World-class science for a better future

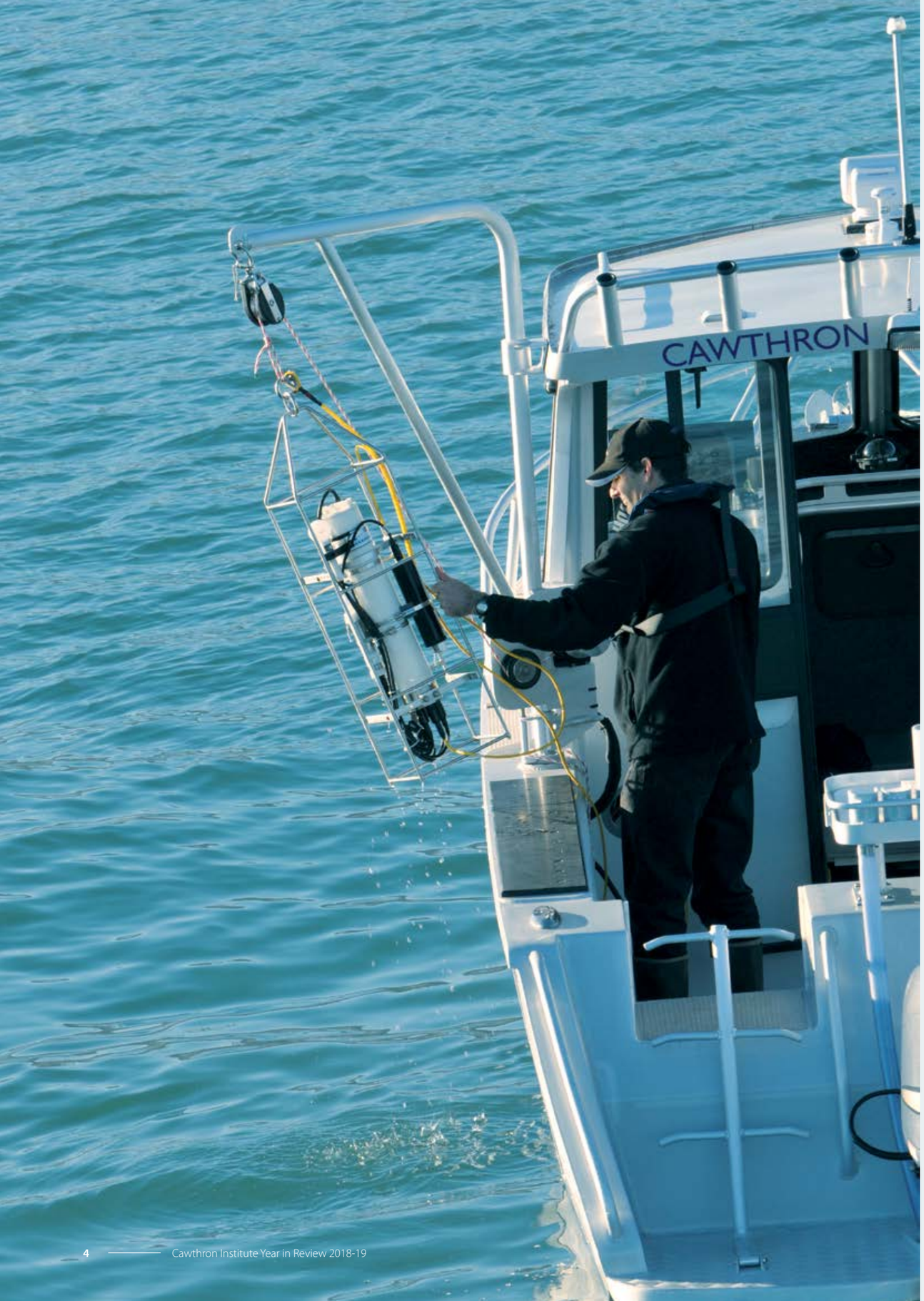
Ko te kōunga o te pūtaiao te auahatanga ki te ao anamata

A YEAR IN REVIEW
2018-19

CAWTHRON
The power of science®

Ko te kōunga o te pūtaiao te auahatanga ki te ao anamata

World-class science for a better future



Key highlights

2018-19

275

employees made up of 50% female and 50% male from 26 different countries.

84%

Cawthron staff highly engaged, substantially above global engagement benchmarks.

50

new staff employed in 2018/19.

$330k

available for community initiatives in the Nelson Tasman region from the Cawthron Trust Board.

New world-leading Finfish Research Facility opened at Cawthron Aquaculture Park in October 2018.

$6m

funding announced for a National Algae Research Centre by the Government's Provincial Growth Fund in April 2019.

Our science excellence recognised through

115

*publications **this year**, up from 16 p.a. in 2003 and 40 p.a. in 2010.*

Companion of the NZ Order of Merit awarded to Chief Executive Charles Eason in the 2019 Queen's Birthday Honours List.

$630k

invested into our people and capability.

$16m

wages into the Nelson Tasman economy.

0 *serious incidents at work.*

A word from the Chair

Mau tonu te au
kakara i te moana.

So that the sweet
scent of the ocean
remains.

For almost 100 years we have built an international reputation for world-class science, innovation and excellence in research, development and consultancy, and 2018/19 has proved no exception.

The demand for Cawthron's research and commercial capability has been at unprecedented levels, which is reflected in our growth in people, sites and revenue. Over the past year alone we have welcomed 50 new people, and we now work across four sites in Nelson, including at our purpose-built Cawthron Aquaculture Park based at Glenduan.

It is our independent, trusted expertise and ability to be at the forefront of growing global markets such as algae and seafood safety, that enabled Cawthon to be considered for, and granted, funding from the government's Provincial Development Fund in April 2019. This announcement of $6m will enable Cawthron to proceed with its National Algae Research Centre, with construction expected to commence by mid-2020.

