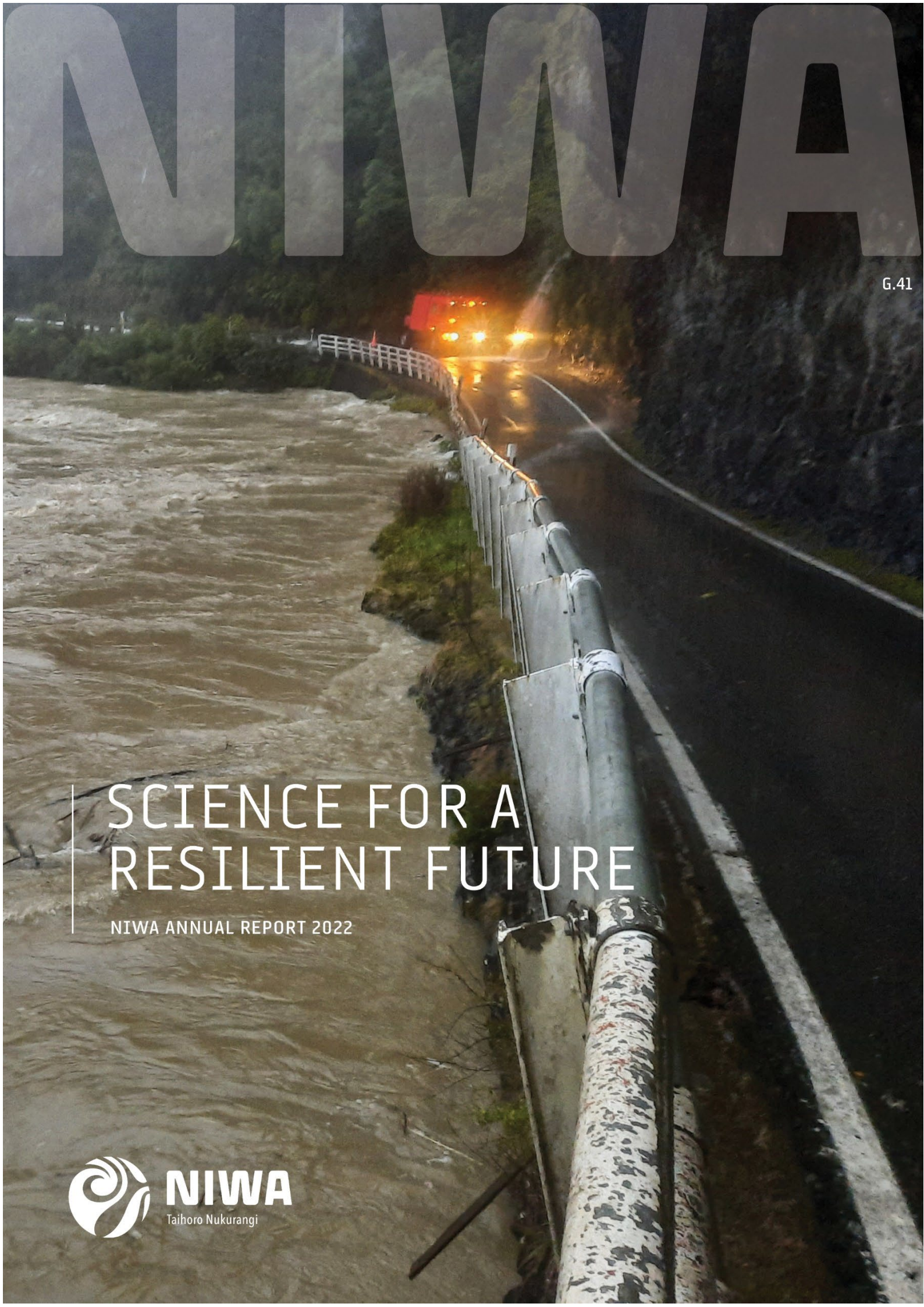

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SCIENCE FOR A RESILIENT FUTURE

NIWA ANNUAL REPORT 2022

NIWA
Taihoro Nukurangi

CONTENTS

Presented to the House of Representatives pursuant to section 44 of the Public Finance Act 1989.

The NIWA Annual Report for 2022 is presented in two parts – the Year in Review and the Annual Report (Financial Statements). Collectively, these two documents fulfil our annual reporting responsibilities under the Crown Research Institutes Act 1992.

The Year in Review is an illustrated document containing the Chairman and Chief Executive's report, descriptions of our research capabilities and performance, including our partnerships with Māori, work with collaborators and stakeholders, and an overview of our people.

Both reports are available digitally at
www.niwa.co.nz/about/annual-reports

Cover: In July 2021, NIWA recorded the highest river flow ever measured in New Zealand – 7,640 cubic metres per second in the Buller River. Flood waters surged toward Westport, devastating the community and leaving more than 120 homes uninhabitable. NIWA's national flood awareness system played a key role, providing emergency managers up to 48 hours' warning of trouble ahead. [*Geoff Mackley*]

Published by:
NIWA
41 Market Place
Auckland Central 1010
New Zealand
www.niwa.co.nz

September 2022
ISSN 1172-8140 (print)
ISSN 2423-0901 (online)

NIWA
Taihoro Nukurangi

Annual Report 2021/22

Science for a resilient future

Forecasting is central to NIWA's role – with our continually improving processing power and precise modelling, we can more accurately predict when and where heavy rain will fall, where it will go once it hits the ground, and what may happen when it gets there. [*NZ Defence Force*]

NIWA SCIENCE

OUR MISSION

To support the wellbeing of Aotearoa New Zealand's people and business through

- improved management of the environment
- sustainable use of natural resources
- effective responses to global change

OUR AIM

To deliver the science that will enable Aotearoa New Zealand to meet its environmental challenges and thrive in a rapidly changing world

We will innovate, generate new knowledge, and apply our science to

- provide industry opportunities
- transition to a low carbon economy
- adapt to a changing climate
- improve the health of our waterways and oceans
- care for our unique biodiversity

To achieve these advancements

- we will partner with Māori
- embrace new technologies
- support major science infrastructure
- collaborate with other science organisations and the sectors that apply our science products and services

OUR SCIENCE

Will support the realisation of these national outcomes by applying innovative technology across multidisciplinary teams.

CLIMATE

New Zealand's pre-eminent provider of atmospheric and climate science

- Climate change and variability
- High-precision weather forecasting
- Weather-related hazard forecasting
- Adaptation and mitigation

230 Science staff
New Zealand's largest team of climate scientists

$42M Annual investment
In weather and climate research

7,500 Climate stations
The National Climate Database with information from 7,500 climate stations covering New Zealand, South-West Pacific and Antarctica

$18M Supercomputer
Enabling precise, highly localised forecasts

FRESHWATER

Supporting the sustainable management of our freshwater resources

- Freshwater quality and quantity
- Biodiversity and biosecurity
- Sustainable use
- Flood forecasting

240 Science staff
New Zealand's largest team of freshwater scientists

$40M Annual investment
Increasing knowledge of water quantity and quality

A national flood forecasting service
Providing river flow forecasts for more than 50,000 catchments nationwide

500 Hydrological monitoring stations
A nationwide network of water and soil moisture monitoring stations

OCEAN

Understanding, managing and maximising the benefits of our marine estate

- New Zealand's Marine Estate
- Fisheries stock assessment
- Sustainable use of marine resources
- Biodiversity and biosecurity
- High-value finfish aquaculture

260 Science staff
New Zealand's largest team of ocean scientists

$67M Annual investment
In coast and ocean, fisheries and aquaculture science

Northland Aquaculture Centre
New Zealand's leading science facility for finfish aquaculture

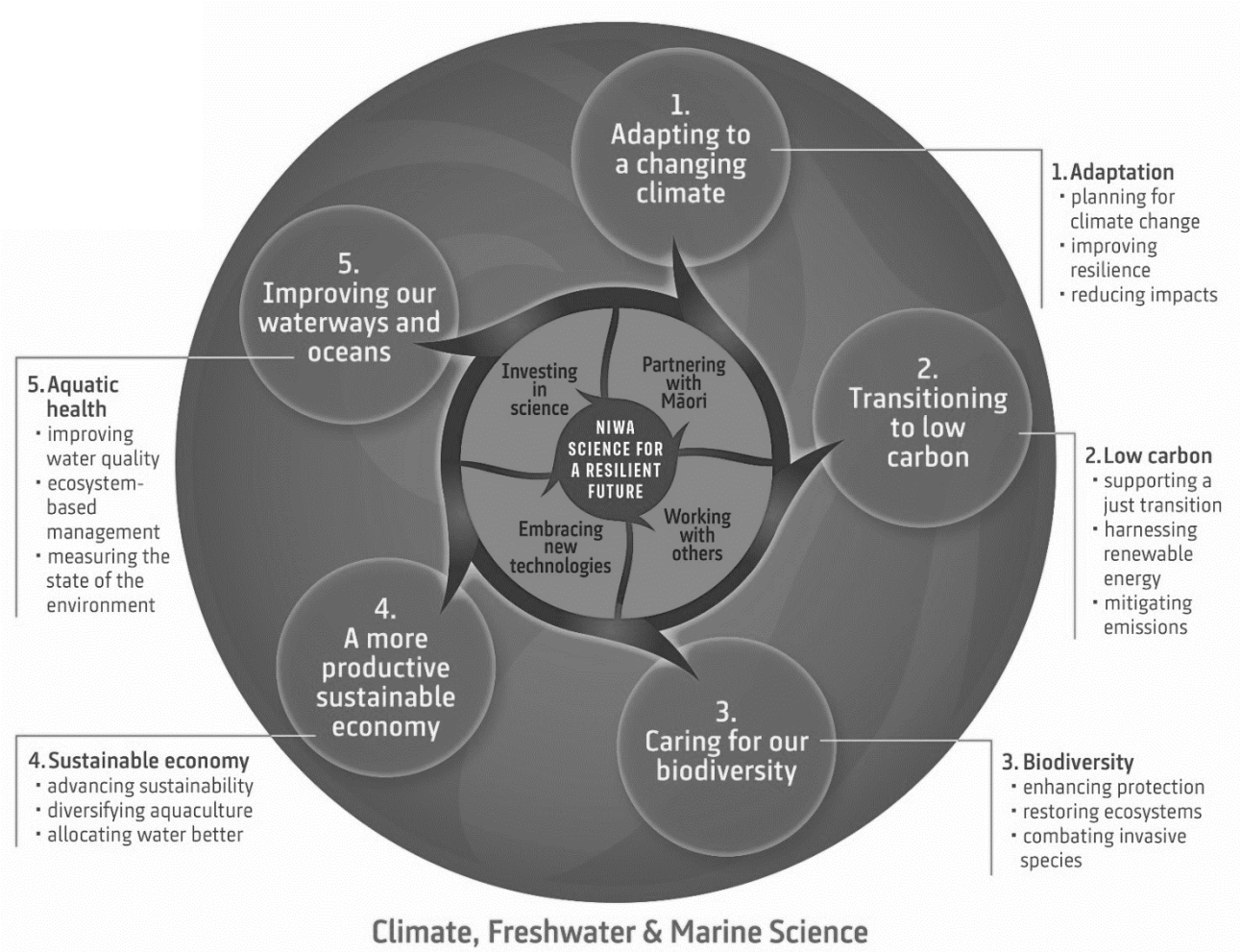
State-of-the-art research vessels
Supporting the New Zealand science community

NATIONAL OUTCOMES

We will innovate, generate new knowledge, and apply our science to address five key areas of Government priority. These National Outcomes are:

1. Adapting to a changing climate.
2. Transitioning to a low carbon economy.
3. Caring for our biodiversity.
4. A more productive sustainable economy.
5. Improving the health of our waterways and oceans.

NIWA'S SCIENCE STRATEGY, 2022–26



STATEMENT OF CORE PURPOSE OUTCOMES

The information in this section of the Annual Report demonstrates how NIWA is delivering on its expected outcomes.

Our purpose, set out in our Statement of Core Purpose, is to:

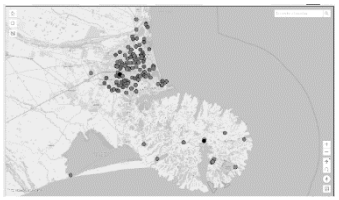
- enhance the economic value and sustainable management of Aotearoa New Zealand's aquatic resources and environments
- provide understanding of climate and the atmosphere
- increase resilience to weather and climate hazards to improve the safety and wellbeing of New Zealanders.

We are expected to fulfil our purpose through the provision of research and transfer of technology and knowledge in partnership with key stakeholders and partners, including industry, government and Māori, to achieve six key outcomes:

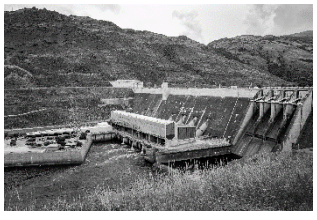
1. Increase economic growth through the sustainable management and use of aquatic resources.
2. Grow renewable energy production through developing a greater understanding of renewable aquatic and atmospheric energy resources.
3. Increase the resilience of New Zealand and South-West Pacific islands to tsunami and weather and climate hazards, including drought, floods and sea-level change.
4. Enable New Zealand to adapt to the impacts and exploit the opportunities of climate variability and change and mitigate changes in atmospheric composition from greenhouse gases and air pollutants.
5. Enhance the stewardship of New Zealand's freshwater and marine ecosystems and biodiversity.
6. Increase understanding of the Antarctic and Southern Ocean climate, cryosphere, oceans and ecosystems and their longer-term impact on New Zealand.

