treaty settlements apply to the geographical location of the project?

Please write your answer here:

Ngai Tahu Treaty Settlement Act 1998
Ngai Tahu Claims Settlement Act 1998
Fisheries Settlement 1997

Are there any Ngā Rohe Moana o Ngā Hapū o Ngāti Porou Act 2019 principles or provisions that are relevant to the project?

No

If yes, what are they?:

The marine space applied for is within the takiwā of Ngāi Tahu.

The iwi of Ngāi Tahu comprises 18 papatipu rūnanga whose governing body, Te Rūnanga o Ngāi Tahu, was established by the Te Rūnanga o Ngāi Tahu Act 1996. Te Runanga o Ngai Tahu Act 1996 Section 5 identifies the takiwa of Ngai Tahu. Akaroa Harbour is within that area. Schedule 101 of the Ngāi Tahu Claims Settlement Act outlines the specifics of the taonga transferred to Ngāi Tahu.

Ōnuku is the sole papatipu rūnanga whose rohe is the marine space, Akaroa Harbour. There are four papatipu rūnanga in the Horomaka area: Ōnuku, Wairewa Rūnanga Inc, Te Rūnanga o Koukourārata Inc, Rapaki Runanga Inc.

Te Tai o Mahaanui Statutory Acknowledgement sets out and describes the ancestral relationship of Ngai Tahu with Te Tai o Mahaanui. This application furthers that relationship.

Are there any identified parcels of Māori land within the project area, marae, and identified wāhi tapu?

Yes

If yes, what are they?:

Akaroa harbour is considered a wāhi taonga to Ōnuku and Ngāi Tahu (Ngāi Tahu Settlement Act). The whole harbour is identified as a taonga, in Mahaanui - the Iwi Management Plan (2013), a guiding document for regulatory authorities.

Is the project proposed on any land returned under a Treaty settlement or any identified Māori land described in the ineligibility criteria?

No

Has the applicant has secured the relevant landowners' consent?

No

Is the project proposed in any customary marine title area, protected customary rights area, or aquaculture settlement area declared under s 12 of the Māori Commercial Aquaculture Claims Settlement Act 2004 or identified within an individual iwi settlement?

Yes

If yes, what are they?:

The Marine and Coastal Area (Takutai Moana) Act 2011 provides a legal framework for iwi, hapu and whanau interests to be recognised in the marine and coastal areas around New Zealand.

It enables groups to seek Customary Marine Title, and thereby recognition that the group has an interest in a specific area of the coast and certain rights.

The proposed site at Akaroa Harbour, is within an area subject to applications for Customary Marine Title. The following groups have applied: Te Runanga o Ngāi Tahu on behalf of Ngāi Tahu Whānui and Ngāi Tuahuriri hapū.

Has there been an assessment of any effects of the activity on the exercise of a protected customary right?

No

If yes, please explain:

Not applicable

Upload your assessment if necessary:

No file uploaded

Section 5: Adverse effects

What are the anticipated and known adverse effects of the project on the environment?

Please describe:

Please refer to the detailed plan for anticipated and known adverse effects on the project partnership.

Upload file:

Adverse Effects.pdf was uploaded

Section 6: National policy statements and national environmental standards

What is the general assessment of the project in relation to any relevant national policy statement (including the New Zealand Coastal Policy Statement) and national environmental standard?

Please write your answer here:

Overall the proposal is considered consistent with the New Zealand Coastal Policy Statement 2010 (NZCPS). Particularly relevant objectives and policies are:

Objective 3 and Policy 2. The application will enable the ongoing ancestral relationship of Ngai Tahu with Akaroa Harbour, and provide opportunities for whanau to exercise kaitiakitanga

Policy 8. As an aquaculture development the proposal will contribute to the social, cultural and economic well-being of the area.

Policy 11. Adverse effects on indigenous biodiversity will be avoided through mitigation (as described above). As noted above seaweed provides an important habitat which will promote indigenous biodiversity.

It is considered that Natural Character (Policy 13) and Landscapes (Policy 15) will not be adversely affected due to the primarily sub surface nature of the operation.

Assessment is continued with specific reference to Canterbury Regional Policy Statement 2013

File upload:

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Section 7: Eligibility

Will access to the fast-track process enable the project to be processed in a more timely and cost-efficient way than under normal processes?

Yes

Please explain your answer here:

The ability to Fast Track this application will improve the timeliness and cost efficiency of getting the appropriate licenses required to start and align the growth of the business with the seasonal requirements for growing and harvesting the kelp (winter months) . Key success factors are investment confidence, certainty of process and tighter timelines for public responses that will enable Ōnuku to benefit from the extensive consultations undertaken to date.