Over the past year we have reviewed and simplified our strategy to ensure we remain focused on our purpose and our strategic themes, which are:

- demonstrating leadership excellence, at Cawthron, to our stakeholders, and in our community;
- investing Cawthron's surplus back into our people, our science and our physical environment;
- a continued focus on sustainability in our research and in our practices at Cawthron, and a strong commitment to look after the health, safety and wellbeing of our people
- fostering a culture of innovation to enable us to continue to deliver world-class science.

Cawthron is a special organisation with a passionate and engaged group of people who are committed to creating a better future. Our ground-breaking science is continually sought after both nationally and internationally. So, it was only fitting that Cawthron's Chief Executive, Professor Charles Eason was appointed as a Companion of the New Zealand Order of Merit for his services to science and wildlife conservation in the 2019 Queen's Birthday Honours List. Under Charles' leadership since 2012, Cawthron has significantly increased its research outputs and has grown by 100 staff.

In September 2018 we farewelled Ian Kearney, who was the first Chair of the Cawthron Board of Directors, having been appointed when the Board was established in 2003. Ian retired from the Board after 15 years at the helm. During his tenure Ian made a significant contribution to the growth of Cawthron and set an outstanding governance example which saw Cawthron's assets increase from $6 million in 2003 to more than $38 million in June 2018. In November 2019 we will be opening a new office building at the Cawthron Aquaculture Park, which has been named in Ian Kearney's honour.

We are proud of the positive difference Cawthron makes to New Zealand's economy and our environment, and we look forward to an exciting future.

Meg Matthews

Chair

Update from the Chief Executive

Manaaki whenua.
Manaaki tangata.
Manaaki waheke.

Taking care of the environment.
Taking care of the people.
Taking care of the future

As an independent science organisation we operate with a unique structure that enables us to offer a practical, unbiased service. We are nimble and able to focus resources and expertise where we believe it can have the most impact. Our profits are invested back into scientific research or used to fund scientific, environmental and education initiatives within our community.

Thanks to the unique skills, knowledge and passion of our people, and our dedication to helping protect the environment and support sustainable primary industries, Cawthron Institute continues to deliver world-class science. We are a diverse organisation employing 275 scientists, laboratory technicians, researchers and specialist staff from more than 26 countries.

I would like to extend a heartfelt thanks to all our Cawthron people, who show unwavering commitment to making a difference. The pace of change our organisation has experienced over the past year has proved no deterrent to delivering science excellence, meaningful collaboration and maintaining Cawthron's unique culture.

Our culture is one of support, opportunity and continuing professional development, as well as providing a workplace that meets our people's needs, and ensures they go home safe and well each day. Tūmanakotia te oranga tāngata, kia haere āhuru mai, kia hoki āhuru atu!

Cawthron's vision is to be the most sought-after scientific research institute in the world in the areas we operate in, and we will achieve this through science excellence and early identification of opportunities to support market and environmental needs. Cawthron's science is becoming increasingly recognised by the number of its publications each year, which has grown from 16 in 2003, through to 40 in 2010, and by June 2019 we achieved 115 publications for the past year, well ahead of the New Zealand trend, and something I am incredibly proud of.

Finally, I would like to acknowledge the support of our many clients and partners. Cawthron focuses on forming strong and lasting partnerships with industries and research organisations. These partnerships ensure our research has line-of-sight to the market and provides our industry partners with world-class science and technological advancements.

Together, we are creating a better future, and we are making exciting things happen.

Professor Charles Eason CRSNZ, CNZM

Chief Executive

ABOUT US

About Us

Cawthron Institute is New Zealand's largest independent science organisation, offering a broad spectrum of services to help protect the environment and support the sustainable development of primary industries.

Based in Nelson, New Zealand, Cawthron scientists and specialists work with regional councils, government departments, major industries, private companies, and other research organisations throughout New Zealand and around the world.

Our scientists have expertise in aquaculture research, marine and freshwater resource management, food safety and quality, algal technologies, biosecurity and analytical testing. Our ground-breaking science is supported by substantial testing and research laboratories, state-of-the-art technology and a purpose-built aquaculture park.

The Cawthron Aquaculture Park is the centre for shellfish aquaculture in New Zealand and also houses a world-leading Finfish Research Centre designed to deliver commercially-relevant science to enable improved stock management and husbandry and support the development and growth of the finfish aquaculture industry. In addition, Cawthron's internationally recognised and accredited laboratories offer an independent testing service for the food and natural products sector, and to ensure products comply with New Zealand and international safety standards and export requirements.

Our scientists work closely with a number of primary sectors to develop customised analytical solutions to support product development and to validate nutritional content. Cawthron's microalgae laboratory provides early warning of risks associated with toxic marine species at over 110 sites around the east coast of New Zealand.

Since our establishment we have firmly focused on research that contributes to the economic growth of New Zealand and the preservation of its special environment. Our scientists have been able to identify emerging areas of research to assist industry – and New Zealand – become sustainable and successful.

Today our science is strongly focused on protecting marine and freshwater environments and assisting New Zealand's economic growth through the sustainable development of the dairy, seafood and aquaculture sectors, as well as supporting the development of novel foods, nutraceuticals and pharmaceuticals, inspired by natural compounds.

1921

Cawthron Institute established

Pioneering New Zealand science for nearly 100 years

Cawthron Institute was officially established in 1921 by the last will and testament of Nelson philanthropist Thomas Cawthron who had a vision – that science could contribute to the growth of a young New Zealand.

Following his death in 1915, Thomas Cawthron bequeathed the equivalent of $127 million in today's New Zealand dollars - the largest single bequest in New Zealand at the time – to establish and maintain a technical school, institute and museum.

Our past remains a big part of who we are. Thomas Cawthron's legacy is realised everyday by our people who come from all over the world to work with us to explore and challenge the boundaries of new science.