RV *Tangaroa* with the peaks of the Hunga Tonga-Hunga Ha'apai (HT–HH) volcano in the background. NIWA is part of a global effort to understand what happened the day the HT-HH volcano violently erupted and to investigate the consequences of the massive eruption. [*NIWA-Nippon Foundation TESMaP/Rebekah Parsons-King*]

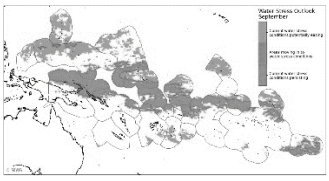
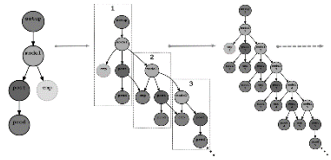
Increase economic growth through the sustainable management and use of aquatic resources

PROJECT	KEY ACHIEVEMENTS	SECTOR IMPACT
Providing real-time hydrometric information 	NIWA's Environmental Monitoring Field Teams manage and operate a vast array of hydrometric data collection stations (more than 300 sites of water level, water flow or rainfall) across all regions and sectors of New Zealand, providing near real-time, high-quality information to commercial clients. For almost 20 years NIWA has been managing Christchurch City Council's hydrometric network of more than 90 monitoring stations, supplying near real-time data for flood management, planning and consent requirements. Data platforms like Aquarius Webportal provide easier client access for quicker informed decision making.	Water users across the primary, irrigation, electricity and local authority sectors are provided with accurate data forecasting products and data visualisation tools to enable them to make informed decisions on water use, efficient management of their water resources and sustainable use and allocation.
Growing the aquaculture industry 	The experimental commercial-scale, land-based recirculating aquaculture system for the production of high-value finfish at the Northland Aquaculture Centre is under construction. Detailed design and infrastructure works included upgraded electrical supply, water supply and discharge pipelines, drum filter discharge reservoir and pipeline to the anaerobic digester. Fish culture tanks and water treatment basins are complete and water tightness testing is underway.	The plant is expected to be operational in early 2023. At full capacity, it will demonstrate the practical use of this technology for the commercial, whole-of-cycle production of premium kingfish, and will sustainably produce about 600 tonnes of kingfish annually. The unit is central to sector growth, both within New Zealand and globally and will contribute to the sector achieving its revenue target of $3 billion annually by 2035.
Optimising power generation in the Pacific 	Samoa has a new operational tool to help it achieve its goal of having 100% renewable energy sources by 2025. The system helps the Samoa Electric Power Company (EPC) optimise hydropower generation at its largest renewable power scheme. The tool uses data from weather and climate forecasts, rainfall observations, dam level measurements and power generation outflow rates, and updates forecasts twice daily. Samoan Meteorology Division staff check the model outputs, add any necessary commentary and send the reservoir storage outlook report to the EPC.	The system's outputs enable the EPC to consider options for water use for power generation, and to optimise water use while maintaining a guaranteed electricity supply, reducing the reliance on fossil fuels.

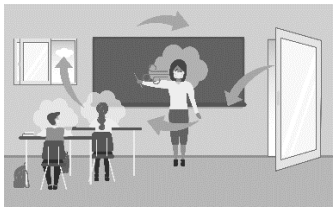
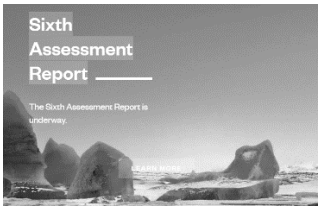
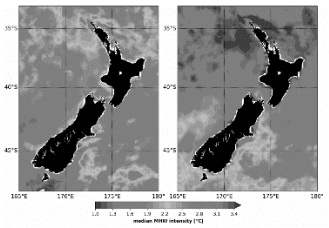
Grow renewable energy production through developing a greater understanding of renewable aquatic and atmospheric energy resources

PROJECT	KEY ACHIEVEMENTS	SECTOR IMPACT
Investigating alternative energy sources 	NIWA informed Phase I of MBIE's NZ Battery Project feasibility study at Lake Onslow in Central Otago. Outputs included an environmental baseline study which included a bathymetry survey, monitoring the effects of weather and climate on the lake, hydrodynamic modelling, a fish food-web study, examining the impacts of pumped hydroelectric energy storage on lake ecology, assessing macrophytes and potential biosecurity issues, and a review of potential greenhouse gas emissions. In addition to the baseline study, NIWA led a nationwide GIS scan of potential sites for pumped storage systems and assessed the variability and correlation between the potential for hydro, wind and solar energy under future climate scenarios.	The study aims to help solve New Zealand's dry year electricity issues by supporting hydroelectricity generation when there is insufficient water storage in existing hydropower lakes.
Modelling renewable energy production 	A high-resolution weather re-analysis is creating a dataset for modelling renewable energy production that more closely mirrors Aotearoa New Zealand's complex terrain and the intricate atmospheric processes that drive our local weather and climate. The reanalysis will be used to simulate likely energy yields at different times of the year in different locations.	Improved long-term averages of wind, better information about expected cloud cover, and more accurate rain and snowfall data will help quantify capacity for producing wind, solar and hydroelectric power.
Forecasting to maximise renewable electricity generation 	NIWA has supplied Mercury Energy with rainfall outlooks for New Zealand's main hydro catchments (Manapouri, Clutha, Waitaki and Tongariro) every week since 2017. Mercury is one of several companies to benefit from bespoke NIWA forecasting. In mid-2022, Mercuria Energy approached NIWA for forecasting services, signing a contract for short-, medium-, and long-range catchment-level predictions.	Bespoke forecasts are used by energy companies to make operational and long-term planning decisions that can help them maximise their renewable energy output. This is especially important as demand for renewable energy grows in the face of our changing climate and increasing pressure to cut our greenhouse gas emissions.

Increase the resilience of New Zealand and South-West Pacific islands to tsunami and weather and climate hazards, including drought, floods and sea-level change

PROJECT	KEY ACHIEVEMENTS	SECTOR IMPACT
High-resolution drought forecasting 	NIWA and the Ministry for Primary Industries are working together to develop a new drought forecasting tool which uses innovative climate modelling, the latest in machine learning and other data-driven techniques. The tool updates daily to provide forecasts at a much higher spatial resolution than previously available. This will enable the provision of district-level predictions of dryness and drought.	It will help farmers and growers better prepare for periods of dryness and drought, contributing not just to their bottom lines, but also to their own wellbeing and animal welfare.
New forecasting tool for the Pacific 	This first-of-its-kind drought monitoring and forecasting system for the Pacific region uses near real-time satellite rainfall monitoring and combines it with a state-of-the-art multi-model ensemble seasonal forecast system. Satellite rainfall data is downloaded daily and processed on NIWA's High-Performance Computer. Regional and country-level maps are generated for several drought monitoring indices and products, and interpretive products showing what is changing across the region are also produced to help inform decision making.	The forecast information will help many Pacific island meteorological services and regional non-governmental institutions improve their forecasting capabilities, helping them anticipate and more proactively respond to areas at risk of potential water stress.
Upgrading global forecasting systems 	A major update to Cylc, the software that orchestrates the scientific workflows behind EcoConnect, is the result of a significant three-year re-engineering effort. EcoConnect is NIWA's specialist environmental forecasting and information service. It specialises in the creation and delivery of past, present and future environmental information.	Cylc was designed more than a decade ago for use in weather, climate and environmental forecasting systems. The open-source software is used throughout the Unified Model partnership, an international collaboration led by the UK Met Office to improve global atmospheric models and forecasting. The new version, Cylc 8, is built on modern web technologies and has a range of new, efficient features that make it perform much better than its predecessor.

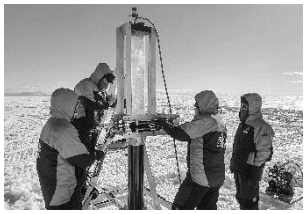
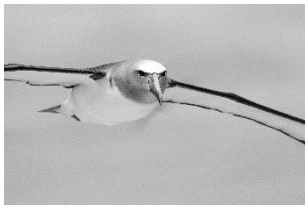
Enable New Zealand to adapt to the impacts and exploit the opportunities of climate variability and change and mitigate changes in atmospheric composition from greenhouse gases and air pollutants

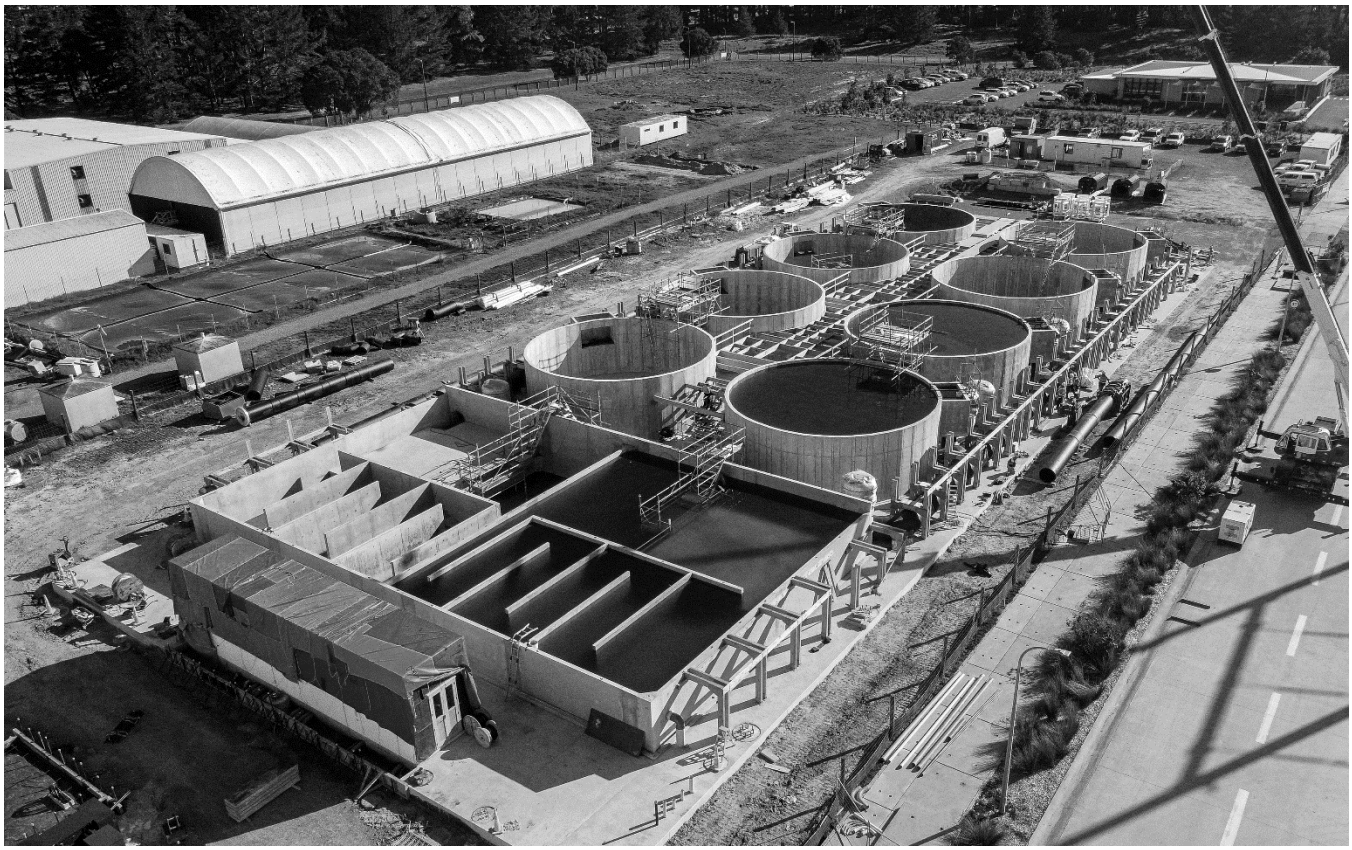
PROJECT	KEY ACHIEVEMENTS	SECTOR IMPACT
Minimising COVID-19 transmission through improved ventilation 	As COVID-19 transmission became widespread in the community in 2021, NIWA air quality researchers responded to an urgent need across government to understand and improve indoor air quality to reduce virus transmission. The team worked with the Ministry of Education to investigate and advise on the best ways to ventilate classrooms and other shared spaces to minimise the transmission of COVID-19.	This work directly informed Ministry of Education ventilation guidance to schools and has led to a contract with the Ministry of Health to provide guidance across other sectors, including early childhood education, healthcare settings and aged care.
Informing New Zealand's climate change projections 	NIWA was part of a multi-agency and science community collaboration to extract and interpret information relevant to New Zealand from the Working Group 1 contribution to the Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report, 'The Physical Science Basis', published in August 2021.	The report distilled the New Zealand-relevant information from the IPCC report to update what we know about the effects of climate change on New Zealand, ahead of the production of updated regional climate projections for New Zealand due in 2024.
Predicting future marine heatwaves 	New research shows New Zealand could experience very long and very severe marine heatwaves by the end of this century. Analysis indicates an 80–100% increase in marine heatwave intensity by the end of the century for all analysed coastal regions under the high-emission scenario, which could become permanent year-round by the end of the century.	The research gives locally relevant and coastal insights into climate impacts on our oceans and informs planning on adapting to our changing world.

