

Mau tonu te au kakara i te moana:
So that the sweet scent of the ocean remains

Science Plan



Building on our foundations

Cawthron focuses on ocean and freshwater related science, with nearly 300 technical experts and support staff. Our staff hail from over 30 countries and bring a plethora of world knowledge to their day-to-day work. A key uniting factor for Cawthron staff is our shared passion to 'make a difference' and develop solutions to a broad range of challenges.

This Plan has been developed over 2022 and 2023, immediately following the global Covid pandemic, and over the course of several significant environmental events that rocked Aotearoa New Zealand, including the 2022 Nelson floods and Cyclone Gabrielle. These events, which are inextricably linked to a warming planet, have provided strong motivation for Cawthron to achieve greater impact, faster. This impetus led to a collective decision for Cawthron to focus efforts into key areas that directly tackle the tripartite challenges of climate change, biodiversity loss and food insecurity.

By addressing these global challenges, our vision is for our mission-driven research to achieve healthy ecosystems, a prosperous blue economy and thriving people and communities.

Our solution focused science is ensuring Aotearoa New Zealand thrives following an intergenerational approach to nurturing the taiao, moana and whenua, including contributing to the United Nations Sustainability Goals.

The Science Plan builds on Cawthron's existing capability and what we are uniquely good at. For more than 100 years, Cawthron has identified emerging areas of research to assist communities and industry.

This Science Plan leverages our core expertise and will help us to deliver the identified objectives through our research skills in:

- Aquaculture
- Biosecurity
- Food & Bioactives
- Freshwater Ecology
- Healthy Oceans
- Molecular Algal Ecology
- Social Sciences.

Our cross-cutting capabilities also closely support the delivery of the science plan:

- Our **analytical laboratories** underpin research, create leading method development and deliver commercial testing;
- Our **technological innovation** enables a prosperous blue economy;
- Our **data science** unlocks our full potential;
- Our **science communication** is making our science accessible, supporting educational outreach, informing decision making and delivering impact.

The Plan lays out transformational science programmes that are underpinned by robust science, but are intended to move beyond science and catalyse collective action. It also lays down what we want to achieve in certain timeframes. Our next steps focus on developing our culture as an organisation and working collectively with communities and others to action this plan and take real steps towards combatting some of the most pressing issues humanity faces, as well as seizing the opportunities in front of us.

How was the plan developed?

The plan has been developed by five cross-Cawthron Working Groups, each comprising around 12 individuals who aimed to represent the broader views of their various science and capability teams. The groups have focused on defining the outcomes we want to achieve, developing key transformational science programmes, and the broad approach to implementing these programmes. The process has been guided by Cawthron's Te Kāhui Āio team, through their critical input to the working groups, and collective steerage and advice at certain junctures on the journey. Wider Cawthron have had input into the science plan via face-to-face sessions, surveys and written feedback. While the plan is focused on research, consultancy is also a key implementation pathway and our capability groups play a critical enabling role.

The purpose of the plan

Cawthron strives to achieve three outcomes through our work: healthy ecosystems, a prosperous blue economy, and thriving people and communities. The purpose of this Plan is to:

- Provide 5- and 10-year objectives that work towards achieving the three outcomes.
- Identify transformational science programmes that underpin the objectives and outcomes.
- Guide how Cawthron will develop capabilities and empower our people, and ensure we invest in the right infrastructure, systems and processes to enable our science.
- Inform how Cawthron will allocate internal investment funds.

The process of developing the Plan has supported and enhanced internal collaboration amongst cross-disciplinary groups and created focus on common goals. Actioning the Plan will also enhance both internal and external collaboration efforts through the cohesion of groups of interest into cross-disciplinary working groups. We envisage this will accelerate progress and lead to greater impact in some areas, however it is intended that 'business as usual' activities will continue on their current path.

Who is our Science Plan for?