Fast tracking approval is important to Ōnuku rūnanga for the key reasons:

Economic/Financial

1. The kelp farming business has high start-up capital expenditure requirements (\$8.2M in the first 12 months)
2. Cost Savings: A faster, more certain process will reduce costs - the faster structures get into the water, the faster kelp can be grown, harvested and sold
3. Attractiveness to capital: mitigating the time-related regulatory barrier of resource consenting will make our project more attractive to investment.
4. Reducing time to market for our product: reducing the time to get our products to market reduces the time to revenue generation and to being able to recoup initial investments
5. Business Confidence: Certainty of title: Coastal permits for the marine sites will provide certainty for producing the necessary data required to prepare taiao baseline monitoring.
6. International investment: Ōnuku has tendered a Y1 budget for a blue bond for the proposed farm through the HineMoana Halo Partnership that when secured will be applied directly to the capital investment. Securing a resource consent in a timely fashion is very likely to increase investor opportunities and securing the start up capital.

Valuation of Ecoservices

1. The project business is regenerative and carbon positive so consistent with the nature and substance of the Resource Management Act and the taiao values of Ngāi Tahu. It does not seek to get around protective environmental measures comparative to other less nature focused proposals (i.e. gold mining).
2. Globally there is increasing economic value being attributed to ecosystem services. Kelp forests are being recognised as contributing some of the fastest and most significant eco-value (between \$64,400 and \$147,100/hectare each year). Kelp farms support local-national and global eco-value through local fisheries production, nutrient cycling, and WW: carbon removal. The faster this business can scale to 130ha, the faster the value which is calculated at around \$8.3m to \$19m p.a
3. New Zealand will need to buy carbon credits in future years so building a flourishing blue carbon and nature capital industry has a 'first adopter' advantage which is further multiplied by the "additional premium" indigenous-led solutions can attract from emerging carbon markets. Fast track

approval will significantly advance Ōnuku's global investment desirability and opportunities, through partnerships such as HineMoana Halo.

What is the impact referring this project will have on the efficient operation of the fast-track process?

Please write your answer here:

The impact of fast tracking summarised from this application:

Economic Impact

- (1) The business will contribute circa \$2.3M EBITDA from Year 3 with 4-11 FTE (around \$500,000 of earnings are blue carbon credits (innovation).
- (2) The economic output generated from Y4 will stimulate an additional \$970k of indirect contributions to Canterbury's GDP p.a from ancillary support businesses and a further \$500k induced household spending.
- (3) The operation will support additional job creation of around 9FTE positions p.a. in ancillary business and a further 5FTE positions p.a. due to the increase in household spending within the Canterbury economy.

Eco-service

- (1) Inspirational for others - an innovative environmental business with a compelling financial case
- (2) The faster this business can scale to 130ha, the faster the eco-system value which is calculated at around \$8.3m to \$19m p.a
- (3) Emerging global demand for indigenous led nature positive solutions for carbon removal - For example: (a) Elon Musks \$50M Carbon Removal Award (b) \$700M pledged at Cop28 for Environmental Restoration.
- (c) Nature Restoration Law 2024 - requiring EU countries to restore at least 30% of habitats in poor condition by 2030, 60% by 2040, and 90% by 2050

Has the project been identified as a priority project in a:

Central government plan or strategy

Please explain your answer here:

National

NZ Govt Aquaculture Strategy. The project has been recognized as a priority project in the New Zealand Aquaculture Strategy. Aquaculture has been and will continue to be a valuable success story for New Zealand. A robust innovation program and co-investment between the government and industry have been instrumental in delivering premium, high-value products to the world. Moreover, there are additional opportunities available, such as macro-algae farming, which can provide ecosystem services, buffer ocean acidification, and store carbon.

Climate Emissions Emergency Response Fund: Kelp Farming was included as a priority strategy in the 2022 Emissions Plan. MPI funded Ōnuku in 2022 under the CERF fund to investigate integrated multi-trophic aquaculture (IMTA) that included inclusion of growing kelp and other bivalve species, alongside salmon (Akaroa Salmon).

Central government infrastructure priority list

Sector Relevance

ANZSA - The Aotearoa New Zealand Seaweed Association proposes that seaweed aquaculture is the only scalable and nature-positive solution to meet the global demand for New Zealand seaweed products while also safeguarding the marine environment. Macrocystis can only be grown in the cold water of a few countries worldwide, including in Te Waipounamu, New Zealand,

Other: Sustainable Seas Challenge Case Study on Kelp Blue + MPI Seaweed Farming Fact Sheet 2023

Will the project deliver regionally or nationally significant infrastructure?

Not Answered

Please explain your answer here:

No

Will the project:

Please explain your answer here:

No

Will the project deliver significant economic benefits?

Yes

Please explain your answer here:

The project will deliver significant economic benefits:

- (1) The kelp farm will provide significant revenue. At full operational capacity (Y5) the business will generate revenue of \$8.1 million EBITA per annum, including blue carbon credits of around \$500,000 per annum. Full capacity will provide four (4) to eleven (11) jobs for the local community.
- (2) The economic output generated from Y4 will stimulate an additional \$970k of indirect contributions to Canterbury's GDP p.a from ancillary support

businesses and a further \$500k induced household spending.

(3) The operation will support additional job creation of around 9FTE positions p.a. in ancillary business and a further 5FTE positions p.a. due to the increase in household spending within the Canterbury economy.