Enhance the stewardship of New Zealand's freshwater and marine ecosystems and biodiversity

PROJECT	KEY ACHIEVEMENTS	SECTOR IMPACT
Mitigating agricultural run-off 	The ambitious five-year MBIE-funded project to develop a comprehensive set of performance and design guidelines for constructed wetlands intercepting diffuse run-off from pastoral farms was completed in May 2022. The Interceptor project produced the Constructed Wetlands Guide, endorsed by regulating agencies to encourage more uptake of wetlands and riparian buffers.	The primary sector is under pressure to meet new water quality regulations and improved methods to manage agricultural runoff. Wetlands and riparian buffers are two tools which can help land users meet those expectations. The Interceptor Project provides case studies of constructed wetlands from around the country which stand as good examples for land users to follow.
Co-management and restoration of our freshwater taonga species 	Cultural Keystone Species (CKS) was a four-year (2016–21) MBIE-funded research programme that scaled up and built on the freshwater taonga species research that NIWA has been undertaking with whānau, hapū and iwi around the country over the previous decades. It has co-developed research methods, tools and products with whānau, hapū and iwi that inform new and innovative management approaches for the protection, restoration and economic development of CKS.	The programme supported at least 30 researchers working in partnership with 20 hapū/tribal entities, seven consultancies, two power companies and 15 regional and central government agencies. Milestones from the CKS programme include significant advances in understanding the water quality and habitat needs of juvenile tuna, kōura and kākahi; new methods for understanding state and trend analyses that are directed by mātauranga Māori and informed by hapū-driven datasets; and research that enables improved tuna, kōura and kākahi restoration and management actions.
Sustainably managing scallop fisheries 	Beyond the commercial value, tipa (scallops) also play an important ecological role in helping keep the water clean. Following concerns raised by iwi and communities in northern New Zealand, NIWA experts contributed to a significant management decision made in 2021. Using results from NIWA-led surveys, which revealed the critical condition of some scallop populations, the Minister decided to fully close the fisheries in Northland, as well as much of the Hauraki Gulf and Coromandel.	Although limited areas remain open to commercial and recreational fishing, the closures will hopefully allow the northern tipa populations to recover. In an effort to reduce some of the known impacts of dredging for tipa, NIWA is also exploring and developing new technologies based on cameras and machine learning, with the aim of finding alternatives to dredging methods, allowing more sustainable scallop fishing.

Increase understanding of the Antarctic and Southern Ocean climate, cryosphere, oceans and ecosystems and their longer-term impact on New Zealand

PROJECT	KEY ACHIEVEMENTS	SECTOR IMPACT
Safeguarding Antarctic ecosystems 	NIWA Antarctic research balancing environmental protection, sustainable fishing and science interests has contributed significantly to protection of the Ross Sea, the world's largest Marine Protected Area (MPA). Led by a NIWA research programme called Ross-RAMP, the first five-year compilation of New Zealand research associated with the MPA was delivered in February 2022 to the Commission for the Conservation of Marine Living Resources (CCAMLR). New Zealand provided the highest number of projects from all CCAMLR members, with much research funded or co-funded by NIWA's Ross-RAMP. This included more than 13 scientific publications and over 30 presentations.	The Ross Sea MPA sets out to conserve the area's ecology, mitigate threats to ecosystems from fishing, and provide a reference area to better gauge the effects of fishing and climate change over time. The MPA will cease in 2052, and proof of its effectiveness is needed for it to continue beyond this period.
Drilling beneath the ice to understand climate change impacts 	Every winter in Antarctica, two-metre-thick sea ice forms. The layer of ice crystals directly beneath the sea ice, called the sub-ice platelet layer, provides a habitat for algae, eggs and larvae of fish. Scientists from NIWA, the University of Otago and Victoria University of Wellington, funded by the Antarctic Science Platform, are investigating the distribution of the platelet layer under the ice, and how this varies with time. In 2021–22 the team developed and tested a bespoke engineered device called the Sympagic Sampler to take platelet samples. This huge drill collects core samples of the delicate platelet structure.	The samples allow the team of scientists to study the platelet ice habitats and the conditions necessary for them to form. Any small shift in the environment could change where, when and even if, the platelet ice forms. Such impacts could have major implications for the animals that need the ice to survive, with knock-on effects for the wider Ross Sea marine ecosystem.
Increasing our seabird knowledge 	Seabirds are a key and poorly understood part of our marine ecosystems, with many species threatened or data deficient. NIWA research has significantly contributed to our better understanding of habitat use and foraging habits of many iconic New Zealand species that can be found along our coastlines, and our Sub-Antarctic and Polar frontal zones. Celebrating its 30-year anniversary in 2022, one long-term study of Buller's albatross has allowed better understanding of the significance of accidental bycatch of seabirds by commercial fishing vessels. This has been achieved by building an impressive database of encounter histories for breeding birds, and deploying and retrieving tracking devices.	NIWA's contribution to seabird research, particularly on long-lived species with low-reproductive outputs, is far-ranging and high impact, and has significantly advanced our knowledge of seabird ecology and links to climate change in the last few decades.



Recirculating Aquaculture Systems (RAS) answer the call for a more sustainable aquaculture industry and to help the industry meet its goal of $3 billion by 2035. NIWA's experimental, commercial-scale RAS at the Northland Aquaculture Centre is on track to produce 600 tonnes of kingfish annually in 2023. [*CB Civil*]

PERFORMANCE TARGETS 2021/22

NIWA will measure its performance against the outcomes and operating principles in its Statement of Core Purpose using the following set of indicators.

Financial Indicators

Measure	Calculation	Reporting frequency	Target 2021/22	Actual 2021/22
Operating margin	Earnings Before Interest, Tax, Depreciation, Amortisation and Fair-value (EBITDAF)/Revenue	Annual	18.1%	16.3%
Profit per FTE	EBITDAF/FTEs	Annual	$45,000	$40,000
Quick ratio	Current assets less inventory less prepayments/Current liabilities less revenue received in advance	Quarterly	2.04	2.4
Interest coverage	EBITDAF/Interest paid	Quarterly	15.8	17.9
Profit volatility	Standard deviation of EBITDAF for the past five years/Average EBITDAF for the past five years	Annual	12.8%	24.3%
Forecasting risk	Five-year average of return on equity less forecast return on equity	Annual	2.1%	2.2%
Adjusted return on equity	NPAT excluding fair value movements (net of tax)/Average of share capital plus retained earnings	Quarterly	5.0%	5.0%
Revenue growth	% change in revenue	Annual	1.3%	– 3.8%
Capital renewal	Capital expenditure/Depreciation expense plus amortisation expense	Quarterly	251.2%	227%

Organisational Performance Indicators – 2021/22 at a glance

Measure	Calculation	Reporting frequency	Target 2021/22	Actual 2021/22
End-user collaboration*	Revenue per FTE from commercial sources	Quarterly	$99,000	$109,000
Research collaboration*	Publications with collaborators	Quarterly	85%	93%
Technology & knowledge transfer*	Commercial reports per scientist FTE	Quarterly	1.0	1.52
Science quality*	Impact of scientific publications	Annually	2.5	4.7
Operational efficiency*	Revenue per FTE	Quarterly	$247,000	$248,500
Operational delivery	% projects delivered on time	Annually	>90%	98%
Strategic progress	% annual KPIs achieved	Annually	>90%	100%

*Ministry of Business, Innovation & Employment generic indicators.

FINANCIAL SUMMARY

NIWA Group Financial Summary

in thousands of New Zealand dollars	2022	2021	2020	2019	2018
Revenue and other gains	170,233	176,887*	158,860*	161,292	151,416
– Research	95,614	109,111	93,800	94,901	91,516
– Commercial science	74,618	67,775	65,059	66,390	59,899
– Other income	1	1	1	1	1
Profit before income tax	8,958	22,594	9,982	8,708	9,074
Profit for the year	6,470	16,263	7,370	6,247	6,472
Capital expenditure	40,817	23,080	14,757	21,460	33,573
Adjusted return on average equity (%)**	5.0	13.9	6.9	6.2	6.9
Return on average equity (%)	4.3	11.6	5.7	5.1	5.5

* Includes $8.27 million from the Government's COVID-19 Response and Recovery Fund (CRRF).
** The 'adjusted return on average equity' uses a valuation basis comparable to that used by other Crown Research Institutes. This valuation basis arose from the transition to New Zealand Equivalents to International Financial Reporting Standards in 2006/07 and reverses the effect of the revaluation of certain land and buildings.

Group actual performance versus Statement of Corporate Intent (SCI)

For the year ended 30 June 2022

in thousands of New Zealand dollars	2022 Actual	2022 SCI	2021 Actual
Revenue and other gains	170,233	171,255	176,887
Operating expenses, depreciation and amortisation	161,331	161,728	154,397
Profit before income tax	8,958	9,305	22,594
Profit for the year	6,470	6,030	16,263
Average total assets	225,998	205,102	205,741
Average shareholders' funds	151,225	143,604	139,841
Profitability			
Operating profit margin (%) (EBITDA/revenue)	16.3	18.1	24.3
Adjusted return on average equity after tax (%) (net surplus/adjusted average equity)	5.0	5.0	13.9
Return on average equity after tax (%) (net surplus/average equity)	4.3	4.2	11.6
Return on assets (%) (EBIT/average total assets)	3.9	4.6	10.9
Profit volatility (%) (non-adjusted ROE)	24.3	18.7	29.5
Forecasting risk (%)	2.2	1.9	2.9
Liquidity and efficiency			
Current ratio	1.3	1.2	1.6
Quick ratio	2.4	2.1	3.1
Financial leverage			
Debt to average equity (%)	–	–	–
Gearing (%)	–	–	–
Proprietorship (%) (average shareholders' funds/total assets)	65	69	64

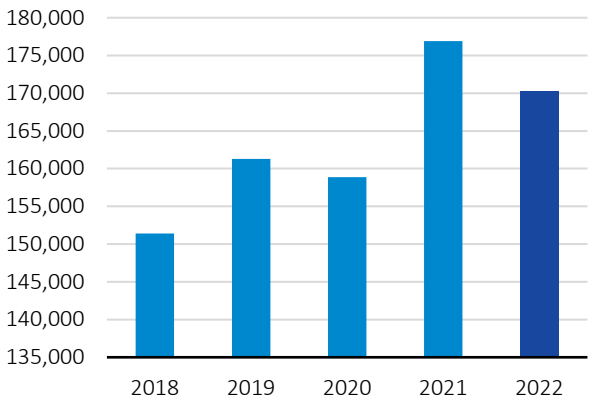
Despite the difficult operating environment, NIWA delivered a strong revenue and profit result by pursuing all possible revenue opportunities, careful management of costs and maximising operational productivity, while continuing to deliver high-quality science.

Revenue

NIWA achieved revenue of $170.2 million for the year. Compared with the budget set out in NIWA's Statement of Corporate Intent, revenue was down by $1.0 million. This was a pleasing result in what was a challenging year. Year-on-year, revenue was $6.7 million below the previous year. (Note: revenue in the previous year included $8.3 million from the Government's COVID-19 Response and Recovery Fund).

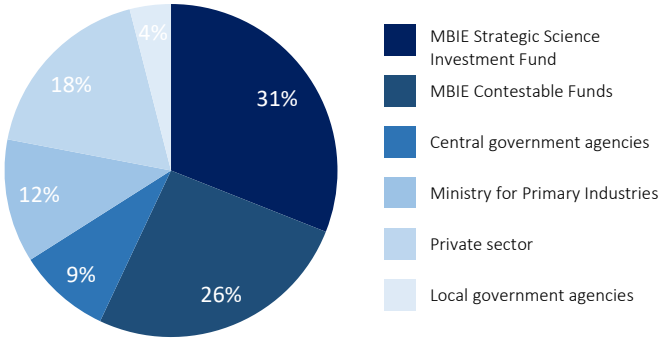
NIWA's revenue from the MBIE National Science Challenges during the year was $3.6 million higher than the prior year, mainly due to the effect of phase 2 of the National Science Challenges being well underway. Revenue associated with NIWA's ocean-going research vessels was $2.4 million less than the prior year, largely due to the biennial voyage to Antarctica in 2020/21.

Total revenue
($ in thousands)



The share of NIWA's revenue arising from contracts with MBIE was 56%, composed of $50.6 million SSIF funding and $45.1 million contestable contracts. Revenue from the Ministry of Primary Industries at $20.6 million accounted for 12%. Combined, revenue from these two agencies was 4% lower than the position in 2020/21.

Revenue by source



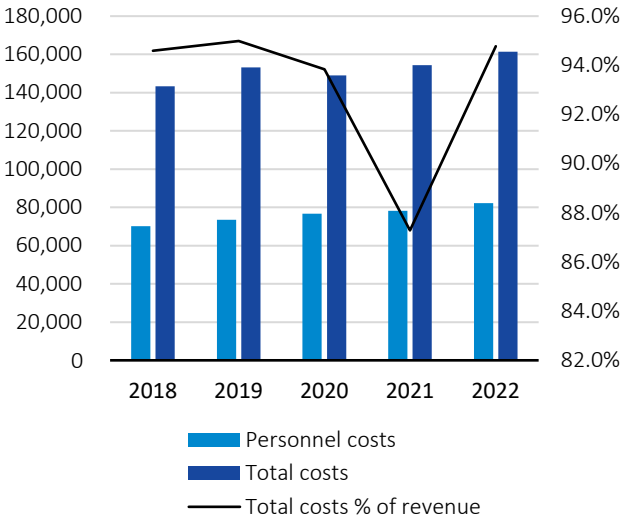
Expenditure

Operating expenses (including depreciation and amortisation), whilst slightly lower than budget, increased by $6.9 million compared with the previous year.

Personnel costs accounted for $3.5 million of the increase in operating expenses over the previous year, driven by salary increases and intense competition for skills. Research collaboration accounted for a further $3.3 million of the year-on-year increase, due to increased subcontractor activity as phase 2 of the National Science Challenges is well underway.

Operating costs as a percentage of revenue remain carefully managed. This year has seen a return to normal levels not seen in the past two financial years where the COVID-19 Response and Recovery Fund was received.