The Science Plan is for everyone at Cawthron. This includes those where science currently plays a small or less obvious part in their everyday roles, such as our staff in supporting roles like IT and the People and Capability team. The Science Plan also extends beyond Cawthron to our current and future clients and collaborators.

Learning from Māori

The Science Plan will help us to deliver Cawthron's three outcomes of ensuring we have healthy ecosystems, a prosperous blue economy, and our people and communities are thriving. Māori are a key enabler of these outcomes, with Te Ao Māori providing a holistic framework that will ensure people and planet not only survive but thrive.

The development of the Kāinga and Manaia frameworks provide links and understanding between Māori world views and science and these frameworks support Cawthron's collaborative research endeavours with whānau, hapū and iwi. The Kāinga framework amalgamates work undertaken by Te Kāhui Āio such as Te Kete Raukotahi, Whakaika Te Moana, the Aquaculture Kāhui, the SFTI

Smart Kete, the Biosecurity Toolbox Patuharakeke case study, and others into a unified transdisciplinary rangahau Māori platform to enable Cawthron to develop and deliver Māori impact and benefit to the nation.

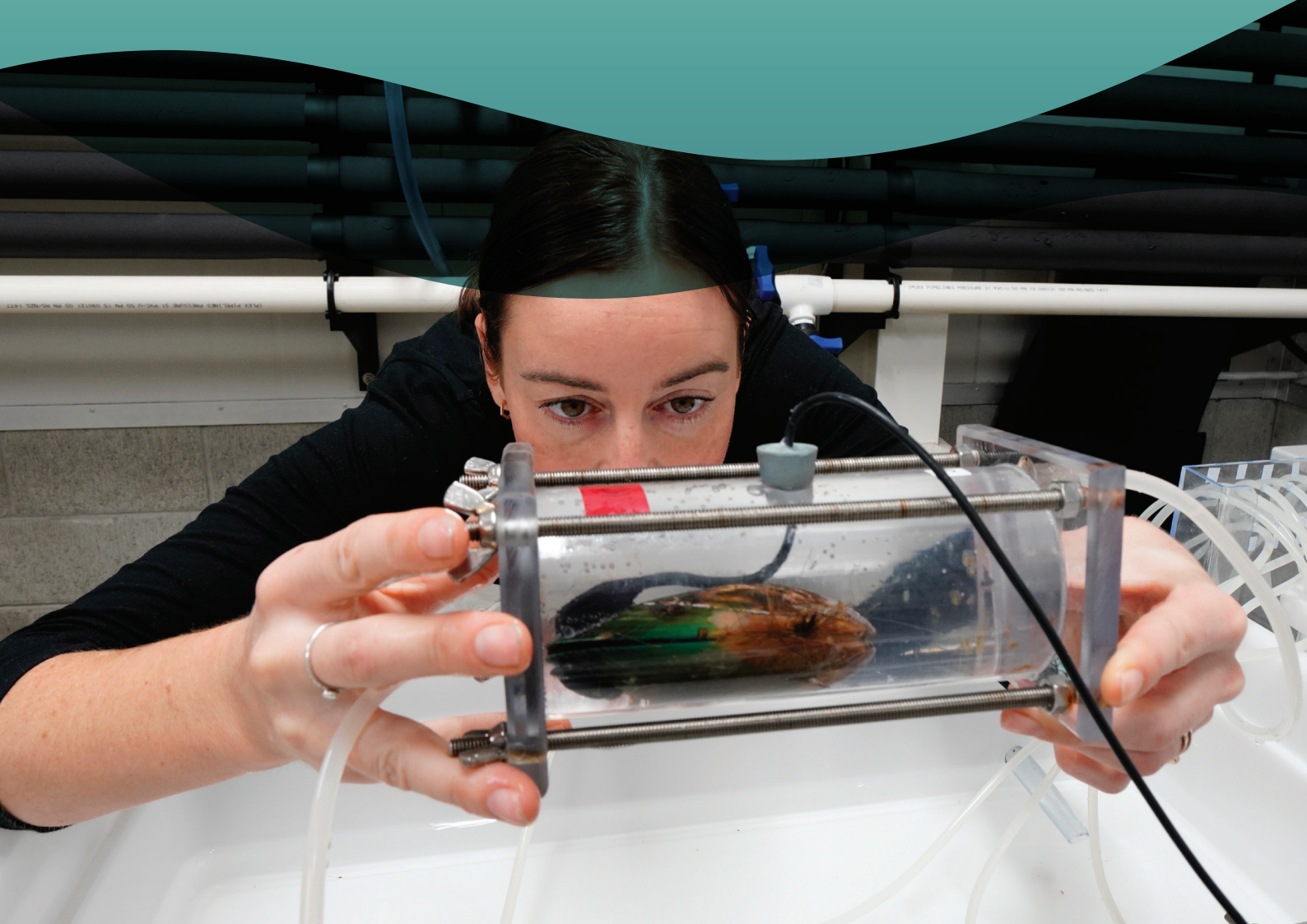
We aspire to work constructively and positively with Māori and learn from their experiences, Mātauranga, and whakapapa. We will listen to the objectives and considerations of whānau, hapū, and iwi, and work together to support the development of Mātauranga and science, conceptualise and trial solutions, and collectively put them in place. Where appropriate, our science programmes will extend to place-based solutions led by Māori.