Our ground-breaking science is supported by substantial testing and research laboratories, state-of-the-art technology and a purpose-built aquaculture park.

Since our establishment we have firmly focused on research that contributes to the economic growth of New Zealand and the preservation of its special environment.

A global reach

We collaborate globally and attract overseas revenue for environmental, food safety and aquaculture research. Our breadth of experience is built upon a solid understanding of commercial and market needs and we work with our partners to identify practical, cost-effective solutions.

Our scientific expertise in algal biotechnology is internationally recognised, especially in the study of algal production and harmful algal blooms. From assisting the seafood industry to establishing monitoring systems that ensure the safety of our shellfish exports, to the care of the nationally significant Cawthron Institute Culture Collection, Cawthron provides research, technology and advice. Our work in these areas is cementing Cawthron's reputation for delivering world-class science, and it is providing more opportunities with partners from all over the world than ever before.

Cawthron is continuing to embed and grow our capability in order to successfully expand our research and development and expert advisory services to new clients, as well as continuing to demonstrate our value to existing partners involved in environmental protection.

Our world-leading researchers are linked in with national and global expertise in environmental research institutes and commercial entities. This momentum, along with our unique culture, is attracting exciting new opportunities with short, medium and longer-term horizons.

Collaboration with our partners

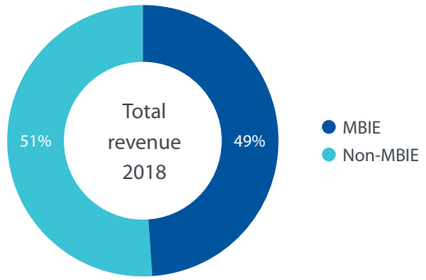
We pride ourselves on being a leader in collaboration. A pre-requisite for world-class science is research programmes that link our internationally recognised leading researchers with global experts from around the world and other New Zealand research institutes.

Cawthron leads MBIE's Strategic Science Investment Fund (SSIF) platforms in seafood safety and aquaculture, with responsibility for growing New Zealand's capability and delivering impact.

We have had considerable success working with the New Zealand Food Safety Science and Research Centre and National Science Challenges (NSCs), including national leadership roles, as well as undertaking research projects within the various NSCs. In particular, Cawthron leads and participates in a number of collaborative research projects in the Sustainable Seas, Science for Technological Innovation and High-Value Nutrition NSCs. We have also joined the Our Land and Water and Biological Heritage NSCs and anticipate making significant contributions to these challenges in the coming years.

Cawthron receives substantial industry investment for research and development and environmental research and monitoring. There is strong demand for our professional consultancy and advisory services, particularly in the Coastal and Freshwater science area, as well as our Analytical Sciences and services that enable export certification of high-value food products.

Cawthron is also working with partners to ensure our research and advisory capability is aligned with emerging technologies.



Our Strategy

Our Vision

To be the most sought-after scientific research institute in the world.

Our Purpose

World class science for a better future.

Ko te kōunga o te pūtaiao te auahatanga ki te ao anamata.

Strategic themes

Leadership
We create value for Cawthron and our partners by identifying opportunities to support market needs

Investment
We invest in our people, our science and our resources

Sustainability
We protect and enhance our global environment

Innovation
We foster a culture of innovation and fast failure

We focus on

- *Growing our seafood sector without environmental compromise*
- *Ensuring the safety of our seafood harvest*
- *Realising the potential of our marine bioactive resources*
- *Improving the health of our freshwater ecosystems*
- *Ensuring the health of our oceans is maintained*

Our Values

Integrity Kōunga
We are trusted to do what's right

Impact Whakaaweawe
We make a difference

Innovation Auahātanga
We create, we challenge, we take risks

Collaboration Ngātahitanga
We work with others to get results

Community Manaakitanga
We care

WORLD-CLASS SCIENCE

World-class science

In order to help protect our precious marine and freshwater environments, and support New Zealand's economic growth through the sustainable development of primary sectors, we focus our research on the following science areas:

Growing our seafood sector without environmental compromise

Ensuring the safety of our seafood harvest

Realising the potential of our marine bioactives and high-value nutrition

Improving the health of our freshwater ecosystems

Ensuring the health of our oceans is maintained

Cawthron scientists bring a combination of practical experience, scientific excellence and industry knowledge to everything we do.

In addition, Cawthron invests $855k of surplus into its Capability Investment Fund (CIF), which provides internal funding to support the development and growth of our science capabilities that are directly connected to our areas of focus:

Growing our seafood sector: Targeting animal nutrition, seaweed and open ocean aquaculture

Food safety: Growing analytical capability and application of new technologies

Marine bioactives: Creating value from the culture collection and natural compounds

Marine ecosystems: Developing capability in molecular ecology, remote monitoring, modelling and ecosystem enhancement

Freshwater ecosystems: Extending capability to lead lakes research in New Zealand and develop new approaches to protect rivers

Through an internal process, applications are made to Cawthron's Science Committee which then makes investment recommendations to the Board. As capability develops, project leaders proactively seek external funding so that the need for ongoing CIF support is reduced. The CIF deliberately includes projects that strengthens our capability to engage effectively and meaningfully with Māori.

Our core science capability includes:

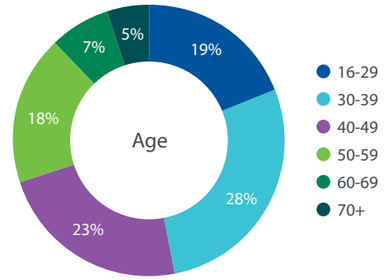
- Aquaculture, including open ocean, finfish research, shellfish genetics, breeding, physiology, biology and hatchery technology
- Aquatic health
- Biochemistry
- Biotechnology
- Cryopreservation
- Data analytics and visualisation
- Ecotoxicology
- Marine and freshwater ecology and biology
- Marine biosecurity
- Microbiology
- Molecular ecology and biology
- Scientific modelling
- Social science and policy for underpinning environmental management

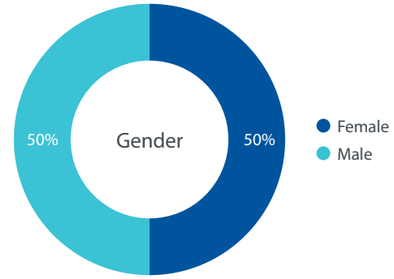
Investing in our future

Together we are creating a better future, and we are proud of the positive difference we make to New Zealand.