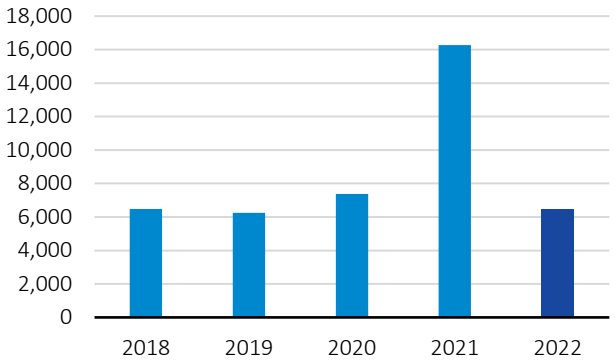
Total expenditure
($ in thousands)



Profitability

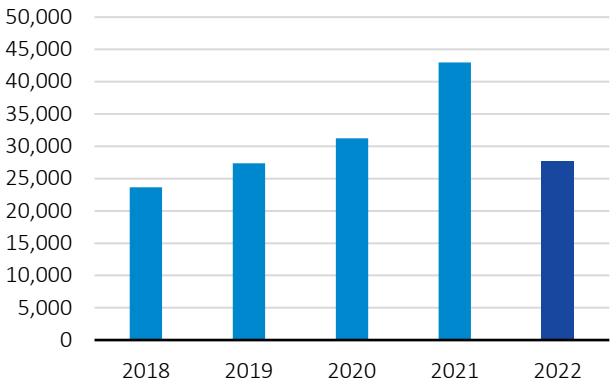
NIWA delivered a profit before tax of $9.0 million and an after-tax profit of $6.5 million during 2021/22. Compared with the previous year, these results reflect a decrease of $13.6 million and $9.8 million respectively, primarily because the $8.27 million COVID Response and Recovery Fund contribution received in each of the last two years was not provided this year. Compared with budget, the result was $0.34 million lower before tax and $0.44 million higher after tax.

Net profit after tax
($ in thousands)



NIWA also closely monitors its Earnings before Interest, Tax, Depreciation and Amortisation (EBITDA), as this measure assists in understanding the Company's capacity to fund future investments and carry debt. NIWA achieved EBITDA of $27.7 million for the year against a budget of $31.0 million. We continue to manage this measure carefully to ensure that we remain in a position to finance our planned major facility investments over the coming several years.

EBITDA
($ in thousands)



NIWA's fundamental financial performance metric is adjusted return on equity, which enables comparison between CRIs on an equivalent basis. The Company delivered an adjusted ROE of 5.0% this year, which aligned with the budget objective of 5.0% and was lower than the 13.9% achieved in the previous year.

Capital management and cash

Cash flows

The following table summarises NIWA's cash flows this year and last year:

($ in millions)	2022	2021	Change
Net cash flows from operating activities	30.167	38.979	(8.812)
Net cash flows from investing activities	(19.106)	(38.397)	19.291
Net cash flows from financing activities	(2.082)	(1.769)	(0.313)
Net increase/(decrease) in cash	**8.979**	**(1.187)**	**10.166**

The above presentation is consistent with New Zealand Equivalents to International Financial Reporting Standards and therefore treats cash flows relating to short-term deposits with maturities greater than three months as investing activities. In order to provide more useful and relevant information concerning the Company's cash flows, the table below restates the summary of cash flows, treating all short-term investments as equivalent to cash:

($ in millions)	2022	2021	Change
Net cash flows from operating activities	30.167	38.979	(8.812)
Net cash flows from investing activities	(39.106)	(23.397)	(15.709)
Net cash flows from financing activities	(2.082)	(1.769)	(0.313)
Net increase/(decrease) in cash including other term deposits	**(11.021)**	**13.813**	**(24.834)**

Net cash flows from operating activities

Net cash inflows from operating activities decreased by $8.8 million to $30.2 million in 2022. This year-on-year change reflected additional personnel and subcontractor costs.

Net cash flows from investing activities

Net cash outflows from investing activities (excluding the impact of cash flows associated with term deposits with maturities in excess of three months) increased by $15.7 million to $39.1 million. This year-on-year variance was related to the costs associated with the new Hamilton property and the recirculating aquaculture system at NIWA's Northland Aquaculture Centre.

Net cash flows from financing activities

Net cash outflows from financing activities increased by $0.3 million to $2.1 million. These costs relate to the treatment of long-term lease costs under the accounting standard, NZ IFRS 16 Leases. The Company paid no dividend during the year. This was signalled in the

previous year's Statement of Corporate Intent and reflects upcoming essential and material investments designed to ensure that our science facilities remain fit for purpose for the coming decades.

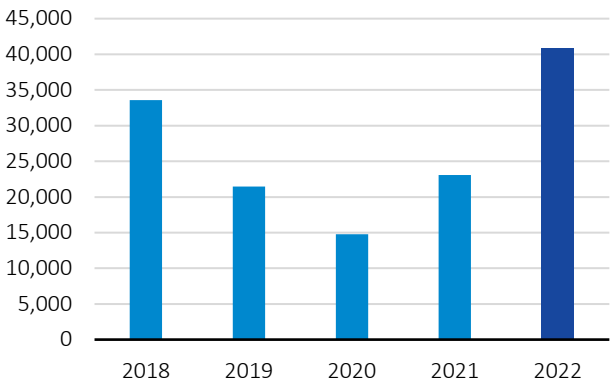
Capital spending

The following table summarises NIWA's capital expenditure this year and last year:

$ in millions	2022	2021	Change
Land, buildings & improvements	23.686	9.766	13.920
Equipment	9.598	6.363	3.235
ICT equipment	2.884	1.984	0.900
Vessel equipment	2.972	3.164	(0.192)
Other	1.677	1.803	(0.126)
Total capital spending	**40.817**	**23.080**	**17.737**

Total capital expenditure was $40.8 million during the year, up from $23.1 million during the prior year. This was due to the phasing of certain major capital projects.

Capital expenditure
($ in thousands)



Capital structure and liquidity

Shareholders' equity at 30 June 2022 was $154.5 million (2021: $148.0 million) which was $7.9 million above the level forecast in the SCI budget. Total assets at year-end were $234.2 million (2021: $217.8 million). As at 30 June 2022, the Company's net debt balance was zero, equal to that at the prior year-end.

NIWA's liquidity is mainly provided by operating cash flows. In addition, the Company has access to financing facilities of $10.5 million provided by its bank, although this facility was not required to be called upon during the year.

Dividends

As foreshadowed in the Company's Statement of Corporate Intent, the Directors of NIWA have once again decided not to declare a dividend in respect of the 2022 year. This is in the light of a series of significant capital investments which will be required to maintain and build the Company's capability and financial sustainability for the future. These investments include renovating or replacing the physical infrastructure and facilities at three of the Company's main sites.

NIWA's new Hamilton facility on the University of Waikato campus is scheduled for completion in mid-2023. [*Blanton Benjamin, Fosters Construction*]

FINANCIAL STATEMENTS

NIWA GROUP
STATEMENT OF COMPREHENSIVE INCOME

For the year ended 30 June 2022

in thousands of New Zealand dollars	Notes	2022 Actual	2022 SCI Budget (unaudited)	2021 Actual
Revenue and other gains	1			
Revenue		170,232	171,253	176,886
Other gains		1	2	1
Total income		**170,233**	**171,255**	**176,887**
Operating expenses	2			
Employee benefits expense		(82,178)	(80,534)	(78,127)
Other expenses		(60,347)	(59,689)	(55,775)
		(142,525)	**(140,223)**	**(133,902)**
Profit before interest, income tax, depreciation, and amortisation (EBITDA)		**27,708**	**31,032**	**42,985**
Depreciation	4, 5	(17,978)	(20,809)	(19,813)
Amortisation	7	(828)	(696)	(682)
Profit before interest and income tax (EBIT)		**8,902**	**9,527**	**22,490**
Interest income		553	382	502
Finance expense	5	(497)	(604)	(398)
Net interest and other financing income		**56**	**(222)**	**104**
Profit before income tax		**8,958**	**9,305**	**22,594**
Income tax expense	11	(2,488)	(3,275)	(6,331)
Profit for the year		**6,470**	**6,030**	**16,263**
Other comprehensive (loss)/income				
Items that may be reclassified to profit or loss				
Foreign currency translation differences of foreign operations		40	–	(4)
Total comprehensive income for the year		**6,510**	**6,030**	**16,259**
Profit attributable to:				
Owners of the Parent		6,415	6,030	16,214
Non-controlling interest		55	–	49
Profit for the year		**6,470**	**6,030**	**16,263**
Total comprehensive income attributable to:				
Owners of the Parent		6,455	6,030	16,210
Non-controlling interest		55	–	49
Total comprehensive income for the year		**6,510**	**6,030**	**16,259**

The accompanying 'Notes to the financial statements' are an integral part of, and should be read in conjunction with, these financial statements.

NIWA GROUP
STATEMENT OF CHANGES IN EQUITY

For the year ended 30 June 2022

in thousands of New Zealand dollars	Note	Share capital	Retained earnings	Non-controlling interest	Foreign currency translation reserve	Total equity
Balance at 1 July 2020		**24,799**	**106,913**	**284**	**(285)**	**131,711**
Profit for the year		–	16,214	49	–	16,263
Other comprehensive income		–	–	–	(4)	(4)
Total comprehensive income		–	16,214	49	(4)	16,259
Balance at 30 June 2021		**24,799**	**123,127**	**333**	**(289)**	**147,970**
Balance at 1 July 2021		**24,799**	**123,127**	**333**	**(289)**	**147,970**
Profit for the year		–	6,415	55	–	6,470
Other comprehensive (loss)/income		–	–	–	40	40
Total comprehensive income/(loss)		–	6,415	55	40	6,510
Balance at 30 June 2022		**24,799**	**129,542**	**388**	**(249)**	**154,480**

The accompanying 'Notes to the financial statements' are an integral part of, and should be read in conjunction with, these financial statements.

Share capital

The Group has authorised issued and fully paid capital of 24,798,700 ordinary shares (2021: 24,798,700 ordinary shares). All shares carry equal voting and distribution rights and have no par value.

NIWA GROUP
STATEMENT OF FINANCIAL POSITION

As at 30 June 2022

in thousands of New Zealand dollars	Notes	2022 Actual	2022 SCI Budget (unaudited)	2021 Actual
Equity and liabilities				
Equity				
Share capital		24,799	24,799	24,799
Equity reserves		129,293	121,699	122,838
Shareholders' interest		**154,092**	**146,498**	**147,637**
Non-controlling interest		388	121	333
Total equity		**154,480**	**146,619**	**147,970**
Non-current liabilities				
Provision for employee entitlements	3	966	944	879
Lease liabilities	5	12,250	14,919	9,026
Deferred tax liability	12	1,057	2,766	2,352
Total non-current liabilities		**14,273**	**18,629**	**12,257**
Current liabilities				
Payables and accruals		18,477	12,240	12,879
Revenue in advance		33,339	22,327	29,155
Provision for employee entitlements	3	11,042	9,618	9,934
Taxation payable		396	881	3,635
Lease liabilities	5	2,162	–	1,996
Forward exchange derivatives		–	16	–
Total current liabilities		**65,416**	**45,082**	**57,599**
Total equity and liabilities		**234,169**	**210,330**	**217,826**
Assets				
Non-current assets				
Property, plant and equipment	4	136,204	112,924	113,072
Identifiable intangibles	7	1,744	30,583	1,837
Deferred tax asset	12	122	–	114
Right-of-use asset	5	12,537	13,082	8,819
Prepayments		269	96	51
Total non-current assets		**150,876**	**156,685**	**123,893**
Current assets				
Cash and cash equivalents		32,019	10,054	22,988
Other short-term investments		20,000	19,000	40,000
Forward exchange derivatives		570	–	8
Receivables	9	17,107	12,585	19,060
Prepayments		3,419	2,535	2,526
Assets held for sale	8	245	245	245
Uninvoiced receivables		5,690	6,436	6,614
Inventory	10	4,243	2,790	2,492
Total current assets		**83,293**	**53,645**	**93,933**
Total assets		**234,169**	**210,330**	**217,826**

The accompanying 'Notes to the financial statements' are an integral part of, and should be read in conjunction with, these financial statements.

For and on behalf of the Board:

Barry Harris
Chairman

Nicholas Main
Deputy Chairman

The financial statements were authorised for issue by the directors on 30 August 2022.

NIWA GROUP
CASH FLOW STATEMENT

For the year ended 30 June 2022

in thousands of New Zealand dollars	Notes	2022 Actual	2022 SCI Budget (unaudited)	2021 Actual
Cash flows from operating activities				
Cash was provided from:				
Receipts from customers and grants		176,275	177,001	175,112
Dividends received		1	–	1
Interest received		553	382	502
Cash was disbursed to:				
Payments to employees and suppliers		(139,135)	(139,797)	(130,177)
Interest paid	5	(497)	(604)	(398)
Taxation paid		(7,030)	(4,735)	(6,061)
Net cash inflow from operating activities	13	**30,167**	**32,247**	**38,979**
Cash flows from investing activities				
Cash was provided from:				
Sale of property, plant and equipment		1,693	–	26
Term deposits maturing		44,000	–	22,000
Cash was applied to:				
Purchase of property, plant and equipment		(40,064)	(46,761)	(22,480)
Purchase of intangible assets		(735)	(696)	(943)
Investments in other term deposits		(24,000)	(19,000)	(37,000)
Net cash outflow from investing activities		**(19,106)**	**(66,457)**	**(38,397)**
Cash flows from financing activities				
Cash was applied to:				
Payment for lease principal		(2,082)	(2,983)	(1,769)
Net cash outflow from financing activities		**(2,082)**	**(2,983)**	**(1,769)**
Increase/(decrease) in cash and cash equivalents		**8,979**	**(37,193)**	**(1,187)**
Effects of exchange rate changes on the balance of cash held in foreign currency		52	–	2
Opening balance of cash and cash equivalents		**22,988**	**47,247**	**24,173**
Closing cash and cash equivalents balance		**32,019**	**10,054**	**22,988**
Made up of:				
Cash at bank and on hand		2,057	2,707	1,669
Short-term deposits		29,962	7,347	21,319
Closing cash and cash equivalents balance		**32,019**	**10,054**	**22,988**

The accompanying 'Notes to the financial statements' are an integral part of, and should be read in conjunction with, these financial statements.