(4) The Kelp Blue biorefinery approach is highly innovative with valuable IP and tech transfers for NZ. Fused with Ōnuku values, whakapapa and mātauranga, this creates a unique and world-first nature positive model. The entire mātauranga infused innovation pathway from growing juvenile kelp, to processing kelp into high-value bioactive components can place Ōnuku and its partners at the forefront of innovation in marine biotechnology. This could attract additional investment and potentially lead to technology patents and proprietary processes.

(5) Regenerative mariculture techniques to cultivate bladder kelp foster the development of high-value bioproducts that not only enhances product quality and sustainability but also positions the venture to access premium markets globally, appealing to consumers and industries seeking superior, eco-conscious solutions.

(6) Kelp is a taonga species to Ngāi Tarewa, Ngāti Irakehu and Ngāi Tahu. Growing the global demand for a carbon positive biodiverse taonga species can create high value products, which attract a 'premium' price. There is a uniquely indigenous global market opportunity for such indigenous aquaculture products with indigenous Māori providence [Refer: Dr J Whitehead, Ōnuku Rūnanga Case Study 2023, Auahatanga from Authenticity: Maximising opportunities for Akaroa Salmon and Ōnuku Rūnanga]

(7) The project is poised to significantly boost local employment by creating a diverse array of sustainable, year-round jobs in Akaroa, directly benefiting Māori communities and others in the region. From the initial farm setup to ongoing operations, the venture requires skilled biologists, engineers, skippers, crew members, logistics coordinators, and administrative support staff. By concentrating the majority of these high-value, innovative roles in Akaroa, the project not only raises household income levels but also nurtures a skilled workforce, fostering long-term economic development and community well-being.

(8) The scale and duration of the installation and operations of the farm will create demand for supporting industries in Akaroa, and Bluff (Hatchery) . The project will include equipment manufacturing, marine service providers, research and development, logistics as well as increasing the demand for general goods and services in Akaroa / surrounding areas of the Peninsula.

(9) Ōnuku has developed a Y1 budget for a significant capital investment bond for the project partnership through the HineMoana Halo Partnership

(10) Ecosystem services from kelp forests are significant. Macrocystis is estimated to provide a value of between \$64,400 and \$147,100/hectare each year in ecosystem services through supporting fisheries production, nutrient cycling, and carbon removal. Over 130ha this equates to ecosystem service provision regionally, nationally and globally, of between \$8.3m to \$19m p.a.

(11) There is increasing demand in emerging carbon markets for indigenous led eco-service or nature positive Ki Uta Ki Tai approaches such as the proposed business. Demand will rise as companies and countries compete for carbon credits to meet climate change obligations. First adopters and new industries that adapt quickly will benefit substantively

Will the project support primary industries, including aquaculture?

Yes

Please explain your answer here:

Māori Commercial Aquaculture Claims Settlement Act 2004 - A project with connection to a significant regional benefit

The proposed area is affected by the legislation and 17ha (Pariwhero) has been allocated to Te Rūnanga o Ngāi Tahu as the iwi beneficiary under the said Act. Future resource consents may be sought for the area that have relevance to the project partnership.

General Primary Industry Benefits

(1) The project will support the development of the aquaculture industry, and more broadly the primary sector, in New Zealand in various ways including:
(2) Cultivation of Macrocystis: piloting the cultivation of indigenous Bladder Kelp for harvest and the production bio-refined high value products from the bioactive compounds is highly innovative and specialised. Macrocystis only grows in the colder waters of New Zealand, Alaska and Namibia. The intellectual property developed around the cultivation and structures used will be shared with Ōnuku hapu, and can be made publicly available by Kelp Blue once it is established/proven, as best practice. This is a significant benefit to the growth and positioning of innovation for an immature NZ seaweed industry.

(3) Workforce Development: Kelp Blue is committed to developing the aquaculture workforce with an emphasis on high value career opportunities. Current initiatives include supporting AUT's development of a Masters of Aquaculture and committing to being an industry partner for this programme to enable students to gain industry experience; and by providing work experience positions to students from SIT (in Akaroa) and NMIT (in Namibia). Kelp Blue has an ambition to develop an educational facility for ocean and aquaculture research in Akaroa that employees and rangatahi cadets of the proposed business would benefit from.

(4) Kelp Blue's desire to work with Nz partners to grow a larger consented area for kelp farming, facilitates a faster scale up of the company's global re-wilding focus and impact.

(5) To ensure resilience of the NZ aquaculture industry: diversification is key. Kelp farming offers an opportunity to diversify the Aquaculture sector, by also providing an additional revenue stream and reducing reliance on existing single-species aquaculture.

(6) Diversification away from extractive carbon negative models to nature based carbon positive solutions can safeguard regional communities and the NZ aquaculture industry against the inevitable environmental and economic fluctuations caused by challenges such as disease outbreaks or market fluctuations.

(7) The business would also contribute to building resilience in Akaroa as a remote coastal community, with an economy dependent on thriving resilient primary industries.

(8) Agricultural and Horticultural sectors: Farmers are facing increasingly challenging growing conditions alongside pressure from buyers to improve the sustainability of their product, so they can achieve sustainability goals demanded by the market. Kelp Blue's first product is a kelp based liquid biostimulant designed to improve soil health, improve resistance to abiotic stress, and increases nutrient uptake. Kelp Blue are currently running field trials on this product in Europe, Africa, the United States, Brazil and New Zealand on crops ranging from row crops and pasture to grapes and tomatoes and are learning much about its efficacy and usability.