Our People

Manaaki tangata – we take care of our people.





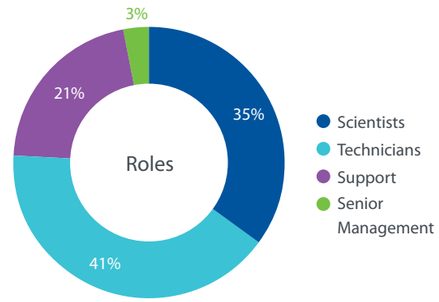
Our people are our greatest asset, and it is our culture at Cawthron that underpins our success. Why many people come to Cawthron and are successful in what they do, and how they do it, is embraced by a commitment to a better future, environmental sustainability, and improving human health and wellbeing.

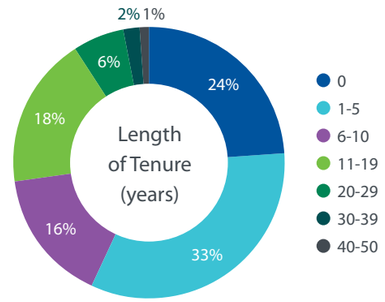
We work hard to ensure our work environment is positive, respectful and encourages people to bring their whole self to work. With such a diverse workforce of 275 people from 26 different countries, we are nurturing a culture where people can be themselves, are valued for their contribution (both personally and professionally) and feel like they belong. The average employee tenure at Cawthron is 7.3 years, and Cawthron's workforce has grown by 50 employees in the past year.

Lifting our capability

For an organisation facing unprecedented rates of growth, as well as new and emerging R&D markets, navigating the organisation through significant change is critical to our success. To assist with this, Cawthron expanded its senior

Why many people come to Cawthron and are successful in what they do, and how they do it, is embraced by a commitment to a better future.





INVESTING IN OUR FUTURE

management team over the past year by recruiting a Chief People Officer and an Algae Research Leader. To further integrate Vision Mātauranga support and research thought leadership throughout the organisation, and to assist with more strategic relationships with iwi, Cawthron will have in place a Kaihautū Māori (General Manager Māori) in the second half of 2019.

In early 2019 Cawthron rolled out a Leadership Development Programme for managers, as well as continuing the Team Leader Foundation Skills Programme for new or aspiring team leaders. This professional development is all part of investing in our people and positioning Cawthron to manage its trajectory of growth successfully.

Diversity and inclusion

Diversity and inclusion are celebrated at Cawthron. Attracting and retaining the many skilled and experienced specialist scientists and technicians from all over the world makes it possible for us to deliver world-class science for a better future. The differences we all bring to work help us to create an innovative environment. The way we individually think and the unique experiences we've had, help us to look at things from various perspectives and try new ways of thinking.

We are a world leader in many respects, and we want to also be leaders in the creation of a better future for our staff.

An engaged workforce

We carried out two Pulse surveys over the past year, in August 2018 and again in April 2019. The results of both surveys showed that Cawthron has a highly engaged workforce. Overall, 84 percent of Cawthron respondents reported high levels of engagement in their work, substantially above global engagement benchmarks.

A Living Wage employer

We are a world leader in many respects, and we want to also be leaders in the creation of a better future for our staff. Cawthron committed to paying no less than the national living wage from 1 April 2019. This decision aligns with our culture of the Cawthron whānau and it has made a significant difference for those affected.

Wellbeing, Health & Safety

Tūmanakotia te oranga tāngata, kia haere āhuru mai, kia hoki āhuru atu!

Our priority is to ensure staff wellbeing, so they arrive protected (safe), and they leave protected (safe).

The wellbeing, health and safety of staff has always been a major focus at Cawthron, and goals relating to wellbeing, health and safety remain unchanged, which are:

- A safe and healthy workplace
- Zero serious incidents over the next 12 months

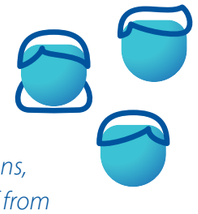
Over the last three years, Cawthron's wellbeing, health and safety systems and processes have been refined in line with new legislation. In addition, Cawthron has now progressed past Stage One of ISO 45001 accreditation and is now underway with Stage Two.

Cawthron prides itself on flexible working arrangements for staff to enable our people to achieve work-life balance. Although we are now based across four sites, we have a number of hot desks and flexible working spaces at each, and coupled with the upgrade of more than 200 new laptops, our people are able to work where they need to and when they need to.

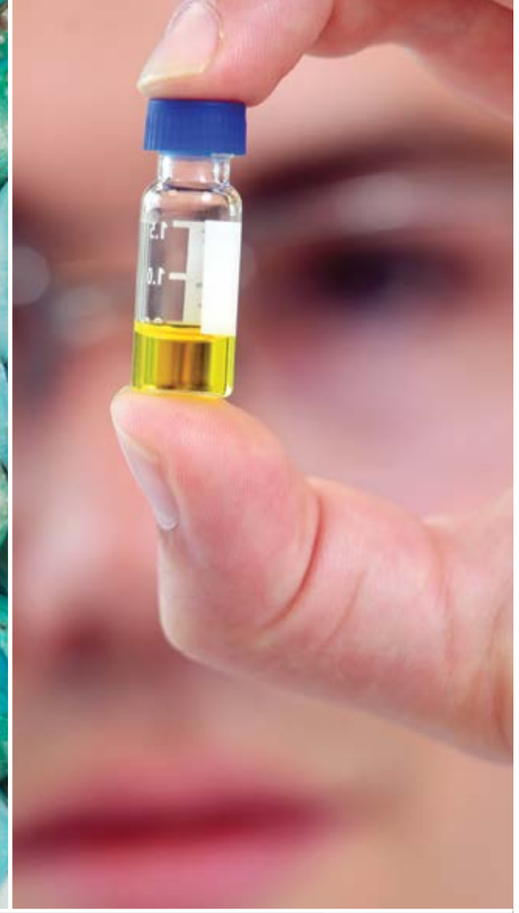
Tūmanakotia te oranga tāngata, kia haere āhuru mai, kia hoki āhuru atu!