NIWA GROUP NOTES TO THE FINANCIAL STATEMENTS

For the year ended 30 June 2022

1. Revenue and other gains

Rendering of services

The Group uses the 'percentage-of-completion method' to determine the appropriate amount of revenue to recognise in a given period. The stage of completion is measured by reference to the labour and non-labour costs incurred up to the end of the year as a percentage of total estimated costs for each contract.

Contract duration is typically 1–5 years and revenue is recognised over time as service is rendered. The customer pays a fixed amount over the contract term in accordance with the payment frequency specified in the contract.

Goods sold

The Group recognises revenue from the sale of goods when control of the goods has passed to the customer, the associated costs and possible return of goods can be estimated reliably, there is no continuing management involvement with the goods, and there is a high probability that a significant reversal in the revenue recognised will not occur. Revenue from the sale of goods is measured at the fair value of the consideration received or receivable, net of returns and allowances. The timing of the transfer of control varies depending on the individual terms of the sales agreement.

Government grants

Government grants are recognised under NZ IAS 20 when there is a reasonable assurance that the Group will comply with the conditions attached to the grant, and that the grant will be received.

Government grants related to costs are deferred and recognised in profit or loss over the period in which the Group incurs the costs for which the grant is intended to compensate.

Government grants relating to the purchase of property, plant and equipment are included in non-current liabilities as revenue in advance and they are credited to profit or loss on a straight-line basis over the expected lives of the related assets.

A government grant that becomes receivable as compensation for expenses or losses already incurred, or for the purpose of giving immediate financial support to the Group with no future related costs, is recognised in profit or loss in the period in which the grant becomes receivable.

Strategic funding

NIWA and the Crown are parties to a *Strategic Science Investment Fund – Programmes* Investment Contract (SSIF Contract) under which the Crown contracts NIWA to perform research activities that support NIWA's Statement of Core Purpose (SCP). Specific SCP outcomes, and their associated delivery programmes, are agreed annually with Shareholding Ministers and documented in NIWA's Statement of Corporate Intent.

For financial reporting purposes this Strategic Funding is treated as a Government Grant in terms of NZ IAS 20. Strategic Funding received and recognised during the year was $50.552 million exclusive of GST (2021: $50.552 million). All Strategic Funded projects were completed during the year.

COVID-19 response and recovery fund

NIWA received $8.27 million from the Crown's COVID-19 Response and Recovery Fund in 2021. No further funding was received in 2022. This funding was intended to partially offset the revenue impact of COVID-19. For financial reporting purposes in 2021, this contribution was treated as a Government Grant under NZ IAS 20 and recognised as revenue during the year.

Financing components

The Group does not expect to have any significant contracts where the period between the transfer of the promised goods or services to the customer and payment by the customer exceeds one year. As a consequence, the Group does not adjust any of the transaction prices for the time value of money as this is considered to not have a material impact.

Contract balances

Contract assets

A contract asset is the right to consideration in exchange for goods or services transferred to the customer, conditional on something other than the passage of time. If the Group performs under a contract by transferring goods or services to a customer before the customer pays consideration or before payment is due, a contract asset is recognised for the earned consideration that is conditional.

Contract assets are classified as 'Uninvoiced receivables' in the Statement of Financial Position.

Contract liabilities

A contract liability is the obligation to transfer goods or services to a customer for which the Group has received consideration (or an amount of consideration is due) from the customer. If a customer pays consideration before the Group transfers goods or services, a contract liability is recognised. Contract liabilities are recognised as revenue when the Group performs under the contract.

Contract liabilities are classified as 'Revenue in advance' in the Statement of Financial Position.

Revenue and other gains

in thousands of New Zealand dollars	2022	2021
Research		
Strategic Funding	50,552	50,552
Rendering of services	45,062	50,289
COVID-19 Response and Recovery Funding	–	8,270
Commercial Science		
Rendering of services	69,189	61,862
Sale of goods	5,429	5,913
Dividends	1	1
Total revenue and other gains	**170,233**	**176,887**

Revenue recognised in relation to contract liabilities (revenue in advance)

in thousands of New Zealand dollars	2022	2021
Revenue recognised that was included in the contract liability balance at the beginning of the year		
Rendering of services	20,464	13,653

2. Operating expenses

Employee benefits

in thousands of New Zealand dollars	2022	2021
Defined contribution plans	3,024	2,846
Defined contribution benefits	356	400
Termination benefits	191	124
Other employee benefits	78,607	74,757
Employee benefits expense	**82,178**	**78,127**

Termination benefits were paid out in respect of five employees.

Other expenses

in thousands of New Zealand dollars	2022	2021
Materials and supplies	8,914	10,067
Research collaboration	22,244	17,236
Property occupancy costs	4,283	4,383
Information technology	11,066	9,389
Remuneration of directors	234	261
Foreign currency (gain)/loss	(833)	(2)
Movement within loss allowance provision	–	(457)
Change in the fair value of derivatives	(562)	(16)
Other expenses	14,804	14,742
Total other expenses	**60,150**	**55,603**

Auditor's remuneration

in thousands of New Zealand dollars	2022	2021
Auditor's remuneration comprises:		
Audit of the financial statements (Group)	168	146
Audit of the financial statements (Subsidiary)	29	26
Total auditor's remuneration	**197**	**172**

3. Employee entitlements

Liabilities for wages and salaries, including non-monetary benefits and annual leave, long service leave, retirement leave, and training leave are recognised when it is probable that settlement will be required, and they are capable of being measured reliably. Provisions, in respect of employee benefits, are measured using the remuneration rate expected to apply at settlement. Employee benefits are separated into current and non-current liabilities. Current liabilities are those benefits that are expected to be settled within 12 months from balance date.

Provisions made in respect of employee benefits which are not expected to be settled within 12 months are measured at the present value of the estimated future cash outflows to be made by the Group in respect of services provided by employees up to the reporting date.

in thousands of New Zealand dollars	2022	2021
Remuneration		
Salary accrual	2,845	2,414
Annual leave	7,545	6,696
Training leave	200	385
Long service leave	940	867
Retirement leave	478	451
Total employee entitlements	**12,008**	**10,813**
Comprising:		
Current	11,042	9,934
Non-current	966	879

The provisions for long service leave, retirement leave, and training leave are dependent upon several factors that are determined by the expected employment period of employees, current remuneration, and the timing of employees' use of the benefits. Any changes in these assumptions will impact on the carrying amount of the liability. The employment period used to determine the appropriate long service leave liability is based upon historical average length of service. The training leave liability is based upon typical historical usage of the benefit.

4. Property, plant and equipment

Property, plant and equipment is stated at cost less accumulated depreciation to date, less any impairment losses.

Expenditure incurred on property, plant and equipment is capitalised where such expenditure will increase or enhance the future economic benefits provided by an asset's existing service potential. Expenditure incurred to maintain future economic benefits is classified as repairs and maintenance.

The gain or loss arising on the disposal or retirement of an item of property, plant and equipment is determined as the difference between the sale proceeds and the carrying amount of the asset and is recognised in the Statement of Comprehensive Income.

Property, plant and equipment items, except for freehold land and work in progress, are depreciated on a straight-line basis at rates estimated to write off their cost over their estimated useful lives, which are as follows:

Category	Useful life
Buildings and leasehold improvements	5–40 years
Vessels	20–31 years
Plant and equipment	8–10 years
IT equipment	3–8 years
Office equipment	5 years
Furniture and fittings	10 years
Motor vehicles	6 years
Small boats	10 years

Assumptions underlying the estimated useful life of assets include timing of technological obsolescence and future utilisation plans.

Major source of uncertainty
The useful lives of items of property, plant and equipment are key assumptions concerning the future that have a significant risk of resulting in a material adjustment to the carrying amounts of assets and liabilities within the next financial year.

The Group reviews the estimated useful lives of property, plant and equipment items during each annual reporting period.

in thousands of New Zealand dollars	Land	Buildings & leasehold improvements	Vessels	Plant & equipment	IT equipment	Office equipment	Furniture & fittings	Motor vehicles	Small boats	Work in progress	Total
Cost											
Balance at 1 July 2021	15,768	63,818	41,813	111,803	36,628	7,840	2,193	4,557	3,635	20,601	308,656
Additions	–	(134)	(641)	3,568	1,657	263	80	119	5	35,165	40,082
Transfers	–	2,344	800	3,101	1,021	–	5	59	–	(7,330)	–
Disposals	(615)	(247)	–	(1)	(342)	(134)	–	(218)	–	–	(1,557)
Foreign currency adjustment	–	–	–	11	3	–	1	–	–	–	15
Balance at 30 June 2022	15,153	65,781	41,972	118,482	38,967	7,969	2,279	4,517	3,640	48,436	347,196
Accumulated depreciation and impairment losses											
Balance at 1 July 2021	–	44,932	27,297	85,820	22,979	6,926	1,347	3,914	2,369	–	195,584
Depreciation	–	2,839	1,466	6,567	4,382	372	119	295	184	–	16,224
Disposals	–	(146)	–	(1)	(338)	(133)	–	(211)	–	–	(829)
Foreign currency adjustment	–	–	–	4	8	–	1	–	–	–	13
Balance as at 30 June 2022	–	47,625	28,763	92,390	27,031	7,165	1,467	3,998	2,553	–	210,992
Net book value at 30 June 2022	**15,153**	**18,156**	**13,209**	**26,092**	**11,936**	**804**	**812**	**519**	**1,087**	**48,436**	**136,204**

in thousands of New Zealand dollars	Land	Buildings & leasehold improvements	Vessels	Plant & equipment	IT equipment	Office equipment	Furniture & fittings	Motor vehicles	Small boats	Work in progress	Total
Cost											
Balance at 1 July 2020	15,768	54,832	40,718	106,112	34,694	7,477	1,970	4,491	3,637	19,106	288,805
Additions	–	14	2,329	3,158	1,641	459	264	133	–	14,139	22,137
Transfers	–	8,972	–	2,912	745	–	6	11	(2)	(12,644)	–
Disposals	–	–	(1,234)	(379)	(453)	(96)	(47)	(78)	–	–	(2,287)
Foreign currency adjustment	–	–	–	–	1	–	–	–	–	–	1
Balance at 30 June 2021	15,768	63,818	41,813	111,803	36,628	7,840	2,193	4,557	3,635	20,601	308,656
Accumulated depreciation and impairment losses											
Balance at 1 July 2020	–	40,520	26,435	79,560	19,166	6,575	1,291	3,670	2,183	–	179,400
Depreciation	–	4,412	1,994	6,601	4,263	444	103	316	186	–	18,319
Disposals	–	–	(1,132)	(342)	(450)	(93)	(47)	(72)	–	–	(2,136)
Foreign currency adjustment	–	–	–	1	–	–	–	–	–	–	1
Balance as at 30 June 2021	–	44,932	27,297	85,820	22,979	6,926	1,347	3,914	2,369	–	195,584
Net book value at 30 June 2021	**15,768**	**18,886**	**14,516**	**25,983**	**13,649**	**914**	**846**	**643**	**1,266**	**20,601**	**113,072**

5. Right-of-use asset and lease liability

Reconciliation of right-of-use asset balance

in thousands of New Zealand dollars	2022	2021
Right-of-use asset net book value opening balance	**8,819**	**8,861**
Lease modifications and additions	5,465	1,451
Disposals	–	–
Depreciation	(1,754)	(1,494)
Foreign currency adjustment	7	1
Right-of-use asset net book value closing balance	**12,537**	**8,819**
Represented by:		
Cost	16,985	11,513
Accumulated depreciation	(4,448)	(2,694)
Right-of-use asset net book value closing balance	**12,537**	**8,819**

The Group's leases relate to buildings and land. These leases are recognised as a right-of-use asset and a corresponding liability. Each lease payment is allocated between the lease liability and the finance cost. The finance cost is charged to profit or loss over the lease period so as to produce a constant periodic rate of interest on the remaining balance of the liability for each period. The right-of-use asset is depreciated over the shorter of the asset's useful life and the lease term on a straight-line basis.

Assets and liabilities arising from a lease are initially measured on a present-value basis. Lease liabilities include the net present value of fixed payments.

The lease payments are discounted using the interest rate implicit in the lease. If that rate cannot be determined, the Group's incremental borrowing rate is used, being the rate that the Group would have to pay to borrow the funds necessary to obtain an asset of similar value in a similar economic environment, with similar terms and conditions.

Right-of-use assets are measured at cost, comprising the amount of the initial measurement of lease liability. These assets are subsequently depreciated using the straight-line method from the commencement date to the end of the lease term.

Payments associated with short-term leases and leases of low-value assets are recognised on a straight-line basis as an expense in profit or loss. Short-term leases are leases with a lease term of 12 months or less. Low-value assets comprise small storage spaces.

Reconciliation of lease liabilities

in thousands of New Zealand dollars	2022	2021
Net present value of future lease liability opening balance	**11,022**	**11,339**
Additions and modifications	5,465	1,450
Interest for the year*	502	392
Lease payments made	(2,584)	(2,161)
FX impact	7	2
Net present value of future lease liability closing balance	**14,412**	**11,022**
Current lease liability	2,162	1,996
Non-current lease liability	12,250	9,026
Total lease liabilities closing balance	**14,412**	**11,022**

* The total finance expense of $497k shown in the statement of comprehensive income for 2022 comprises the lease interest of $502k shown in the table above, together with other minor interest payments of $(5)k.