Mātāpono: Principles

In conducting our work and implementing the plan, we commit to the following principles:

- **Kō te mauri-ora o te whenua kāinga** – meaningful engagement and discussion about aspirations from the outset.
- **Rangatiratanga** – consideration of customs, protocols and practices, and the impact and benefit of our actions.
- **Manaakitanga** – ensuring our behaviours and actions are focused on the wellbeing of others.
- **Whakapapa** – we draw upon our identity and history, and act on our responsibility as good ancestors.

Cawthron also has a set of core values that are inherent to our work.



The science impact pathways

Cawthron is focused on creating impact in five areas:



Turning the tide on climate change

We will be good ancestors by creating a sustainable future in a changing climate where people and nature thrive. Under this impact pathway, we are collaboratively pursuing three transformational science programmes focused on:

1. Enabling Māori-led climate change research, emphasising Mātauranga Māori.
2. Understanding climate and social tipping points for aquatic socio-ecological systems.
3. Climate resilient low carbon seafoods.

Target investment*
\$12.5m per annum.



Protecting and enhancing aquatic environments

We will unlock the key drivers of habitat degradation to optimise the implementation of restoration-focused solutions. Provisional (further input is being sought from the wider Cawthron whanau) transformational science programmes are:

1. Growing aquatic species for restoration.
2. Mountains-to-sea ecosystem enhancement in Te Taihū (Top of the South).
3. Innovative and effective pest and disease control to protect and enhance ecosystems.

Target investment*
\$10m per annum.



Securing safe and sustainable food

We will increase food security by improving the safety, nutrition and sustainability of foods from the community level (e.g. marae) through to industrial scale. Cawthron seeks to implement five transformational science programmes:

1. Next generation food safety testing methods and tools.
2. Reducing the carbon footprint of the agriculture sector through novel methane reducing agents.
3. Community-based aquatic food production systems.
4. Understanding and managing risks in the food supply chain.
5. Supporting the growth of Aotearoa New Zealand's aquaculture industry through diversification, innovation and building resilience.

Target investment*
\$8m per annum.



Realising the potential of algae

We will enhance the blue economy in Aotearoa New Zealand by building knowledge of our unique algal species and their potential applications. Cawthron aims to establish three transformational science programmes:

1. Enabling algal production and development of high-value algal products.
2. Understanding how microalgae are responding to a changing climate.
3. Predicting and safeguarding the environmental distribution of seaweeds.

Target investment*
\$9m per annum.