Our priority is to ensure staff wellbeing, so they arrive protected (safe), and they leave protected (safe).

275



Scientists, laboratory technicians, researchers and specialist staff from New Zealand and around the world.



Our science and resources

Cawthron is well positioned to deliver our existing work programmes and attract new business, including the work generated by the new National Algae Research Centre. A significant programme of capital management is required over the next five to ten years to build capability for ongoing growth.

Investing in our science

Cawthron is in a strong position to make the investment required in our infrastructure which will ultimately result in increased activity for the organisation for years to come.

Our key priorities for capital development going forward are around facilities that support our science, including;

- National Algae Research Centre
- A PC2 Level facility to deliver our Aquatic Health programme
- CAP wetlabs to include a replacement for the current algae growing area which provides gourmet algae for spat production and provides facilities for a number of current research programmes in containers and new anticipated programmes such as scampi
- Investment in our existing Analytical Science laboratories

Goal of Zero Carbon

Sustainability is and has been a key component of our research at Cawthron, with substantial programmes focused on environmental and restoration. We aspire to increase our carbon offsetting and move sustainability to becoming embedded in our daily activities and part of our way of working. To assist with this, we now have a full-time Sustainability Manager to lead our work in this area, and continue to explore potential initiatives that allow Cawthron to become net zero carbon, such as farming of seaweed or other relevant initiatives.

Cawthron is also investing in the offsetting of other greenhouse gas emissions, which would include fossil fuel use, electricity, water and waste, and would be done in conjunction with achieving Zero Carbon status as an organisation.

$8.2m

of capital investment expected in FY20 and up to $34.4m over the next five years.

15

additional FTE projected growth by end of FY20.

Our science highlights

Our highlights in 2018/19 include:

Creating a bridge from science to industry

Our breadth of experience in algae saw Cawthron granted $6m from the government's Provincial Growth Fund in April 2019 to build a National Algae Research Centre. The Centre will provide a bridge from science to industry, connecting R&D to commercial application. Micro algae and macro algae (seaweed) is an area of global growing interest due to its unique properties.

Cawthron already works with a range of commercial partners to optimise the growth of healthy algae strains for successful aquaculture and increasingly to identify algal species, including seaweeds, with the potential to produce high-value nutraceutical and pharmaceutical products. There are no other initiatives like this in New Zealand, and the National Algae Research Centre will provide many opportunities to connect with commercial entities that make important consumer products from algae. The National Algae Research Centre will support up to 30 new jobs and construction is expected to begin in mid-2020.

Realising the commercial potential of algae

Cawthron is one of only a few organisations worldwide to specialise in extracting high-value bioactive compounds from algae, and our world-class research is achieving successful outcomes for our partners.

In conjunction with private sector partners, we have established commercial-scale systems to maximise microalgae productivity. We work with our partners to optimise algae strain development and to identify algae species with the potential to produce high-value nutraceutical and pharmaceutical products.

Algae are a core component of Cawthron's R&D activities, which include cryopreservation of microalgae, microalgae production and extraction of bioactives, microalgae for aquaculture feed, and experience with macroalgae cultivation. The purified algae compounds produced by our Cawthron Natural Compounds team are supplied to laboratories worldwide for use as Certified Reference Materials for food safety testing and research. Cawthron also has one of the world's largest living algae collections which underpins research worldwide, and supports vital work to ensure the safety of New Zealand seafood.

In addition, our scientists are regularly asked to present on internationally-recognised work in this rapidly-growing algae sector, and earlier this year our Chief Executive Charles Eason presented at the 9th European Algae Summit in Portugal.

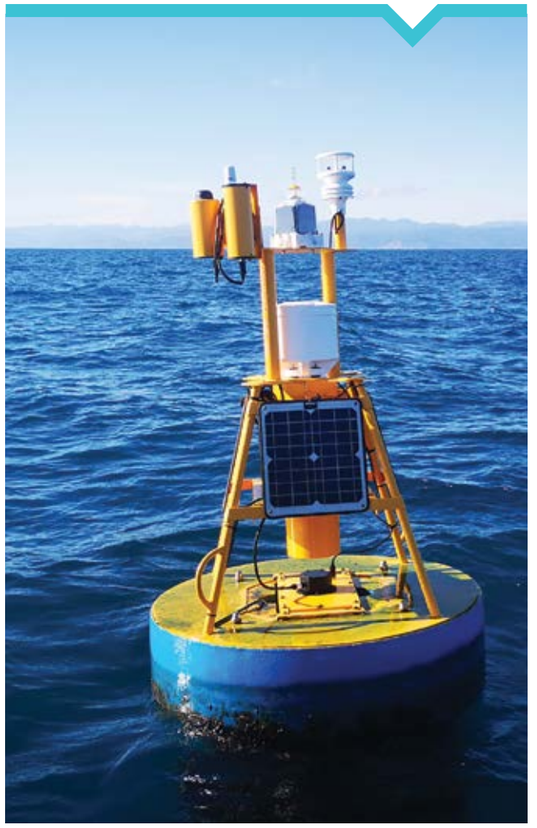
Unlocking our open oceans

With New Zealand's aquaculture industry responding to increasing global demand, Cawthron is supporting our industry partners to advance open ocean aquaculture technology for New Zealand through the development of new tools and methods to more cost-effectively and sustainably farm shellfish and finfish. With climate change impacting inshore farming, there is more desire than ever to unlock the potential of our oceans.