Will the project support development of natural resources, including minerals and petroleum?

No

Please explain your answer here:

Will the project support climate change mitigation, including the reduction or removal of greenhouse gas emissions?

Yes

Please explain your answer here:

Macrocystis pyrifera is one of the fastest-growing organisms on the planet. It absorbs significant amounts of carbon dioxide from the atmosphere through photosynthesis. As the kelp grows, it takes in CO₂ which is either used for photosynthesis or stored in its tissue. When the kelp dies and sinks, it can transfer the stored carbon to the deep ocean. This natural process helps to reduce CO₂ in the atmosphere, making kelp farming an effective way to act as a natural carbon sink.

Kelp farming has the potential to increase ocean alkalinity by releasing carbonate ions during photosynthesis. This enhanced alkalinity can promote the uptake of atmospheric CO₂ by seawater and help mitigate ocean acidification, which is a side effect of increasing CO₂ levels in the atmosphere.

In addition to the projected carbon capture abilities, the project has the potential to offer other benefits for mitigating global climate change. These include the production of low-carbon inputs into several industries including biostimulant for crops, alginates and fucodians for manufacturing, and kelp leather as a replacement product.

Kelp also has versatile uses such as producing bioplastics and other bio-based products, which can replace petroleum-based plastics and materials. Substituting fossil fuel-derived products with kelp-derived alternatives can help reduce the demand for petroleum and the associated greenhouse gas emissions from its extraction, processing and combustion.

Will the project support adaptation, resilience, and recovery from natural hazards?

Yes

Please explain your answer here:

Kelp farming can support adaptation, resilience, and recovery from natural hazards by enhancing ecosystem health, protecting coastal areas, and providing alternative livelihoods.

Ki Uta Ki Tai: Ōnuku is leading climate adaptation planning and taking a nature-based biodiversity approach. This involves collaboration with a community partnership of Christchurch City Council, Environment Canterbury, Climate Change Scientists, experts, kaitiaki and community leaders. The work is being led out through an integrated (9) catchment management and adaptation plan.

Taking an integrated ecosystem approach includes activities such as: afforestation incentives for local landowners (requiring ETS legislative amendment); active restoration/replanting of forests (currently 24% land coverage), planting of 21 waterways and streams gullies plus areas of erosion; waste water and reserve upgrades; protection of reefs, sea grasses, salt marshes, wetland sediment traps.

Ōnuku leads this whole systems community planning approach Ki Uta Ki Tai to tackle climate adaptation head on, and build local Akaroa community knowledge and resilience, with the added value of likely global investment for the blue, brown, and green carbon credits generated through networks such as Hine Moana Halo.

Coastal Protection: kelp forests act as natural buffers against coastal erosion and storm surges by dampening wave energy and stabilising sediments. The dense structure of kelp can help to dissipate wave energy, protecting shorelines from erosion and damage during storms. This natural coastal protection can help communities adapt to rising sea levels and increased storm intensity associated with climate change.

Habitat enhancement, kelp forests provide critical habitat for a diverse range of marine species, including fish, crustaceans, and other marine organisms. By enhancing habitat complexity and biodiversity, kelp farming can support the resilience of marine ecosystems and help them recover more quickly from natural disturbances, such as storms, pollution events, or disease outbreaks.

Will the project address significant environmental issues?

Yes

Please explain your answer here:

Taiao whole-systems restoration: The project has the potential to address several significant environmental issues by providing sustainable solutions to challenges such as climate change, marine ecosystem degradation, and resource depletion. Combined with Ōnuku leadership for whole systems community planning approach Ki Uta Ki Tai to tackle climate adaptation, the kelp farm will be the first significant influencer of biological restoration, that attracts carbon revenue, but acts as the catalyst for additional taiao restoration work Ki Uta Ki Tai. This is a first in world indigenous restoration with a whole-eco-systems focus that global investors will fund. However, at the heart of the business is eco-system rescue, adaptation and carbon removal.

Additionally kelp farming can contribute to addressing these environmental issues:

- Climate change mitigation: Kelp farming can help mitigate climate change by capturing and storing carbon dioxide from the atmosphere through photosynthesis.
- Ocean health and biodiversity conservation: kelp forests provide critical habitat for diverse marine species, supporting biodiversity and ecosystem

resilience. By enhancing habitat complexity and promoting marine biodiversity, kelp farming can contribute to the conservation and restoration of marine ecosystems, helping to protect and restore degraded habitats.

- Water quality improvement: Kelp farming can help improve water quality by filtering and absorbing excess nutrients and pollutants from the surrounding water. As kelp grows, it can remove nitrogen, phosphorus, and other pollutants, reducing nutrient runoff and eutrophication in coastal waters.

- Sustainable Resource Management: Kelp Farming promotes the sustainable use of marine resources by providing a renewable source of products. By diversifying resource extraction and reducing reliance on non-renewable resources, kelp farming can help conserve natural resources and minimize environmental impacts associated with traditional agriculture and aquaculture practices.