Lease liabilities maturity analysis

in thousands of New Zealand dollars	Minimum lease payments	Interest	Present value
Within one year	2,621	(459)	2,162
One to five years	8,189	(1,066)	7,123
Beyond five years	16,118	(10,991)	5,127
Lease liabilities at 30 June 2022	**26,928**	**(12,516)**	**14,412**

in thousands of New Zealand dollars	Minimum lease payments	Interest	Present value
Within one year	2,338	(342)	1,996
One to five years	8,278	(817)	7,461
Beyond five years	1,734	(169)	1,565
Lease liabilities at 30 June 2021	**12,350**	**(1,328)**	**11,022**

Lease-related expenses included in the statement of comprehensive income

in thousands of New Zealand dollars	2022	2021
Depreciation	1,754	1,494
Short-term and low-value leases	298	507
Interest on leases	502	392
Total	**2,554**	**2,393**

6. Heritage assets

NIWA has one collection and three databases that have been defined as heritage assets. Heritage collection assets are those assets held for the duration of their physical lives because of their unique scientific importance, and heritage databases are maintained as an incidental part of existing business operations.

NIWA has the following heritage assets:

Type	Description
Marine Benthic Biology Collection	A national reference collection of marine invertebrates.
National Climate Database	A national electronic database of high-quality climate information, including temperatures, rainfall, wind and other climate elements.
Water Resources Archive Database	A national electronic database of river and lake locations throughout New Zealand, including levels, quality and flows.
New Zealand Freshwater Fish Database	A national electronic database of the occurrence of fish in the fresh waters of New Zealand, including major offshore islands.

The nature of these heritage assets, and their significance to the science NIWA undertakes, makes it necessary to disclose them. In the directors' view, the cost of these heritage assets cannot be assessed with any reliability, and accordingly these assets have not been recognised for financial reporting purposes.

7. Identifiable intangibles

Purchased identifiable intangible assets, comprising copyrights and software, are recorded at cost less amortisation and impairment. Amortisation is charged on a straight-line basis over the assets' estimated useful lives. The estimated useful life and amortisation method are reviewed each balance date.

Category	Useful life
Copyrights	5 years
Development costs	5 years
Software	3 years

Intangible assets which arise from development costs that meet the recognition criteria are recognised as an asset in the statement of financial position.

Capitalisation is limited to the amount which, taken together with any further related costs, is likely to be recovered from future economic benefits. Any excess is recognised as an expense.

All other development and research costs are expensed as incurred.

Subsequent to initial recognition, internally generated intangible assets are reported at cost, less accumulated amortisation and accumulated impairment losses, on the same basis as purchased identifiable intangible assets.

in thousands of New Zealand dollars	Software	Copyrights	Development costs	Work in progress	Total
Cost					
Balance as at 1 July 2021	11,302	215	374	114	12,005
Additions	593	–	8	134	735
Disposals	–	–	–	–	–
Transfers	183	–	–	(183)	–
Foreign Currency Adjustment	–	–	(5)	–	(5)
Balance as at 30 June 2022	12,078	215	377	65	12,735
Accumulated amortisation and impairment losses					
Balance as at 1 July 2021	9,813	215	140	–	10,168
Amortisation	785	–	43	–	828
Disposals	–	–	–	–	–
Foreign Currency Adjustment	–	–	(5)	–	(5)
Balance as at 30 June 2022	10,598	215	178	–	10,991
Net book value at 30 June 2022	**1,480**	**–**	**199**	**65**	**1,744**

in thousands of New Zealand dollars	Software	Copyrights	Development costs	Work in progress	Total
Cost					
Balance as at 1 July 2020	10,135	215	352	363	11,065
Additions	736	–	22	185	943
Disposals	(3)	–	–	–	(3)
Transfers	434	–	–	(434)	–
Balance as at 30 June 2021	11,302	215	374	114	12,005
Accumulated amortisation and impairment losses					
Balance as at 1 July 2020	9,172	215	102	–	9,489
Amortisation	644	–	38	–	682
Disposals	(3)	–	–	–	(3)
Foreign Currency Adjustment	–	–	–	–	–
Balance as at 30 June 2021	9,813	215	140	–	10,168
Net book value at 30 June 2021	**1,489**	**–**	**234**	**114**	**1,837**

8. Assets held for sale

Assets held for sale are stated at the lower of their carrying amount and fair value less costs to sell.

No new assets were reclassified as held for sale in 2022 (2021: nil). The site at Mahanga Bay is in the process of being sold. This is expected to be finalised within the next 12 months, following delays in the past three years.

in thousands of New Zealand dollars	2022	2021
Land	245	245
Total	**245**	**245**

9. Receivables

Receivables are stated at amortised cost using the effective interest rate, less an allowance for expected losses.

A loss allowance provision is established when the assessment under NZ IFRS 9 deems a provision is required. Changes in the carrying amount of the provision are recognised in the Statement of Comprehensive Income. Debts which are known to be uncollectable are written off against the provision, once approved by the Board of Directors.

in thousands of New Zealand dollars	2022	2021
Trade receivables	17,048	18,952
Sundry receivables	59	108
Loss allowance provision	–	–
Total	**17,107**	**19,060**
Classified as:		
Non-current	–	–
Current	17,107	19,060
Total	**17,107**	**19,060**

Included in the Group's trade receivables balance at the end of the year is one Crown debtor's balance which equates to 32% of the Group's total receivables balance (2021: 37%). 94% of that debtor's balance is less than 60 days overdue and is deemed to be low credit risk (2021: 100%).

The Group considers that a large proportion of its customers have a low credit risk associated with them. Before providing any service or goods to a new customer on credit terms, a check is undertaken when deemed appropriate to verify the creditworthiness of the customer.

The Group reserves the right to charge interest at a rate of 2% per month, calculated daily, on all invoices remaining unpaid at the due date.

Included in the Group's trade receivable balance are debtors with a carrying amount of $935k (2021: $211k) which are more than 60 days past due at the reporting date. The Group has not created a provision for this balance because the amounts are still considered recoverable. The Group does not hold any collateral over past due or impaired balances.

The Group has applied the simplified approach to providing for expected credit losses, which requires the recognition of a lifetime expected loss provision for trade receivables. To measure the expected credit losses, trade receivables have been grouped based on days past due. The expected loss rates are based on the payment profiles of customers on a lifetime basis and the corresponding historical credit losses over a period of five years, adjusted for any significant known amounts that are not receivable. In addition, an expected credit loss allowance provision has been separately calculated in respect of the second debtor identified above as management assessed the risk of not collecting the debt as high. The total expected credit loss allowance provision has been determined as nil (2021: nil) for the Group.

in thousands of New Zealand dollars As at 30 June 2022	Expected Loss Rate	Gross Carrying Amount	Loss Allowance Provision
Current	0.0%	14,242	–
Past due 1 – 30 days	0.0%	1,540	–
Past due 31 – 60 days	0.0%	331	–
Past due 61 – 90 days	0.0%	444	–
Past due > 90 days	0.0%	491	–
Total		**17,048**	**–**

10. Inventory

Inventory is stated at the lower of cost and net realisable value. The basis on which cost is calculated is first in first out (FIFO) for consumables, finished goods and work in progress; and weighted average for raw materials.

in thousands of New Zealand dollars	2022	2021
Consumables	1,138	461
Raw materials	145	273
Finished goods	2,960	1,758
Total	**4,243**	**2,492**

11. Income tax

The income tax expense for the year is the tax payable on the current year's taxable income, based on the income tax rate for each jurisdiction. This is then adjusted by changes in deferred tax assets and liabilities attributable to temporary differences between the tax bases of assets and liabilities and their carrying amounts in the financial statements, and changes in unused tax losses.

The income tax expense is determined as follows:

in thousands of New Zealand dollars	2022	2021
Income tax expense		
Current tax	3,791	6,774
Deferred tax relating to temporary differences	(1,303)	(443)
Income tax expense	**2,488**	**6,331**

Reconciliation of income tax expense

in thousands of New Zealand dollars	2022	2021
Profit before income tax	**8,958**	**22,594**
Tax at current rate of 28%	2,508	6,326
Adjustments to taxation:		
Other non-deductible expenses	23	30
Australian-based subsidiary subject to foreign tax	5	6
(Over)/under provision in previous year	(48)	(31)
Income tax expense	**2,488**	**6,331**

12. Deferred tax liability and assets

Deferred tax is accounted for using the balance sheet liability method in respect of temporary differences arising from the carrying amount of assets and liabilities in the financial statements and the corresponding tax base of those items. Deferred tax liabilities are generally recognised for all taxable temporary differences. Deferred tax assets are generally recognised for all deductible temporary differences to the extent that it is probable that sufficient taxable amount will be available against which those deductible temporary differences can be utilised.

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply to the period when the asset and liability giving rise to them are realised or settled, based on the tax laws that have been enacted or substantively enacted at balance date.

Current and deferred tax is recognised in profit or loss, except when it relates to items recognised in other comprehensive income or directly in equity, in which case the deferred or current tax is also recognised in other comprehensive income or directly in equity, or where it arises from the initial accounting for a business combination.

in thousands of New Zealand dollars As at 30 June 2022	Opening balance	Credited/ (charged) to profit or loss	Closing balance
Temporary differences			
Property, plant and equipment	(3,135)	1,121	(2,014)
Library books	1	(1)	–
Uninvoiced receivables	(1,852)	259	(1,593)
Employee benefits	2,166	175	2,341
Unrealised forex gains/losses on creditors/debtors	(27)	(158)	(185)
Doubtful debts	–	–	–
Leases	609	(93)	516
R&D Tax credit (Australian-based subsidiary)	–	–	–
Total	**(2,238)**	**1,303**	**(935)**

in thousands of New Zealand dollars As at 30 June 2021	Opening balance	Credited/ (charged) to profit or loss	Closing balance
Temporary differences			
Property, plant and equipment	(4,263)	1,128	(3,135)
Library books	3	(2)	1
Uninvoiced receivables	(1,913)	61	(1,852)
Employee benefits	2,308	(142)	2,166
Unrealised forex gains/losses on creditors/debtors	(5)	(22)	(27)
Doubtful debts	459	(459)	–
Leases	687	(78)	609
R&D Tax credit (Australian-based subsidiary)	43	(43)	–
Total	**(2,681)**	**443**	**(2,238)**

In accordance with the Income Tax Act 2007 the Group is not required to establish or maintain an imputation credit account by virtue of its classification as a Crown Research Institute.

13. Cash and cash flows

13a Cash and cash equivalents and other short-term investments

Cash and cash equivalents includes cash on hand, deposits held at call with financial institutions, and other short-term, highly liquid investments with original maturities of three months or less that are readily convertible to known amounts of cash and which are subject to an insignificant risk of changes in value.

Other short-term investments consists of deposits with financial institutions with maturities over three months which are presented as a separate line item in the statement of financial position.

13b Reconciliation of the profit for the year to net cash from operating activities

in thousands of New Zealand dollars	2022	2021
Profit for the year	**6,470**	**16,263**
Add/(less) non-cash items		
Net (gain)/loss on disposal of property, plant and equipment	(966)	126
Depreciation and impairment	17,978	19,813
Amortisation of identifiable intangibles	828	682
Net foreign currency (gain)	(12)	(6)
Increase/(decrease) in deferred tax	(1,303)	(443)
	16,525	**20,172**
Add/(less) movements in working capital		
Increase/(decrease) in payables and accruals and revenue in advance	9,764	7,950
Increase/(decrease) in employee entitlements	1,195	388
Decrease/(increase) in receivables and prepayments	842	(6,794)
Decrease/(increase) in inventory and uninvoiced receivables	(827)	303
Increase/(decrease) in taxation payable and receivable	(3,239)	713
Increase/(decrease) in forward exchange derivatives	(563)	(16)
	7,172	**2,544**
Net cash flows from operating activities	**30,167**	**38,979**

14. Subsidiaries

The Group financial statements incorporate the financial statements of the Company and entities (including special purpose entities) controlled by the Company. Control is achieved where the Company has the power (including the ability to use the power) to govern the financial and operating policies of an entity so as to obtain benefits from its activities.

All intra-group transactions, balances, income, and expenses are eliminated in full on consolidation.

The subsidiaries of the Group and their activities are listed below:

Name	Country	Principal activities	Ownership
NIWA Vessel Management Ltd	New Zealand	Vessel charters for scientific research	100%
Unidata Pty Ltd	Australia	Supplier of environmental technology products	80%
EcoConnect Ltd	New Zealand	Non-trading company	100%
NIWA Australia Pty Ltd	Australia	Non-trading company	100%
NIWA Environmental Research Institute	USA	Non-trading company	100%
NIWA Natural Solutions Ltd	New Zealand	Non-trading company	100%

All subsidiaries have a balance date of 30 June.

No stake in any subsidiary was acquired or disposed of during the year.

15. Related party transactions

The Government of New Zealand (the Crown) is the ultimate shareholder of the NIWA Group. No transactions with other New Zealand Government-owned entities are considered related party transactions in terms of NZ IAS 24. No related party debts have been written off or forgiven during the year. Any business the NIWA Group has transacted in which a director or an employee has an interest has been carried out on a commercial basis. Any potential conflict is recorded in the minutes of Board meetings for directors and a separate interest register for employees. The interests register containing all relevant interests is updated on a regular and timely basis.

Key management personnel compensation

in thousands of New Zealand dollars	2022	2021
Short-term benefits	3,484	3,655

The table above includes the remuneration of the Chief Executive, Executive Team and the Board of Directors.

16. Financial Instruments and Risk Management

The classification of financial assets and liabilities depends on the purpose for which the financial assets and liabilities were incurred. Management determines the classification of the Group's financial assets and liabilities at initial recognition.