Open ocean aquaculture provides an extension to New Zealand's successful inshore aquaculture industry, which is constrained by limited sheltered inshore farm space. Open ocean farming is much more difficult in such exposed and dynamic waters, so new engineering concepts and farming approaches are needed to realise this opportunity and provide confidence for industry investment.

To ensure those important conversations about the future of New Zealand's open ocean aquaculture continue in collaboration with industry, iwi and government, over the past year Cawthron planned for its inaugural Open Oceans Aquaculture Symposium, which was held in August 2019 in Nelson.

By combining appropriate environmental planning with smart farming systems, Cawthron is supporting industry to sustainably realise the value of our vast open ocean resources, as well as create jobs and futures for many people.



Keeping New Zealand's seafood safe

The New Zealand Seafood Safety Research Programme, led by Cawthron in partnership with AgResearch, Plant & Food Research and ESR, helps to ensure the safety of New Zealand seafood and continued product access to international markets. Work over the past year includes research to better understand the drivers of harmful algal blooms, advancing molecular technologies to enhance detection, species identification, determining the potential impacts of climate change on seafood safety, and improving marine toxin analysis to ensure monitoring and regulation is appropriate.

Cawthron's testing for Paralytic Shellfish Toxins has supported the industry over the past year to help detect the effect on shellfish from a number of harmful algae blooms. Cawthron is currently progressing with gaining international acceptance for this new testing method.

Musseling Up to realise high-value nutrition

Cawthron, with industry partner Sanford, has been identifying and validating the health benefits of Greenshell™ mussels, to boost consumer recognition of them as a valuable health food product.

The Musseling Up programme, funded under the High-Value Nutrition National Science Challenge, has been led by Cawthron's Lipid Chemist Dr Matt Miller for the past three years. The programme has involved a range of clinical and pre-clinical trials to prove the health benefits of Greenshell™ mussels, in particular, the anti-inflammatory and improved joint, mobility and bone qualities.

As part of the programme, Dr Miller, in conjunction with collaborator Massey University, has made some exciting progress, such as seeing that mussels effectively reduce degeneration of cartilage, with next steps being further clinical trials.

The team has also developed a tool to help farmers more quickly understand the nutritional composition of their mussels. This cost effective and convenient tool, uses near-infrared spectroscopy, and will enable farmers to make production-based decisions on the quality of their mussels and when to harvest.

The results of the programme have proved the Greenshell™ mussel really is a superfood, providing a significant opportunity for industry.

Providing a boost for aquaculture

In October 2018 Cawthron celebrated the official opening of the Finfish Research Centre (FRC) at Cawthron's Aquaculture Park. The new facility provides a world-class centre for finfish research, further anchoring Cawthron as aquaculture research experts. The FRC is already delivering commercially relevant science to enable improved stock management, breeding, and husbandry, and is supporting the development and growth of the aquaculture industry.

Transforming mussel aquaculture through hatchery technology and selective breeding

A Greenshell™ mussel breeding programme developed by Cawthron, Sanford and SPATnz has proved that hand-selected hatchery mussels can grow up to 86 percent faster than those caught from the wild.

The mussel breeding programme results are a true team effort. Cawthron's MBIE-funded Cultured Shellfish programme developed the fundamentals of the selective breeding programme in anticipation of hatchery spat production. Sanford seized the opportunity, creating its subsidiary SPATnz, and under this partnership, the breeding programme is now having a dramatic impact on New Zealand mussel farming and processing.

Selectively bred spat almost halve the growing time of wild mussels and are more efficient to process. Breeds specialised for anti-inflammatory activity and other new traits represent a massive future opportunity. The industry is no longer completely reliant on variable wild spat for its production and has a powerful new tool to manage future risks. And it was these phenomenal results that saw Cawthron, Sanford and SpatNZ named as finalists in the Commercial Impact category of the KiwiNet Awards in June 2019.

Having this long-term research and development relationship acknowledged as part of these awards demonstrates the real word impact this programme has delivered, in addition to adding value to a unique New Zealand resource and helping realise sustainable farming and employment opportunities around our country.

Regular check-ups for the health of our rivers

Research released by Cawthron in October last year is helping to ensure the right things are measured when it comes to the health of New Zealand's rivers, lakes and streams.

With the wellbeing of New Zealand's freshwater ecosystems under threat from agricultural intensification, urban development, water abstraction, invasive species, as well as confusion around what different water quality indicators mean, Cawthron's research is a step towards ensuring that the things New Zealanders care about are included in freshwater health measurement and reporting.

Cawthron's research in the report 'What is a healthy river?' found a complete river health check-up that contains several indicators is needed. Instead of traditionally focusing on water quality measures, a complete picture requires indicators of biological community composition, ecosystem processes and functioning flow regime, and physical habitat structure. Indicators can identify if conditions are improving or degrading.

Further use of kaupapa Māori frameworks for assessing river condition may help recognise the interconnections between ecological and human values.

Fostering the next generation of scientists

As a community-minded organisation – and in the spirit of our founder Thomas Cawthron – each year we support a number of science-based community initiatives, projects and education activities. We also work closely with the Nelson Marlborough Insitute of Technology to host students each year in their teaching labs at the Cawthron Aquaculture Park.

Nurturing enquiring minds

We've established three scholarship funds to support undergraduate students studying at New Zealand tertiary institutions. The scholarships offer 10-week internship work at Cawthron each summer contributing to a scientific research project.