Is the project consistent with local or regional planning documents, including spatial strategies?

Yes

Please explain your answer here:

Canterbury Regional Policy Statement 2013

A detailed assessment with a focus on policies is provided below.

In summary, the Canterbury RPS provides high level objectives and policies. Generally the proposal would be consistent with the RPS, noting that more detailed consideration of the appropriateness of the proposal is considered under Policy 8.13 of the Coastal Plan.

Canterbury Regional Coastal Environment Plan (Coastal Plan) Operative 2005

Summary

A detailed assessment of the proposal under relevant objectives, policies and rules of the Coastal Plan follows the below summary.

In terms of relevant characteristics identified in the Coastal Plan, the proposal is within the Shellfish Gathering (SG) water quality standard area and is identified in Schedule 5.13 as an area of Banks Peninsula to be maintained in its present natural state, free of additional structures.

The resource consents which would ordinarily be required depend on the details of the final proposal but are likely to include permission for the activities listed in Table 1:

Table 1: Summary of coastal permits required (Note that if the Discretionary activity standards cannot be met for the rules listed, non-complying activity consent will be required)

Occupation of the coastal marine area Rule 8.23 Discretionary activity

Erection of structures over the foreshore and seabed Rule 8.2 Discretionary activity

Destruction, damage or disturbance of the foreshore and seabed Rule 8.7 Discretionary activity

Erection or placement of a structure in an area listed in Schedule 5.13 Rule 8.4 Non-complying activity

The activity would therefore be a non-complying activity under the Coastal Plan.

In assessing the proposal against objectives and policies in the Coastal Plan there are strong arguments to be made for the development of the proposal.

Specifically:

- It provides for the ongoing relationship of Ōnuku Rūnanga with Akaroa Harbour

- Natural character and landscape effects will be minimal due to the subsurface nature of the activity.

- Kelp will at a minimum maintain the SG coastal water quality, and in fact will assist in improving water quality.

- The proposal will likely create habitat for Hector's dolphins and areas of refuge.

Therefore Policy 8.15 would be a key consideration in an application.

Policy 8.15

1. Areas of Banks Peninsula listed in Schedule 5.13 and Areas of Significant Natural Value should be maintained in their present natural states free of additional structures, including marine farms unless it can be established for those areas that the structures and their use will have no more than minor adverse effects on:

a. the natural character of the area including its overall landscape and seascape and

b. the marine, foreshore and seabed ecology and

c. the water quality and

d. the use or enjoyment of the area by recreational, tourist or other users of the marine environment who do not require authorisations for exclusive occupancy and

e. the habitat of Hector's Dolphins.

2. Exceptions to (1) should only be made for:

a. wharves, jetties and other structures that facilitate public access to the marine environment and

b. intake or outfall structures and

c. marine farm operations that existed or were authorised prior to 28 August 1998 and

d. areas for which existing marine farm permits were granted under the Fisheries Act 1983 or the Marine Farming Act 1971 prior to 16 May 2001 and

e. minor expansions of existing marine farm operations at or adjacent to their existing locations and

f. an area in close proximity to an existing marine farm for the temporary relocation of the marine farm for reasons of storms, algal blooms, oil spills, toxic discharges and other environmental hazards for the operation of the marine farm and

g. structures for the monitoring of, and/or research into, the marine environment and

h. structures for the conservation and/or enhancement of marine species and

i. small scale non-commercial marine farming structures in Mātaitai Reserves and

j. structures needed to maintain, repair, or protect network utility infrastructure.

It is considered that the proposal would generally comply with this policy for the reasons set out above. However, as a non-complying activity there is a high level of uncertainty as to whether consent would be granted under this Rule due to the ability for the Council to deem that there would be a more than minor effect on any of the matters included in sub clause (1).

Detailed Policy Assessment

Canterbury Regional Policy Statement Operative 2013

Relevant Policies Assessment

8.2.2 Provision for appropriate activities in the coastal environment: Broadly the proposal is consistent with this policy noting more detailed consideration of the appropriateness of the activity takes place under Coastal Plan policy 8.15.

8.2.3 Regionally significant infrastructure and commercial maritime facilities: The proposal will not interfere with cruise ships which access Akaroa Harbour.

8.3.2 Providing for the integration of management of natural and physical resources and activities in the coastal environment: Consideration in detail of the management of Akaroa Harbour and the proposed activity is considered further under Policy 8.13.

8.3.3 Management of activities in the coastal environment: Consideration in detail of the management of Akaroa Harbour and the proposed activity is considered further under Policy 8.13.

8.3.4 Preservation of the natural character of the coastal environment: Natural character will be preserved or at least affected minimally by structures being 5m subsurface and not visible from the surface.

8.3.7 Improve water quality in degraded areas: The proposal is consistent with this policy as kelp farming will improve water quality, improving nutrient cycle and removing carbon.