Supporting resilient communities in the Pacific

We will support communities in their efforts to better understand, protect and sustainably enhance their aquatic systems, transform their food systems towards more sustainable pathways, and adapt to the impacts of climate change. As part of this focus, we are aiming to establish two collaborative and codesigned transformational science programmes:

1. Transforming Pacific Island food systems to improve health and wellbeing.
2. Protecting and enhancing aquatic ecosystems.

Target investment*
\$4m per annum.

*Total investment envisaged to support the impact pathway and transformational science programmes each year over a 10-year period. An investment breakdown is available in the following detailed section.

Impact Pathway One: Turning the tide on climate change



Aim: To be good ancestors by creating a sustainable future in a changing climate where people and nature thrive.

Context:

Human activities are releasing greenhouse gases into the atmosphere, causing the Earth's climate to change. The climate controls how plants grow, which organisms survive, and how they all interact with the physical environment. Human survival is therefore reliant on the state of the climate. As responsible stewards of our planet, we are committed to investigating solutions and

strategies to adapt to and mitigate the existential threat to humanity of climate change. For a climate-resilient future, Aotearoa New Zealand requires an understanding of climate trajectories, ecosystem limits, adaptation in primary production systems, social impacts, and identifying emerging climate risks. Our world-leading science capabilities and strong community and iwi relationships

can build a stable and sustainable climate-resilient future in Aotearoa New Zealand. The mission of our scientists and stakeholders extends beyond research to promote healthy ecosystems, sustainable food production, and nature-based projects, ensuring a sustainable future where both people and nature thrive in the face of a changing climate.

Outcomes we strive for:

5 Years

- Cawthron has established strong and lasting relationships with whānau, hapū, and iwi with aspirations to mitigate and adapt to climate change.
- Cawthron has curated foundational research on ecosystem limits and physiological tolerances.
- Robust methods for climate resilience breeding of aquatic organisms are established. Cawthron has the capability to conduct robust risk assessments and develop adaptation pathways for food production.

- We are enabling the growth of low-carbon food industries (e.g. seaweed, microalgae) and assisting in the development of alternative protein products.

10 Years

- Cawthron has supported Māori communities to lead climate research, exhibit kaitiakitanga, and use Mātauranga and science to implement catchment-scale management approaches.
- Cawthron understands how to be a tangata tiriti kaitiaki.
- Physiological thresholds (tipping points) for native flora and fauna are embedded into management systems. Iwi are leading taonga species management.

- We have supported establishment of sustainable food production systems by providing risk assessments, adaptation pathways, and breeding programmes for climate-resilient species.
- The Aotearoa New Zealand aquaculture industry is a recognised leader in sustainable food production, and at least two innovative low-carbon food products have been developed from our work.

Transformational Science Programmes:

Transformational Science Programmes	Goal	10 Year Investment Sought	Potential Funders
Enabling Māori-led climate change research	To support and enable whānau, hapū, iwi to implement community-based regional programmes that lead to climate resilient aquatic ecosystems.	\$15 million	Philanthropic organisations Government
Understanding climate tipping points for marine and freshwater-based socio-ecological systems	To understand the tipping points amongst freshwater and marine systems when radical change will occur, to inform adaptation pathways planning for communities and industries.	\$10 million	Government Seafood and aquaculture industry Non-government organisations
Climate resilient low carbon aquatic foods	To develop aquatic food production systems (algae, finfish, shellfish) that have a low carbon footprint and are resilient to the impacts of climate change.	\$100 million	Seafood and aquaculture industry Government Philanthropic organisations

Impact Pathway Two: Protecting and enhancing aquatic environments



Aim: To understand the key drivers of habitat degradation and trial and implement restoration-focused solutions.

Context:

After more than a century of aquatic ecosystem degradation and biodiversity loss in Aotearoa New Zealand, there is a critical need for research-based solutions that protect and enhance our river, wetland, lake, estuary, and coastal ecosystems. By actively working to rejuvenate our aquatic ecosystems from ridgetop to reef, we will ensure flourishing aquatic environments that sustain our unique biodiversity and revitalise connections between communities and the environment.