The Sir Theodore Rigg Scholarship Fund provides a scholarship for an undergraduate student, the Kathleen Curtis (Lady Rigg) Scholarship Fund provides a scholarship for an undergraduate woman, and the Te Pītau Whakarei Karahipi scholarship provides a scholarship for a Māori undergraduate student, specifically to support Māori research capability and capacity building in partnership with Ngā Pae o te Māramatanga, New Zealand's Māori Centre of Research Excellence.

$330k

available for community initiatives in the Nelson Tasman region from the Cawthron Trust Board.

Connecting our scientists with community

Each year Cawthron aims to promote a greater understanding of science through a number of community education programmes.

The Cawthron Scitec Expo (Science Fair) continues a tradition of science fairs in Nelson that goes back more than 30 years. Cawthron Institute has been heavily involved for much of that time – originally as a sponsor and now as manager of the event. The Expo brings together scientists, students, teachers, local and national businesses – all working together to create a pipeline of future scientists.

The Year 13 Mussel Biology workshops were introduced by Otago University and Cawthron in 2011. They are run annually with the collaboration of SPATnz and NMIT. During the workshops, students fulfil requirements of the NCEA Level 3 Biology 3.1 Curriculum Assessment, which includes a small animal investigation. Students are required to alter something in the mussels' environment and measure the mussels' response to the change.

The Thomas Cawthron Memorial Lecture is a free annual community event to commemorate the legacy of Thomas Cawthron and to share science with the public. Over the years many distinguished scientists and scholars have shared their knowledge on a wide range of subjects. Past speakers include Sir Edmund Hilary, Sir Ernest Rutherford, Professor Lord Robert Winston and Rt. Hon. Helen Clark. In 2018 our speaker was British environmentalist Sir Jonathon Porritt.

Recognising efforts to improve our rivers

Cawthron is proud to run the annual New Zealand River Awards. These awards were established to draw attention to the state of our rivers, but more importantly, to recognise where communities, councils, farmers and industry were achieving significant improvement in water quality in one or more of their local rivers.

The Awards were established by the Morgan Foundation and the NZ Rivers Trust in 2013 and have received valuable support from regional and local councils, and many other partners in the freshwater space. The 2018 Supreme Award for Most Improved River winner went to the Ōtukaikino River in Canterbury.

Cawthron accepts donations and bequests to support the Institute's research programmes.

Cawthron Institute Leadership Team

Cawthron has three core science groups; Analytical Science, Aquaculture, and Coastal and Freshwater. These groups are supported by the Chief People Officer and the Commercial Group.

Professor Charles Eason

CRSNZ, CNZM

Chief Executive

Charles joined Cawthron in June 2012, providing strong science-based leadership. His experience in progressing core research through to practical industry solutions is well-suited to Cawthron's philosophy. Charles' science background includes senior research and management positions overseas in multinational pharmaceutical companies, and experience in New Zealand with a Crown research institute, a university and a manufacturing business.

Serean Adams

Aquaculture Group Manager

Serean is the Aquaculture Group Manager at Cawthron and is passionate about New Zealand's Aquaculture industry and its future. Serean has led a number of scientific programmes at Cawthron and currently leads Cawthron's Shellfish Aquaculture Programme. Serean's primary areas of technical expertise are shellfish developmental biology, cryopreservation and triploidy.

Stuart Cooper

Chief Commercial Officer

Stuart joined Cawthron in 2017 as the Chief Commercial Officer, with responsibility for identifying and developing commercial opportunities for Cawthron. He also oversees and manages Cawthron's support teams including Finance, Administration, Technology and Innovation, Communications and the Cawthron Aquaculture Park. Stuart has extensive global experience in business leadership and management with a background in the primary sector, along with strong sales, marketing and financial analysis skills.

Chris Cornelisen

Coastal and Freshwater Group Manager – Coastal

Chris is the Group Manager for coastal sciences at Cawthron. Chris's primary areas of expertise include estuarine and coastal processes and the development of tools and technologies for managing marine resources. Chris plays leadership roles in the Science for Technological Innovation and Sustainable Seas National Science Challenges.

Tim Turnbull

Chief People Officer

Tim has extensive Human Resources experience in complex environments, and is skilled in organisational development, change management, resourcing, workforce planning, health & safety and wellbeing, equity and diversity, employment relations, remuneration & rewards.

Nico van Loon

Analytical Science Group Manager

Nico started as laboratory services manager at Cawthron in 2001. He came to New Zealand in 1995 after working for an environmental consultancy company in the Netherlands. He managed chemical testing divisions of contract laboratories in Hamilton and Auckland before coming to Nelson. Nico is the Chair of the Chemical and Biological Professional Advisory Committee for International Accreditation New Zealand (IANZ).

Roger Young

Coastal and Freshwater Group Manager – Freshwater

Roger is the Group Manager for freshwater sciences at Cawthron. Roger's work involves a mix of government-funded research on river ecosystems, and commercial projects assisting a range of clients with freshwater management issues. He is internationally recognised for development of new tools for measuring river ecosystem health using direct measurements of ecosystem processes and functions. He is also a member of the steering group for Land, Air, Water Aotearoa (LAWA) website launched in mid-2014 to share environmental information from councils throughout New Zealand, including state and trend data from more than 1100 rivers.

CAWTHRON GOVERNANCE

Cawthron governance

Cawthron Institute Trustees 2018/19

We are owned by a charitable trust, established in accordance with the Thomas Cawthron Trust Act 1924. In keeping with the original Act, the Trust includes the Member of Parliament for Nelson electorate, the Mayor of Tasman District, the Mayor of Nelson and the Anglican Bishop. These Trustees appoint six additional trustees, who bring scientific and business expertise to the Trust.