Assessment of Activity under Canterbury Regional Coastal Environment Plan: Objectives and Policies

Relevant Objectives and Policies

Objective 6.1

To protect, and where appropriate enhance, the following areas, sites and habitats of high natural, physical, heritage or cultural value:

- a. Areas of Significant Natural Value (identified in Schedule 1, and shown on the Planning Maps in Volume 2)□
- b. Those Areas listed in Schedules 2 and 3□
- c. Areas within the intertidal or subtidal zone that contain unique, threatened, rare, distinctive or representative marine life or habitats (including coastal wetlands) or are significant habitats of marine species generally□
- d. Areas used by marine mammals as breeding, feeding or haul out sites and breeding, roosting or feeding areas of indigenous bird species□
- e. Areas, including adequate buffer zones, that contain locally, regionally, nationally or internationally significant: ecosystems, vegetation, individual species, or habitat types, (for example coastal lakes, wetlands, lagoons, estuaries)□
- f. Historic, archaeological, and geo-preservation sites in the coastal marine area□
- g. Coastal landforms and landscapes, submerged platforms and seascapes that are regionally, nationally or internationally representative or unique, including the Kaikoura coast, Banks Peninsula, Kaitorete Spit, and the Timaru reefs□
- h. Areas identified in consultation with Tāngata whenua including wahi tapu, Urupā, tauranga waka and mahinga kai□
- i. Areas of significant amenity value, including recreational attributes□
- j. Areas having high natural character in the coastal environment□
- k. Areas having significant heritage values□ and
- l. Habitats of species which are important for commercial, recreational, traditional, or cultural purposes.

Assessment:

The proposed locations are not identified as an Area of Significant Natural Value or listed in Schedule 2 or 3.

The development of aquaculture in Akaroa Harbour by Ōnuku/Ngāi Tahu would enhance the cultural value of Whakaroa/Akaroa Harbour to Ngāi Tahu.

The development of aquaculture to the benefit of Ōnuku/Ngāi Tahu will result in a modern interpretation of mahinga kai which will provide economic opportunity to Ōnuku/Ngāi Tahu.

Objective 6.2

To protect, and where appropriate, enhance natural character and amenity values of the Banks Peninsula coastal environment including:

- a. Volcanic and coastal landforms and features;
- b. Estuarine and coastal vegetation and habitat;
- c. Coastal processes and ecosystems;
- d. Areas of high water quality;
- e. Areas of high visual amenity value, and/or otherwise unmodified by structures or other activities, in particular outer bays and open coast.

Assessment

The proposed sites are located in "SG", Shellfish Gathering, water class areas.

It is anticipated that as the proposal is for kelp, that the SG water class will be enhanced.

Policy 6.1

a. Within the Coastal Marine Area Environment Canterbury will:

i. control activities and development to remedy or mitigate adverse effects on:

- coastal ecosystems and processes,
- the identified values of Areas of Significant Natural Value,
- the identified values of areas of high natural, physical, heritage or cultural value, and
- natural character in areas of the coastal environment where natural character predominates□ and

ii. control activities and development to avoid any significant adverse effects on:

- coastal ecosystems and processes,
- the identified values of Areas of Significant Natural Value,
- the identified values of areas of high natural, physical, heritage or cultural value, and
- natural character in areas of the coastal environment where natural character predominates□ unless there are special or extraordinary and unique reasons why those adverse effects cannot be avoided□ and

iii. adopt a precautionary approach when considering applications for resource consents where the effects, including cumulative effects, are as yet

unknown or little understood, or where the functioning of marine ecosystems and coastal processes is poorly understood.

b. Environment Canterbury will undertake a process of investigation and public consultation to:

- i. identify additional areas of high natural, physical, heritage, or cultural value, including wahi tapu, Urupā, tauranga waka and mahinga kai and
- ii. identify areas where access to and along the Coastal Marine Area needs to be enhanced or controlled.

As kelp farms it is anticipated that coastal ecosystems and processes will be enhanced through the creation of additional habitat and ecosystem services provided by kelp.

The proposal involves subsurface structures, as such effects on natural character and landscape will be minimal.

Objective 7.1

Enable present and future generations to gain cultural, social, recreational, economic, health and other benefits from the quality of the water in the Coastal Marine Area, while:

- a. maintaining the overall existing high natural water quality of coastal waters
- b. safeguarding the life-supporting capacity of the water, including its associated: aquatic ecosystems, significant habitats of indigenous fauna and areas of significant indigenous vegetation
- c. safeguarding, and where appropriate, enhancing its value for providing mahinga kai for Tāngata whenua
- d. protecting wahi tapu and Wāhi taonga of value to Tāngata whenua
- e. preserving natural character and protecting outstanding natural features and landscapes, where water quality is an aspect of their value, from reductions in water quality
- f. maintaining, and where appropriate enhancing, amenity values and
- g. recognising the intrinsic values of ecosystems and any finite characteristics of the coastal environment.

Assessment:

High natural water quality will be maintained, and aquatic ecosystems will be safeguarded by the proposal.

The proposal will enable current and future generations of Ngāi Tahu to gain cultural, social and economic benefits from the proposal, which is a modern interpretation of mahinga kai. To that end, the proposal enhances the value of the quality of water by creating a contemporary mahinga kai for Ngāi Tahu, and from which economic benefit can be realised.