Outcomes we strive for:

5 Years

- Cawthron has learnt to grow important species for restoration (e.g. aquatic plants, seaweeds and shellfish).
- Cawthron is interconnected with a range of external stakeholders (e.g. via Kotahitanga mō te Taiao), is providing integrated knowledge to support mountains-to-sea ecosystem enhancement, and is conducting pilot studies to enhance/restore ecosystems in Te Taihu.
- We have validated and are implementing novel, cross-disciplinary detection and management tools for existing and emerging biological threats.

10 Years

- Cawthron has established hatcheries to provide aquatic plants and shellfish at scale for restoration projects around Aotearoa New Zealand.
- Our transformational science programme 'mountains-to-sea restoration in Te Taihu' is recognised as an exemplar and is being replicated across Aotearoa New Zealand.
- We have demonstrated causal links between restoration activities and measurable improvements in aquatic ecosystem health.
- Cawthron's tools are routinely used across the across Aotearoa New Zealand and other first mover countries to support detection and management of biological threats and ecosystem restoration.

Transformational Science Programmes (provisional):

Transformational Science Programmes (provisional)	Goal	10 Year Investment Sought	Funding Stream
Growing aquatic species for restoration	Harnessing our aquaculture knowledge to develop methods to supply an ongoing large scale source of aquatic species (e.g. aquatic plants, seaweeds and shellfish) to support restoration activities.	\$30 million	Philanthropic organisations Government (Councils, MPI, MfE, MBIE) The Nature Conservancy Aquaculture industry
Mountains-to-sea ecosystem enhancement in Te Taihu	To protect and enhance aquatic ecosystems in Te Taihu, and provide an exemplar model for other regions to follow.	\$50 million	Philanthropic organisations Local business Government (Councils, MfE, MBIE, DOC) The Nature Conservancy
Pest and disease control	To reduce and reverse the impact of invasive pests and diseases on aquatic ecosystems.	\$20 million	Government Marine industry

Impact Pathway Three: Securing safe and sustainable food



Aim: Increasing food security by improving the safety, nutrition and sustainability of foods from the community level (e.g. marae) through to industrial scale.

Context:

Food is integral to everyone's lives, however food systems globally are currently being confronted with a multitude of complex challenges, which will only increase into the future. Climate change and global population intensity are increasing the threats to food security, food quality, food safety and food affordability, and the food industry needs to dramatically reduce its carbon footprint. Aotearoa New Zealand plays a crucial role

not only in satisfying its own food needs, but also in catering to international demand for high-quality, innovative and sustainably produced food products. Cawthron is dedicated to addressing these challenges by enhancing food security through advanced food safety, enhanced nutrition and improved sustainability – spanning from marae and local community settings to large-scale industrial operations.

Outcomes we strive for:

5 Years

- We have developed, validated and implemented (ourselves or through partners) at least two state-of-the art food safety/ quality technologies.
- Cawthron can synthesise, at lab-scale, an alternative promising methane reduction agent from a microalgae source.
- Cawthron has established relationships with ≥ five iwi/ hapū/marae groups and is supporting community-based aquatic food activities.

- We are supporting kaitiakitanga through provision of monitoring tools for mahinga kai food safety in ≥ three rohe.
- Cawthron has developed a risk assessment capability.

10 Years

- Cawthron has an established innovation pipeline for food safety tools and technology that are being widely adopted.
- We have scaled the production of a microalgal-based methane reduction agent and it is being utilised by the agricultural sector.

- Cawthron has supported at least five communities to adopt low carbon circular approaches and holistic food resource management strategies.
- Māori groups across the motu are effectively monitoring for food safety risks.
- Cawthron has established a variety of risk assessment tools and techniques that are being widely adopted to support confidence in food safety.