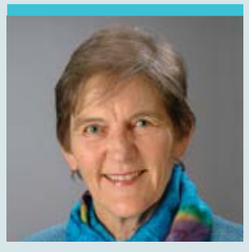
Bob Dickinson
Chair

Bev Doole
Trustee

Archdeacon Harvey Ruru QSM
Trustee

Helen Smale
Trustee

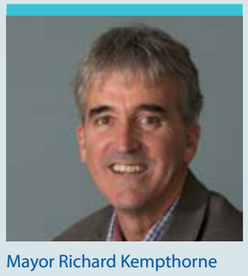
Hon Nick Smith
Trustee



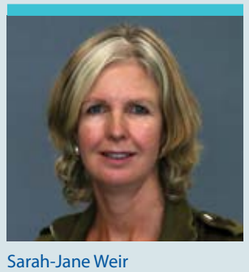
Dr Pamela Williams
Trustee

Mayor Rachel Reese
Trustee

Anglican Bishop of Nelson, Richard Ellena
Trustee



Mayor Richard Kempthorne
Trustee



Sarah-Jane Weir
Trustee

Board of Directors 2018/19

The Trust appoints our governing Board of Directors, who establish our strategic objectives and policy framework and appoint our Chief Executive.

Ian Kearney
Chair (retired September 2018)

Meg Matthews
Chair (since October 2018)

David Kenning
Director

Dr Dianne McCarthy CRSNZ CNZM
Director

Elaine McCaw
Director

John Cunningham
Director

Lees Seymour
Director

Dr Matt Peacey
Emerging Director

Financial Performance

for year ended 30 June 2019

2018 $000's		2019 $000's
35,213	Income from research contracts, analytical services, consultancy & other scientific projects, lease income and other income	43,788
31,453	Expenses including depreciation	40,645
3,760	**Net surplus**	**3,143**
(189)	Community initiatives	(78)
(3)	Bequests movement	(2)
3,571	**Trust Surplus**	**3,063**

Financial Position as at 30 June 2019

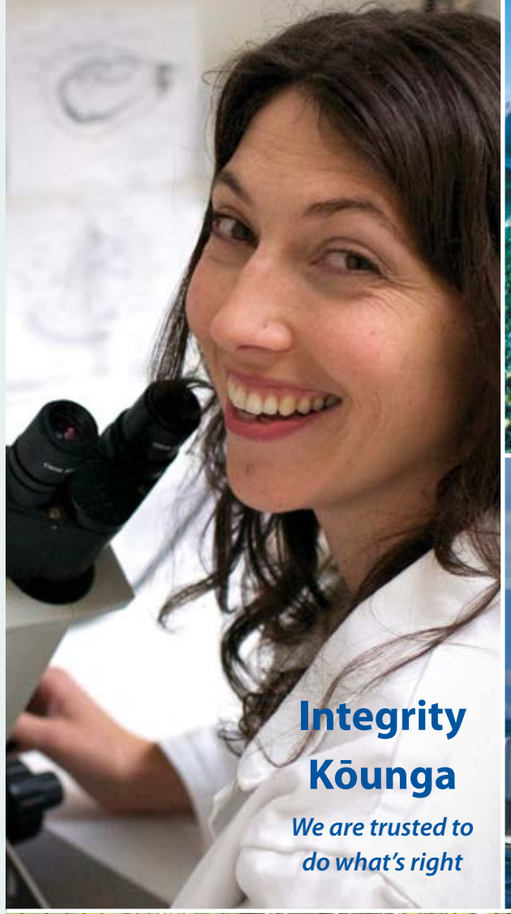
2018 $000's		2019 $000's
	The Institute's Trust Capital is represented by;	
1,756	Trust capital	1,778
189	Special bequests	189
440	Trust investment funds	440
10,117	Reserves and provisions	10,293
19,192	Accumulated funds	22,059
31,694	**Total Trust Capital**	**34,759**
	Trust Capital funds the following Net Assets;	
(1,942)	Working capital	6,227
33,220	Fixed assets	33,532
(24)	Long term liabilities	(5,000)
31,694	**Total Net Assets**	**34,759**

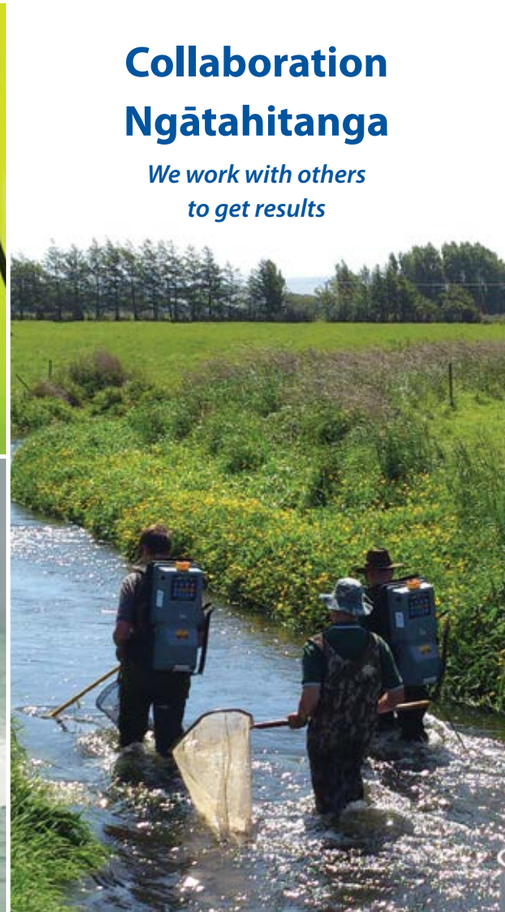
Movement in Equity for the year ended 30 June 2019

2018 $000's		2019 $000's
28,110	Opening balance	31,694
10	First year of NZ Rivers Trust brought in	-
3,571	Trust Surplus	3,063
-	Revaluation of property	-
3	Bequests movement	2
31,694	**Closing Balance**	**34,759**

R. DICKINSON, Chairman

Cawthron financial statements have been Audited by Crowe Horwath New Zealand Audit Partnership.





98 Halifax Street East
Nelson 7010, New Zealand