The economic stability and opportunity for involvement in mahinga kai at a commercial scale is beneficial for the future of Ōnuku Rūnanga. Opportunities such as this are required to enable the Rūnanga, to encourage the next generation of kaitiaki to stay at, or return home.

Policy 7.2 Establish water quality classes, set water quality standards and control the discharge of contaminants and water within the parts of the Coastal Marine Area defined in Schedule 5 that contain areas of degraded water quality or which need classifications to reflect existing or potential uses of the areas:

[...]

- c. The water quality in the following areas will be classified as water managed for shellfish gathering, for contact recreation and for the maintenance of aquatic ecosystems, and the water quality maintained and where necessary improved for these purposes:
 - i. Rapaki
 - ii. The outer or eastern part of Lyttelton Harbour /Whakaraupo
 - iii. Port Levy/Koukourarata
 - iv. Pigeon Bay
 - v. Little Akaloa Bay
 - vi. Okains Bay
 - vii. La Bons Bay;
 - viii. Akaroa Harbour excluding the Bays in (b) (vi) above;
 - ix. The Coastal Marine Area immediately south of Timaru.
- d. Once the degraded water quality in an area has been improved to consistently meet the standards set in the relevant water quality class, Environment Canterbury will review the classifications and where appropriate prepare changes to this plan that will aim at achieving higher levels of water quality for that area. In preparing any such changes to this Plan, Environment Canterbury will ensure any proposed higher standards are reasonable and achievable within a specified timeframe and take into account the existing uses of the areas.

Assessment

Whakaroa/Akaroa Harbour (with the exception of certain bays) enjoys the highest water quality standard set by the CREP – Shellfish Gathering standard.

The proposal is for kelp and as such will enhance water quality.

Objective 8.1 1.

1. To enable people to use the Coastal Marine Area and its resources while avoiding, remedying or mitigating the adverse effects of that use on the environment, including avoiding, remedying or mitigating the adverse effects:

- a. of conflicts between these uses and people's well-being, health, safety and amenity and
 - b. on natural character, and other (natural, ecological, amenity, Tāngata whenua, historic and cultural) values of the coastal environment.
2. To enable the efficient and effective operation and development of the Port of Timaru and network utilities while avoiding, remedying or mitigating adverse effects on the environment consistent with the normal requirements of commercial ports and network utilities

The proposal is consistent with Objective 8.1.1.

There is no conflict with the proposal and people's well-being, health, safety and amenity. Adverse effects on natural character will be minimal due to sub surface nature of activity.

Policy 8.3

In considering applications for resource consents to undertake activities in the Coastal Marine Area, Environment Canterbury will have regard to:

- a. the existing level of use and development in the area and the national priority in the New Zealand Coastal Policy Statement to preserve the natural

character of the coastal environment□ and

- b. the need to protect characteristics of the coastal environment of special value to Tāngata whenua□ and
- c. effects on the public use and enjoyment of the coast, including public access to and along the Coastal Marine Area, and the contribution of open space to the amenity value of the coast□ and
- d. cumulative effects of such activities on the coastal environment both within and outside the immediate location□ and
- e. existing agricultural and other use and development of the adjacent land area, and any adverse effects on that activity□ and
- f. the status of any lands or areas administered by the Department of Conservation that are affected□ and
- g. the publicly notified purpose of any proposal for protected status, if the application affects an area proposed for protection under a statute administered by the Department of Conservation□ and
- h. the possibility of natural features migrating inland as the result of dynamic coastal processes, including sea level rise, and the ability of natural features to protect subdivision, use and development from erosion and inundation□ and
- i. the need to protect existing network utility infrastructure where such infrastructure is located adjacent to or within the Coastal Marine Area.

Assessment

In response to Policy 8.3:

- a. The existing level of use in the area for aquaculture is minimal, with few aquaculture developments in Akaroa Harbour.
- b. The proposal will protect the ongoing wellbeing of Onuku whānau.
- c. The proposal will not affect public access to the Coastal Marine Area.
- d. Cumulative effects will be from the perspective of multiple occupation sites, there will not be biosecurity issues arising.
- e. Not applicable
- f. The “Dan Rogers” Marine Reserve will not be affected.
- g. Not applicable.
- h. Not applicable.
- i. Not applicable.

Policy 8.5

In considering applications for resource consents to occupy the Coastal Marine Area, except within the Operational Area of the Port of Lyttelton, Environment Canterbury should:

- a. give priority to maintaining safe anchorages for vessels□ and
- b. avoid impeding navigational channels and access to wharves, slipways and jetties□ and
- c. avoid displacing existing public recreational use of the area where there are no safe adjacent alternative areas available□ and
- d. have regard to existing commercial use of the area and any adverse effects on that activity, including recognition of the designated Port Operational Areas□ and
- e. have regard to any adverse effects on the values relating to the natural character of the coastal environment, both within and outside the immediate location□ and
- f. have regard to any adverse effects on the cultural, historic, scenic, amenity, Tāngata whenua, and natural values of the area□ and
- g. have regard to available alternative sites and the reasons for the applicant's choice of site□ and h. have regard to existing use and development of the area and the extent to which the natural character of the area has already been compromised□ and
- i. only provide for the period or periods of occupation that are reasonably necessary to meet the purposes for which occupation is sought.