Financial assets

Classification

The Group classifies its financial assets in the following measurement categories: those to be measured at amortised costs, and those to be measured subsequently at fair value (either through other comprehensive income, or through profit or loss). The classification depends on the Group's business model for managing the financial assets and the contractual terms of the cash flow.

For assets measured at fair value, gains and losses will be recorded in either profit or loss, or other comprehensive income. For investments in debt instruments, this will depend on the business model in which the investment is held. For investments in equity instruments, this will depend on whether the Group has made an irrevocable election at the time of initial recognition to account for the equity investment at fair value through other comprehensive income.

The Group reclassifies debt investments when, and only when, its business model for managing those assets changes.

Measurement

At initial recognition, the Group measures a financial asset at its fair value plus, in the case of a financial asset not at fair value through profit or loss (FVPL), transaction costs that are directly attributable to the acquisition of the financial asset. Transaction costs of financial assets carried at FVPL are expensed in profit or loss.

Financial assets and liabilities at fair value through profit or loss – Derivative financial instruments

This category has two sub-categories: financial assets held for trading, and those designated at fair value through profit or loss at inception. A financial asset is classified in this category if acquired principally for the purpose of selling in the short term, or if so designated by management.

Derivatives are also categorised as held for trading, unless they are designated as hedges. Assets in this category are classified as current assets if they are either held for trading or are expected to be realised within 12 months of the balance sheet date. After initial recognition, they are measured at their fair values. Gains or losses on re-measurement are recognised in the Statement of Comprehensive Income.

Financial Assets at Amortised Cost

The Group classifies its financial assets at amortised cost only if both of the following criteria are met:

- The asset is held to collect the contractual cash flows, and
- The contractual terms give rise to cash flows that are solely payments of principal and interest.

Impairment of financial assets

The Group assesses, on a forward-looking basis, the expected credit losses associated with its assets carried at amortised cost and fair value through other comprehensive income. The impairment methodology applied depends on whether there has been a significant increase in credit risk. Note 9 details how the Group determines whether there has been a significant increase in credit risk.

For trade receivables only, the Group applies the simplified approach permitted by NZ IFRS 9, which requires expected lifetime losses to be recognised from initial recognition of the receivables.

Capital management

The Group has the following requirements imposed upon it under the Crown Research Institutes Act 1992:

- to operate in a financially responsible manner so that sufficient operating funds are generated to maintain financial viability;
- to provide an adequate rate of return on shareholders' funds; and
- to operate as a going concern.

The Group's policy is to maintain a strong capital base to maintain shareholder and creditor confidence and to sustain future development of the business.

The Group's policies in respect of capital management and allocation are reviewed regularly by the Board of Directors.

The advance facility available from ANZ Bank (refer note 16 subsection financing facilities) is subject to two covenants:

1. That the value of the Group's net tangible assets is greater than $50 million; and
2. That ANZ reserves the right to review the facility in the event of a change in the shareholding structure.

The Group was compliant with these covenants throughout the year.

Capital refers to the equity and borrowings of the Group.

There have been no material changes in the Group's management of capital during the year.

Fair value of financial instruments

The carrying value of all financial instruments is considered to approximate fair value.

All the Group's financial instruments are classified as being within level 2 of the fair value hierarchy as defined by NZ IFRS 13 Fair Value Measurement (2021: the same). Their fair value is determined with reference to quoted rates for identical instruments on active markets.

Credit risk

Credit risk is the risk that a third party will default on its obligations to NIWA and the Group, causing a loss.

In the normal course of business, the Group incurs credit risk from trade receivables, uninvoiced receivables, and transactions with financial institutions (cash and short-term deposits and derivatives).

The Group has a credit policy that is used to manage this risk. As part of this policy, limits are placed on the amounts of credit extended to third parties, and care is taken to ensure the creditworthiness of third parties dealt with. All credit risk exposures are monitored regularly.

The Group does not require any collateral or security to support financial instruments, because of the quality of financial institutions and counterparties it deals with. There are no significant concentrations of credit risk, other than with the New Zealand Government, which the Group does not consider represents a material credit risk.

The exposure of the Group to credit risk as at 30 June 2022 was $74,816k (total exposure to credit risk, comprising cash and cash equivalents $32,019k, other short-term investments $20,000k, uninvoiced receivables $5,690k, and receivables net of provisions $17,107k) (2021: $88,686k).

Further analysis on the receivables balance can be found in note 9.

The Group has not renegotiated the terms of any financial assets which would result in the carrying amount no longer being past due or avoid a possible past due status.

The Group's maximum exposure to credit risk by geographic region is as follows:

in thousands of New Zealand dollars	2022	2021
New Zealand	72,198	86,294
Australia	1,536	1,424
USA	370	506
Other Asia Pacific countries	452	317
Other regions	260	145
Provision for doubtful debts	–	–
Total credit risk	**74,816**	**88,686**

Interest rate risk

Interest rate risk is the risk that cashflows will fluctuate because of changes in market interest rates. This could particularly affect the return on investments.

The interest rates on the Group investments as at 30 June:

	2022	2021
Cash (on call)	0.10%–2.00%	0.15%–0.25%
Other short-term investments	0.05%–3.70%	0.63% –2.40%

The directors do not consider there is any significant exposure to interest rate risk.

Currency risk

The Group undertakes transactions in foreign currencies from time to time, and, resulting from these activities, exposures in foreign currency arise. It is the Group's policy to hedge foreign currency trading transaction risks economically as they arise. To manage these exposures, the Group may use financial instruments such as forward foreign exchange contracts. At balance date, the Group had forward foreign exchange arrangements in place with a New Zealand dollar (NZD) fair value of $570k (2021: $8k).

The Group's exposure to foreign currency denominated non-derivative financial instruments was as follows, based on notional amounts:

in thousands of New Zealand dollars 30 June 2022	AUD	EUR	USD	FJD	GBP	CAD	SGD
Cash balances	1,138	75	174	4	29	2	2
Trade receivables	390	–	155	–	117	–	36
Trade payables	(229)	(33)	(38)	–	(4)	–	–
Statement of financial position exposure	1,299	42	291	4	142	2	38

in thousands of New Zealand dollars 30 June 2021	AUD	EUR	USD	FJD	GBP	CAD	SGD
Cash balances	1,170	11	15	4	10	2	13
Trade receivables	453	–	6	–	–	–	33
Trade payables	(92)	(27)	(41)	–	(7)	–	(5)
Statement of financial position exposure	1,531	(16)	(20)	4	3	2	41

NIWA has a regularly reviewed treasury management policy in place which ensures the appropriate management of currency risk.

Liquidity risks

Liquidity risk represents the Group's ability to meet its contractual obligations. The Group evaluates its liquidity requirements on an ongoing basis. In general, the Group generates sufficient cash flows from its operating activities to meet its obligations arising from its financial liabilities and has credit lines in place to cover potential shortfalls.

Payables and accruals of $13.083 million (2021: $9.040 million) have a contractual maturity of less than one year. This is based upon the earliest date on which the Group can be required to pay.

Financing facilities

The Group has access to financing facilities made available by ANZ Bank with a total value of $10.5 million (2021: $10.5 million). This was undrawn at 30 June 2022 (2021: also undrawn). The total facility of $10.5 million relates to an overdraft facility of $0.5 million (on-call) and an overnight placement and short-term advance facility of $10 million.

17. Capital commitments

in thousands of New Zealand dollars	2022	2021
Commitments for future capital expenditure		
Contracted, but not provided for	46,759	34,357

The majority of the 2022 balance relates to contracts that have been awarded for the construction of the NIWA Hamilton office and the replacement of the RV *Kaharoa*. It also relates to ongoing work on the construction of the Recirculating Aquaculture System (RAS) at the Northland Aquaculture Centre in partnership with Northland Regional Council.

18. Subsequent events

There are no material events occurring subsequent to 30 June 2022 which require adjustment or disclosure in the financial statements.

PREPARATION DISCLOSURES

Reporting entity

National Institute of Water and Atmospheric Research Limited ('NIWA' or 'the Company') and its subsidiaries form the consolidated Group ('the NIWA Group' or 'the Group'). NIWA is a profit-oriented company registered in New Zealand under the Companies Act 1993.

The financial statements for the NIWA Group are presented in accordance with the requirements of the Crown Research Institutes Act 1992, the Crown Entities Act 2004, the Public Finance Act 1989, the Companies Act 1993, and the Financial Reporting Act 2013.

Nature of activities

The NIWA Group conducts research and commercial science in water and atmospheric sciences in New Zealand and internationally.

Basis of preparation

The measurement basis adopted in the preparation of these financial statements is historical cost, except for financial instruments as identified in specific accounting policies above.

The presentation currency of the Group and functional currency used in the preparation of these financial statements is New Zealand dollars.

All amounts disclosed in the financial statements and notes have been rounded to the nearest thousand New Zealand dollars unless otherwise stated.

Accounting policies are selected and applied in a manner that ensures that the resulting financial information meets the concepts of relevance and reliability, ensuring that the substance of the underlying transaction or event is reported.

The accounting policies have been applied in preparing the financial statements for the year ended 30 June 2022 and the comparative information for the year ended 30 June 2021.

The 2022 Statement of Corporate Intent (SCI) Budget that is used for comparative information is not audited.

Statement of compliance

The financial statements have been prepared in accordance with New Zealand generally accepted accounting practice (NZ GAAP). They comply with New Zealand Equivalents to International Financial Reporting Standards (NZ IFRS) and other applicable financial reporting standards appropriate for profit-oriented entities.

The financial statements comply with International Financial Reporting Standards (IFRS).

Goods and services tax (GST)

The financial statements are prepared on a GST-exclusive basis, except for receivables and payables, which are stated GST-inclusive.

Foreign currencies

Transactions

Transactions in foreign currencies are converted to the functional currency of the Group, being New Zealand dollars, by applying the spot exchange rate between the functional currency and the foreign currency at the date of the transaction. At the end of each year, monetary assets and liabilities are translated to New Zealand dollars using the closing rate of exchange at balance date, and any exchange gains or losses are recognised in the statement of comprehensive income.

Translation of foreign operations

On consolidation, revenues and expenses of foreign operations are translated to New Zealand dollars at the average exchange rates for the year. Assets and liabilities are converted to New Zealand dollars at the rates of exchange ruling at balance date. Exchange rate differences arising from the translation of the foreign operations are recognised in other comprehensive income and accumulated as a separate component of equity in the Group's foreign currency translation reserve. Such exchange differences are reclassified from equity to profit or loss (as a reclassification adjustment) when the foreign operation is disposed of.

Adoption of new and revised standards

There are no standards that are not yet effective and that would be expected to have a material impact on the Group

AUDITOR'S REPORT

Independent auditor's report

To the readers of National Institute of Water and Atmospheric Research Limited's financial statements for the year ended 30 June 2022.

The Auditor-General is the auditor of National Institute of Water and Atmospheric Research Limited (the Group). The Auditor-General has appointed me, Troy Florence, using the staff and resources of PricewaterhouseCoopers, to carry out the audit of the financial statements of the Group on his behalf.

Opinion

We have audited the financial statements of the Group on pages 18 to 30, that comprise the statement of financial position as at 30 June 2022, the statement of comprehensive income, statement of changes in equity and cash flow statement for the year ended on that date and the notes to the financial statements that include accounting policies and other explanatory information.

In our opinion, the financial statements of the Group:

- present fairly, in all material respects:
  - its financial position as at 30 June 2022; and
  - its financial performance and cash flows for the year then ended; and
- comply with generally accepted accounting practice in New Zealand in accordance with New Zealand Equivalents to International Financial Reporting Standards (NZ IFRS) and International Financial Reporting Standards (IFRS).

Our audit was completed on 30 August 2022. This is the date at which our opinion is expressed.

The basis for our opinion is explained below. In addition, we outline the responsibilities of the Board of Directors and our responsibilities relating to the financial statements, we comment on other information, and we explain our independence.

Basis for our opinion

We carried out our audit in accordance with the Auditor-General's Auditing Standards, which incorporate the Professional and Ethical Standards and the International Standards on Auditing (New Zealand) issued by the New Zealand Auditing and Assurance Standards Board. Our responsibilities under those standards are further described in the Responsibilities of the auditor section of our report.

We have fulfilled our responsibilities in accordance with the Auditor-General's Auditing Standards.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Responsibilities of the Board of Directors for the financial statements

The Board of Directors is responsible on behalf of the Group for preparing financial statements that are fairly presented and that comply with generally accepted accounting practice in New Zealand.

The Board of Directors is responsible for such internal control as it determines is necessary to enable it to prepare financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Board of Directors is responsible on behalf of the Group for assessing the Group's ability to continue as a going concern. The Board of Directors is also responsible for disclosing, as applicable, matters related to going concern and using the going concern basis of accounting, unless the Board of Directors has to cease operations, or has no realistic alternative but to do so.

The Board of Directors' responsibilities arise from the Crown Research Institutes Act 1992.

Responsibilities of the auditor for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements, as a whole, are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion.

Reasonable assurance is a high level of assurance, but it is not a guarantee that an audit carried out in accordance with the Auditor-General's Auditing Standards will always detect a material misstatement when it exists. Misstatements are differences or omissions of amounts or disclosures and can arise from fraud or error. Misstatements are considered material if, individually or in the aggregate, they could reasonably be expected to influence the decisions of readers taken on the basis of these financial statements.

For the budget information reported in the financial statements, our procedures were limited to checking that the information agreed to the Group's statement of corporate intent.

We did not evaluate the security and controls over the electronic publication of the financial statements.