Transformational Science Programmes:

Transformational Science Programmes	Goal	10 Year Investment Sought	Potential Funders
Next generation food safety testing methods and tools	To develop innovative and modern technologies to revolutionise how we manage aquatic food safety in Aotearoa New Zealand.	\$30 million	Government Food industry Philanthropic organisations
Reducing the carbon footprint of the agriculture sector through novel methane reducing agents	To develop next generation methane reducers through novel microalgal synthetic pathways.	\$20 million	Agriculture sector Government
Community-based food production systems	To support communities to adopt low emissions, low waste 'circular' community-based food production.	\$20 million	Whanau, hapū, iwi Philanthropic organisations Government
Understanding risks in the food supply chain	Develop and implement improved risk assessment, risk management and risk communication tools and practices to safeguard our food supply chain.	\$10 million	Government Food industry
Supporting the growth of Aotearoa New Zealand's aquaculture.	Diversify, innovate and build resilience.	\$50 million	Government Aquaculture industry

Impact Pathway Four: Realising the potential of algae



Aim: To develop the blue economy in Aotearoa New Zealand by building knowledge of our unique algal species and their potential applications.

Context:

Algae (micro- and macro-) are the base of our marine ecosystems and directly influence all life in the ocean. In addition, algal biomass represents a versatile resource with the ability to sustainably address several of the current and future needs of society. As a coastal nation with nearly 1500 known species of macroalgae and a significant diversity of microalgae,

Aotearoa New Zealand is uniquely positioned to benefit from this resource to generate sustainable future industries and ecosystem services. Cawthron is well suited to spearhead the development of an algal sector for Aotearoa New Zealand while also being leading scientific experts in understanding the fundamental ecology of both micro- and macroalgae.

Outcomes we strive for:

5 Years

- Re-indigenising collections from tauiwi into Māori. Protocols/ guidelines developed for working with Māori and projects are developed in consideration of Te Tiriti o Waitangi and the Wai262 claim.
- The Cawthron Institute Culture Collection of Microalgae (CICCM) is expanded and financially sustainable.
- Screening tools have been developed and implemented to understand bioactivity of algal biomass, and a multi-omics pipeline has been developed to support characterisation of key attributes in micro- and macro-algae.
- Cawthron has an established pipeline for scaling up microalgal production of various species.
- Several high-value algal products have been identified.
- We are harnessing satellite imaging to monitor algal blooms and embracing machine-learning modelling techniques to predict future climate distributions.

- Novel approaches are being used to link microalgae communities with environmental conditions to determine the drivers of change for both beneficial microalgae and HABs.
- Key macroalgae of interest to aquaculture and restoration have been identified and are being cultivated.

10 Years

- Whanau, hāpu and iwi are benefiting from Cawthron's algal-based research and Cawthron is a trusted partner on micro- and macro algal initiatives.
- Cawthron has developed internationally recognised genomic and metabolomic capabilities, these have been systematically applied to the CICCM to better understand its attributes.
- We have supported the development of a variety of algae products which are being successfully marketed.

- Cawthron has a pipeline of algal-derived pharmaceuticals, some of which are being trialled.
- Cawthron has supported the establishment of a macroalgal culture collection and a seaweed hatchery which underpins both aquaculture and restoration activities.
- The seaweed farming sector in Aotearoa New Zealand has expanded and is supported by Cawthron's hatchery. Farmed macroalgae are being used to generate a broad variety of ecosystem services.
- Cawthron has a robust understanding of the potential future distributions and occurrence of both macro- and micro-algae in Aotearoa.
- The effects of algal blooms on the whole ecosystem are understood using a Te Ao Māori/ecosystem-level approach.
- Mitigation approaches for harmful algal blooms are being actively piloted.