Assessment

The proposed occupation of the Coastal Marine Area is unlikely to affect the matters listed in Policy 8.5 particularly Cruise Ships. This will need to be confirmed, for example via confirmation from the Harbour Master.

Policy 8.15

1. Areas of Banks Peninsula listed in Schedule 5.13 and Areas of Significant Natural Value should be maintained in their present natural states□ free of additional structures, including marine farms□ unless it can be established for those areas that the structures and their use will have no more than minor adverse effects on:

- a. the natural character of the area including its overall landscape and seascape□ and
- b. the marine, foreshore and seabed ecology□ and
- c. the water quality□ and
- d. the use or enjoyment of the area by recreational, tourist or other users of the marine environment who do not require authorisations for exclusive occupancy□ and
- e. the habitat of Hector's Dolphins.

2. Exceptions to (1) should only be made for:

- a. wharves, jetties and other structures that facilitate public access to the marine environment□
- b. intake or outfall structures□
- c. marine farm operations that existed or were authorised prior to 28 August 1998□
- d. areas for which existing marine farm permits were granted under the Fisheries Act 1983 or the Marine Farming Act 1971 prior to 16 May 2001□
- e. minor expansions of existing marine farm operations at or adjacent to their existing locations□
- f. an area in close proximity to an existing marine farm for the temporary relocation of the marine farm for reasons of storms, algal blooms, oil spills, toxic discharges and other environmental hazards for the operation of the marine farm□
- g. structures for the monitoring of, and/or research into, the marine environment□
- h. structures for the conservation and/or enhancement of marine species□
- i. small scale non-commercial marine farming structures in Mātaitai Reserves□ and
- j. structures needed to maintain, repair, or protect network utility infrastructure.

Assessment

Akaroa Harbour is listed in Schedule 5.13.

The natural character and landscape qualities of the harbour will not be adversely affected due to the subsurface nature of the proposal. Water quality will be enhanced through the use of kelp. It is anticipated that the habitat of Hector's Dolphins will not be affected and that the proposal will create additional points of refuge.

Anything else?

Please write your answer here:

Ōnuku kelp farming presentation - <https://drive.google.com/file/d/1L50RaSmCp3amifhJ8hOmcVdSOEyhvUAI/view?usp=sharing>

Does the project include an activity which would make it ineligible?

No

If yes, please explain:

Section 8: Climate change and natural hazards

Will the project be affected by climate change and natural hazards?

Yes

If yes, please explain:

The project partnership is likely to be affected by climate change and natural hazards, posing challenges to the sustainability and resilience of kelp cultivation operations.

As project partner, Ōnuku can leverage regional harbour restoration partnerships such as Tōngāirō (Akaroa Habitat Mapping) and valued long term relationships with Environment Canterbury, to ensure the kelp farming business has the most up-to-date knowledge on climate change events. Additionally, Ōnuku's local leadership role in Climate Adaptation planning, can be leveraged to 'future-proof' the business with information and supporting networks. (Refer Section 7).

Ocean warming and acidification, the rising of ocean temperatures and ocean acidification associated with climate change can affect the growth, reproduction, and survival of kelp species. Changes in water chemistry and temperature can disrupt the physiological process of kelp, leading to reduced growth rates, decreased biomass production, and increased susceptibility to diseases and herbivory. Marine heatwaves can have devastating effects on marine ecosystems and industries.

Severe storms, hurricanes, and other extreme weather events can damage kelp farms by causing physical damage to structures, disrupting farm operations, and leading to crop loss. Additionally, strong wave action and increased sedimentation during storms can impact water quality and sediment stability, affecting the health and productivity of kelp farms. Akaroa has experienced more frequent and more severe weather events in recent years and such events are not expected to decrease.

Sea level rise can alter coastal ecosystems and habitats, potentially changing the suitability of the site for kelp farming. Infrastructure associated with kelp farming, such as mooring, buoys, and harvesting equipment, may also be at risk from rising sea levels and increased storm surges.

Disease outbreaks and pest infestation, changes in environmental conditions, including warmer water temperatures and altered ocean chemistry, can create favourable conditions for the spread of diseases and the emergence of pests that can affect kelp health and productivity. Disease outbreaks and pest infestations can lead to significant crop losses and pose challenges to sustainable kelp farming practices.

Algal blooms and nutrient imbalance, climate change can influence nutrient dynamics in marine ecosystems, potentially leading to increased frequency and intensity of harmful algal blooms and nutrient imbalances. Harmful algae blooms can compete with kelp for resources, produce toxins harmful to marine life, and impact water quality, posing risks to kelp farming operations.

Section 9: Track record

Please add a summary of all compliance and/or enforcement actions taken against the applicant by any entity with enforcement powers under the Acts referred to in the Bill, and the outcome of those actions.

Please write your answer here:

None

Load your file here:

No file uploaded

Declaration

Do you acknowledge your submission will be published on environment.govt.nz if required

Yes

By typing your name in the field below you are electronically signing this application form and certifying the information given in this application is true and correct.

Please write your name here:
Rik Tainui

Important notes