As part of an audit in accordance with the Auditor-General's Auditing Standards, we exercise professional judgement and maintain professional scepticism throughout the audit. Also:

- We identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- We obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.
- We evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Board of Directors.
- We conclude on the appropriateness of the use of the going concern basis of accounting by the Board of Directors and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- We evaluate the overall presentation, structure and content of the financial statements, including the disclosures and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- We obtain sufficient appropriate audit evidence regarding the financial statements of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the Group audit. We remain solely responsible for our audit opinion.

We communicate with the Board of Directors regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Our responsibilities arise from the Public Audit Act 2001.

Other Information

The Board of Directors is responsible for the other information. The other information obtained at the date of our report is the Financial Summary and Group actual performance versus Statement of Corporate Intent on pages 13 to 16, and the Corporate governance and disclosures, Statement of responsibility and Directory on pages 33 to 36, but does not include the financial statements, and our auditor's report thereon.

Our opinion on the financial statements does not cover the other information and we do not express any form of audit opinion or assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information. In doing so, we consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If, based on our work, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Independence

We are independent of the Group in accordance with the independence requirements of the Auditor-General's Auditing Standards, which incorporate the independence requirements of Professional and Ethical Standard 1: *International Code of Ethics for Assurance Practitioners* issued by the New Zealand Auditing and Assurance Standards Board.

In addition to the audit, and subsequent to 30 June 2022, we will carry out an engagement in the area of agreed-upon procedures regarding payment received in accordance with a research agreement, which are compatible with those independence requirements. Other than the audit and this engagement, we have no relationship with or interests in the Group.

Troy Florence
PricewaterhouseCoopers
On behalf of the Auditor-General
30 August 2022

Auckland, New Zealand

CORPORATE GOVERNANCE AND DISCLOSURES

Board and committee meeting attendance

The table below shows director attendance at these Board meetings and committee member attendance at committee meetings. In addition, any director may attend any committee meeting.

Director	Board meetings	ALCR Committee*	People & Culture Committee*	Future Property Programme Governance Committee*
Barry Harris *(Chairman)*	10	2**	1**	–
Nicholas Main *(Deputy Chairman)*	10	4	–	2
Dr Tracey Batten	9	1***	1***	2
Janice Fredric *(from 1 February 2022)*	4	2***	–	–
Prof. Margaret Hyland *(from 1 February 2022)*	4	2***	–	–
Mary-Anne MacLeod	10	2***	1	2
Dean Moana *(from 1 February 2022)*	4	–	–	–
Total meetings held	**10**	**4**	**1**	**2**

* Only attendances by Committee members and Chairman are recorded.
**Barry Harris attends Committee meetings in an *ex officio* capacity.
*** Committee memberships changed during the year following the appointment of the three new directors in February 2022. Only meeting attendances while a member of the Committee are recorded.

Directors' remuneration

The total remuneration received or receivable by directors of NIWA during the year was:

in thousands of New Zealand dollars	2022	2021
Barry Harris *(Chairman)*	72	72
Nicholas Main *(Deputy Chairman)*	45	45
Dr Helen Anderson *(until 30 June 2021)*	–	36
Dr Tracey Batten	36	36
Janice Fredric *(from 1 February 2022)*	15	–
Prof. Margaret Hyland *(from 1 February 2022)*	15	–
Prof. Gillian Lewis *(until 30 June 2021)*	–	36
Mary-Anne Macleod	36	36
Dean Moana *(from 1 February 2022)*	15	–

Subsidiary company directors

The following people held office as directors of NIWA's subsidiary companies at 30 June 2022:

Subsidiary Company	Directors
NIWA Vessel Management Ltd	B Harris, N Main, T Batten, J Fredric, M Hyland, M-A Macleod, D Moana
Unidata Pty Ltd	W Johnston[1], C Pearson[1], D Saunders[2]
EcoConnect Ltd	J Morgan[1], P Baker[1]
NIWA Australia Pty Ltd	B Harris, N Main, T Batten, J Fredric, M Hyland, M-A Macleod, D Moana
NIWA Environmental Research Institute	B Harris, N Main, T Batten, J Fredric, M Hyland, M-A Macleod, D Moana
NIWA Natural Solutions Ltd	J Morgan[1], P Baker[1]

1. Employee of the Group's parent company
2. Appointed by the minority ownership interest in Unidata Pty Ltd

No fees were paid in respect of membership of subsidiary boards.

Insurance for directors and employees

The NIWA Group has arranged insurance policies for directors and employees which, with a deed of indemnity, ensure that they will generally incur no monetary loss as a result of lawful actions undertaken by them as directors or employees. These include, among others, directors and officers and professional indemnity policies. Certain risks are specifically excluded from the cover provided, including the imposition of penalties and fines in respect of breaches of the law.

Auditors

In accordance with Section 21(1) of the Crown Research Institutes Act 1992, the Group's auditor is the Auditor-General. The Auditor-General has appointed Troy Florence of PricewaterhouseCoopers to conduct the audit on his behalf. The audit remuneration and fees paid for other services are detailed in note 2.

Interests register

The following are transaction types recorded in the interests register for the year.

Interested transactions

Any business the NIWA Group has transacted in which a director has an interest has been carried out on a commercial basis. Any potential conflict is recorded in the minutes of Board meetings. A register containing all relevant interests is updated on a monthly basis.

Directors' remuneration

Details of the directors' remuneration are provided in the 'Directors' remuneration' section above.

Use of company information by directors

Pursuant to section 145 of the Companies Act 1993 there were no recorded notices from directors requesting to use company information received in their capacity as directors that would not otherwise have been available to them.

Share dealings

During the year no director purchased, disposed of, or had recorded dealings of any equity securities of the NIWA Group.

Directors' loans

No loans by the NIWA Group to any director were made or were outstanding during the year.

Disclosure of directors' interests

Directors disclosed, under section 140(2) of the New Zealand Companies Act 1993, the following interests as at 30 June 2022:

Director and company	Position
Barry Harris	
McFall Fuel Ltd	Chair
Rural Fuels Ltd	Chair
OSPRI New Zealand Limited	Chair
TB Free Ltd	Chair
National Animal Identification and Tracing (NAIT) Ltd	Chair
New Zealand Food Innovation (Waikato) Ltd	Chair
Waikato Regional Airport Ltd	Chair
WEL Networks Ltd	Director
Nicholas Main	
Middlemore Foundation	Director
Padstow Properties Ltd	Director and shareholder
Main Investment Trust	Trustee
Sadhna Valabh Trust	Trustee
Manjula and Adhurji Valabh Trust	Trustee
Sir Peter Blake Trust	Trustee
Deloitte New Zealand Ltd	Consultant
Tracey Batten	
EBOS Group Ltd	Director
Medibank Private Limited (Australia)	Director
Accident Compensation Corporation	Director
Janice Fredric	
Mainpower Ltd	Director
Green Power New Zealand Ltd	Director
Mt Cass Wind Farm Ltd	Director
Lincoln University	Council Member
Unity Credit Union	Director
Civil Aviation Authority	Chair
Aviation Security Service	Chair
NZ Shipwreck Welfare Trust	Trustee
Tregynon Charitable Trust	Trustee
Timaru District Council – Audit & Risk Committee	Independent Member
Prof. Margaret Hyland	
Cirrus Materials Science	Director
Te Herenga Waka-University of Wellington	Vice-Provost (Research)
Research Trust of Victoria University of Wellington	Chair
Wellington UniVentures	Deputy Chair
Karori Sanctuary Trust (trading as Zealandia Te Māra a Tāne)	Trustee
Mary-Anne Macleod	
MacMacleod Limited	Director and shareholder
DairyNZ Limited	Director
University of Waikato	University Council (from April 2022)
Environmental Protection Authority	Director
AgResearch	Director (from February 2022)
Ministry for the Environment	Strategic Advice
Various Regional Councils	Occasional consultancy
Araneacattus Family Trust	Trustee
Fire and Emergency New Zealand	Director (from August 2021)
Dean Moana	
Whangaokena ki Onepoto Takutai Trust	Trustee
NZ Food & Beverage Group Ltd	Director & Shareholder
Te Runanganui o Ngati Porou	Director & Shareholder
The NZ Institute for Plant & Food Research Ltd	Director
Climate Change Commission	Nominating Member (until March 2022)
Ngati Porou Holding Company	Director
Tohetaka Ltd	Director/Chair
Ngati Porou Manuka Ltd	Director
Ngati Porou Seafoods Ltd, NP Fisheries Ltd, Real Fresh Ltd	Director
ICP General Partner Ltd	Director
Port Nicholson GP Ltd,	Director
Koura Inc GP Ltd	Director
Ahi Mokopuna GP Ltd	Director
Akaroa Salmon NZ Ltd	Director
AsureQuality Ltd	Director
BV-AQ (Singapore) Holdings Pte Ltd	Director

Employees' remuneration

The number of employees (not including directors) whose remuneration exceeded $100,000 during the year, stated in brackets of $10,000, was:

	2022
100,000–109,999	73
110,000–119,999	83
120,000–129,999	40
130,000–139,999	27
140,000–149,999	22
150,000–159,999	12
160,000–169,999	7
170,000–179,999	7
180,000–189,999	14
190,000–199,999	6
200,000–209,999	7
210,000–219,999	3
230,000–239,999	1
250,000–259,999	2
290,000–299,999	2
320,000–329,999	1
340,000–349,999	1
360,000–369,999	1
370,000–379,999	1
650,000–659,999	1

The remuneration reflected in the above table comprises base salary only. This excludes payments in respect of superannuation or in respect of the cessation of employment of employees.

In 2022, the Group made payments of $191k for compensation or other benefits in respect of the cessation of employment of employees (2021: $124k).

Executive Remuneration

Remuneration Components

The Group's Executive Team (ET), including the Chief Executive, receive fixed remuneration only. This consists of base salary and benefits, including KiwiSaver and insurance.

Chief Executive's remuneration

The Chief Executive's remuneration package that applied for 2022, together with the comparative information for the prior year, is as follows:

in New Zealand dollars	2022	2021
Base salary[1]	658,714	659,064
Benefits[2]	56,692	59,606
Total Remuneration	**715,406**	**718,670**

1: Actual salary paid includes holiday pay paid consistent with New Zealand legislation. The base salary for 2022 was $658,711 (2021: $658,711).
2: Benefits include KiwiSaver, insurance and vehicle fuel expenses.

The Chief Executive is a member of KiwiSaver. As a member of this scheme, all Group staff, including the Chief Executive, are eligible to contribute and receive a matching company contribution up to a maximum of 5% of gross taxable earnings. In 2022, the Group's contribution was $32,936 (2021: $32,953).

A summary of the Chief Executive's total remuneration during the past five years is as follows:

	Total remuneration
2022	715,406
2021	718,670
2020	714,996
2019	706,512
2018	687,978

Executive Team remuneration

In addition to the Chief Executive, NIWA's Executive Team consists of eight members. The remuneration package for all Executive Team members combined (excluding the Chief Executive) that applied for 2022, together with the comparative information for the prior year, is as follows:

in New Zealand dollars	2022	2021
Base salary[1]	2,347,497	2,478,652
Benefits[2]	186,475	197,114
Total Remuneration	**2,533,972**	**2,675,766**

1: Actual salary paid includes holiday pay paid consistent with New Zealand legislation. The base salaries for 2022 totalled $2,348,790 (2021: $2,414,970).
2: Benefits include employer contributions to superannuation schemes (KiwiSaver or legacy government superannuation schemes, as applicable), insurance and wellness allowances.

Donations

Donations of $1,000 were made during the year (2021: $1,000).

STATEMENT OF RESPONSIBILITY

The following statement is made in accordance with section 155 of the Crown Entities Act 2004.

1. The Board of the Company is responsible for the preparation of these financial statements and the judgements used therein.
2. The Board of the Company is responsible for establishing and maintaining a system of internal controls designed to provide reasonable assurance as to the integrity and reliability of financial reporting.
3. In the opinion of the Board, these financial statements reflect a true and fair view of the financial position and operations of the Group for the year ended 30 June 2022.

Barry Harris
Chairman

Nicholas Main
Deputy Chairman

30 August 2022

DIRECTORY

DIRECTORS

Barry Harris, Chairman
Nicholas Main, Deputy Chairman
Dr Tracey Batten
Janice Fredric *(from 1 February 2022)*
Prof. Margaret Hyland *(from 1 February 2022)*
Mary-Anne Macleod
Dean Moana *(from 1 February 2022)*

EXECUTIVE TEAM

John Morgan, *Chief Executive*
Dr Rob Murdoch, *Deputy Chief Executive and General Manager, Science*
Geoff Baird, *General Manager, Communications & Marketing*
Patrick Baker, *Chief Financial Officer*
Dr Mary-Anne Dehar, *General Manager, People & Capability*
Warrick Johnston, *General Manager, Technology & Innovation*
Dr Helen Neil, *General Manager, Operations*
Marino Tahi, *General Manager, Māori & Pacific Partnerships*
Dr Alex Thompson, *General Manager, Research Strategy*

REGISTERED OFFICE AND ADDRESS FOR SERVICE

41 Market Place
Auckland Central 1010
New Zealand

AUDITOR

Troy Florence with the assistance of PricewaterhouseCoopers on behalf of the Auditor-General

BANKERS

ANZ Bank New Zealand Ltd
ASB Bank Ltd
Westpac New Zealand Ltd

SOLICITORS

Meredith Connell
Atkins Holm Majurey

INSURANCE BROKER

Marsh Ltd

HEAD OFFICE

41 Market Place
Auckland Central 1010

Private Bag 99 940
Newmarket 1149, Auckland
New Zealand

Tel +64 9 375 2050
Fax +64 9 375 2051

WEBSITE AND SOCIAL MEDIA

www.niwa.co.nz
weather.niwa.co.nz
facebook.com/nzniwa
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twitter.com/niwaweather
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NIWA
Taihoro Nukurangi

Climate, Freshwater & Marine Science