Transformational Science Programmes:

Transformational Science Programmes	Goal	10 Year Investment Sought	Potential Funders
Enabling algal production and developing high value algal products	To support efficient production of algal biomass, and identify and characterise attributes supporting marketing of high-value algal products.	\$40 million	Industry organisations/ companies Whanau, hāpu, iwi Government
Understanding how algae are responding to a changing climate	To understand phytoplankton bloom dynamics and environment-climate interactions to manage future critical risks to ecosystem integrity and food security.	\$20 million	Government International funds such as Horizons
Predicting and safeguarding the environmental distribution of seaweeds	To predict future species distributions for seaweeds to guide seaweed aquaculture and restoration activities, including a selective breeding programme to produce climate-resilient seaweeds.	\$30 million	Industry organisations/ companies Whanau, hāpu, iwi Government

Impact Pathway Five: Supporting resilient communities in the Pacific



Aim: To support communities in their efforts to understand, protect and sustainably enhance aquatic systems, transform their food systems towards more sustainable pathways, and adapt to the impacts of climate change.

Context:

Te Moana-nui-a-Kiwa includes Aotearoa New Zealand, and as 'teina' (younger sibling) to our Pacific 'tuakana' (older sibling), our primary focus is on supporting Pacific Island Communities (PIC) whose way of life is disproportionately impacted by the effects of climate change and related shocks. To achieve this, we have aligned our efforts

with the priority areas identified by the PIC. We take a systems approach, incorporating adaptive solutions that are co-developed and community-led, enabling communities to build resilience for the future. Our collective expertise, sourced from various organisations, fills our 'kete' (basket), ensuring a more significant and effective impact where it is needed the most.

Outcomes we strive for:

5 Years

- Cawthron scientists are recognised as conduits in five Pacific Island nations fostering the exchange of science and local knowledge, while providing specialised capability and capacity development opportunities.
- Strategic partnerships have been formed (e.g. Australian Centre for International Agricultural Research & James Cook University) to enable a coordinated approach to Pacific climate adaptation research and adaptation pathways planning.
- Scientific food safety capabilities are being improved in two Island nations (research and/or commercial) for public health and economic development. Detection methods and monitoring tools are being developed.
- Transformed production systems are conceptualised/designed with partner organisations and communities from two Pacific Island countries.

- A Pacific-wide Marine Biosecurity initiative, developed with partners, is ready to be socialised for consideration in PIC national management strategies, with environmental DNA & RNA (eDNA/eRNA) tools developed at Cawthron playing an integral role.
- The health of the marine and freshwater ecosystems supporting PICs is being documented using at least one novel method/technique (developed by Cawthron) that is fit for purpose, with management strategies being developed (using these tools) for improving the health of these ecosystems (where appropriate).

10 Years

- Cawthron has a Pacific-hub that offers bespoke capability and capacity development opportunities to PICs.
- Adaptation pathways have been implemented in the Pacific with at least five case studies (scaling from community to industry), with communities equipped with implementation roadmaps to face the challenges of climate and global change.

- PICs have specialised (country-dependent) scientific laboratories, with high food safety standards, which has seen a reduction in food and water-borne illnesses. Detection methods and monitoring tools for remote locations have been developed and widely adopted by PICs.
- Production systems in at least two Pacific study sites have been transformed in line with local cultural, social, environmental and livelihood needs, potentially incorporating novel circular and multitrophic systems. Scaling-out of transformation potential to other countries is well under way.
- Marine biosecurity incursions around the Pacific have declined, there is a Pacific-wide management strategy and a centralised knowledge centre for information sharing.
- PICs are supported by healthy marine and freshwater ecosystems, with community-led management strategies and policies.

Transformational Science Programmes:

Transformational Science Programmes	Goal	10 Year Investment Sought	Potential Funders
Transforming Pacific Island food systems to improve health and wellbeing	To improve Pacific food production systems through sustainable, community-driven, integrated approaches, while concurrently developing monitoring and management strategies to safeguard drinking water and enhance food safety.	\$20 million	ACIAR, FAO, MFAT, DFAT, The World Bank, Pacific Fund, local Pacific governments, MBIE, and philanthropic organisations
Protecting and enhancing aquatic ecosystems	To support healthy marine and freshwater ecosystems to enhance community health and wellbeing in PICs.	\$20 million	ACIAR, FAO, MFAT, DFAT, The World Bank, Pacific Fund, local Pacific governments, MBIE, and philanthropic organisations

Putting the plan into action

Cawthron is increasingly impact focused. This intent mirrors society's urgent and intensifying need to find solutions to the tripartite challenges of climate change, food security and biodiversity loss. To achieve the key impacts we have committed to in the Science Plan, it is critical that we take steps to put these ideas into action. Cawthron is developing an action plan that will breathe life into the Science Plan and it starts with our own people.

Mindset

The problems facing society and the environment are challenging and urgent – our mindset is to deliver and implement effective solutions at all levels. We will ambitiously deliver technical solutions to diverse problems and integrate these solutions to enact cohesive change. Our technical solutions span tools, techniques, products, and processes and we will apply an outcome focused approach throughout our research to maximise their impact. We will apply systems science to integrate our research and tackle challenges, this necessitates a fully collaborative approach which brings together cross-disciplinary teams to tackle issues. Some key skills needed to support a systems approach include knowledge brokerage, science communication, capacity to work across cultures and disciplines, and the ability to be adaptive in practice. We will also focus more on conducting evaluations and learning practices to monitor, evaluate and report impact internally and externally.

Working together

Each of the five impact pathways will have an internal working group comprising 10 Cawthronites who bring different perspectives and expertise to the table. The working groups will meet monthly to further develop the transformational science programmes, and using a theory of change process, develop strategic relationships and networks with external stakeholders, identify funding pathways, and secure funding. It is acknowledged that there are many linkages and intersects between the five impact pathways and the working group leaders will meet regularly to explore the linkages and advance opportunities that will potentially create outcomes across all five areas. The working groups will also engage the broader Cawthron whānau, and periodically review and update the Science Plan. Alongside the working groups, everyone at Cawthron is encouraged to implement the Plan. Project ideas aligned with the science plan can (and should) emerge from the bottom up (researcher base) as well as the top down (impact working groups).

Collaboration

Cawthron can't achieve the outcomes outlined in this Plan alone – it is essential that others join us on the journey. To achieve this we will undertake external discussions, workshops, and meetings to understand the aspirations of our major partners, customers and stakeholders to determine how these align with and complement our transformational science programmes. Where relationships are particularly important, we will seek to elevate these to a strategic level and enter into relationship agreements as appropriate. Implicit in our approach is that we will honour the Kāinga framework to guide how to communicate, engage and connect with whānau, hapū and iwi groups and be flexible in our thinking to truly embrace the expertise and input from our partners.



Investment

To enable the transformational change Cawthron is seeking, it is necessary to secure longer term blocks of funding that support long-term relationship development and solutions that are designed and implemented over a 10-year period. We are engaging a broader group of people with lateral thinking, fundraising, communication and financial skills to identify and plan the best approach to secure block funding for our transformational science programmes. Funding pathways with options for funders to approach, timeframes and contingencies will be developed for each programme.

Capability development

Cawthron's working groups and Science and Capability Managers have identified key capabilities (skills, infrastructure and equipment) that are needed to support the implementation of the transformational science programmes. We are developing a Capability Plan which outlines our desired investment into skills over the next 10 years. The Capability Plan aims to ensure that Cawthron builds on its existing expertise and continues to deliver world-class science and mātauranga for a better future. Alongside this process an infrastructure development plan for the whole of Cawthron will be developed that underpins our ability to deliver.

Mapping potential impacts and realising opportunities

A variety of opportunities will arise through the delivery of the Plan, including new testing methods for Cawthron labs, products and services ready for commercialisation, and the development of other valuable intellectual property. The Commercial Development Team will work closely with the science working groups to identify and map these opportunities at an early stage and develop appropriate pathways to move the opportunities forward.



Cawthron Institute
98 Halifax Street East
Nelson 7010 New Zealand

cawthron.org.nz

