

# Sustainability – Environmental

The sustainability section of this Annual Report sets the benchmark for NIWA's future quadruple bottom line reporting, using guidelines and indicators from the international standard in sustainability reporting, the Global Reporting Initiative (GRI G3), for performance against the GRI environmental, economic, labour, and social/cultural indicators.

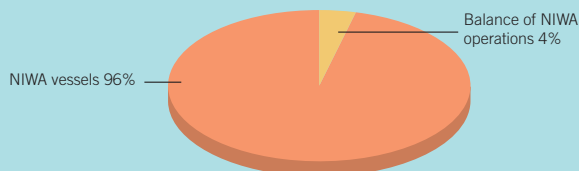
NIWA contributes to the long-term sustainability of New Zealand primarily by undertaking science that enables informed decisions about New Zealand's natural resources. In conducting its science and other operations, NIWA has to be able to measure and mitigate its own impact on the environment.

## Key issues and challenges

First and foremost, with many initiatives already undertaken to address our environmental impacts, bigger leaps in efficiency will become harder to make. For example, reductions in diesel consumption by our marine research vessels have reached a threshold that, if extended, would negatively impact business viability. However, NIWA is taking action.

**Initiative.** NIWA's biggest source of greenhouse gas (GHG) emissions is diesel used by marine research vessels. We continuously seek to reduce diesel consumption; in 2007–08 we reduced cruising speeds of our vessels by 1.5 knots, resulting in a 25% reduction in diesel consumption, and reducing our GHG emissions by 1700 tonnes CO<sub>2</sub>.

### Diesel consumption across NIWA, 2007–08



Secondary issues affecting our environmental performance include:

- The 'balancing act' involved in continuing to develop our business while reducing our environmental impacts. For instance, international travel is essential to stay at the forefront of our scientific fields, but increases our GHG emissions.
- Operating in an expanding field means we are focused on growth. While we are continuously seeking ways to increase efficiencies, employing more people and carrying out more work directly translates to higher energy consumption.

## Strategic initiatives

Initiative	Target
<b>Continuing to reduce NIWA's environmental footprint in our own operations</b>	
Successfully establish baseline data for setting future targets	Install energy monitoring systems at major sites with high energy consumption
Increase investment of NIWA revenue into sustainability initiatives and energy demonstration projects, e.g., more efficient heating and alternative energy systems	Invest up to 0.5% of revenue by 2009
Review ways to further cut consumption or improve efficiency of NIWA vessels, including assessing biofuels	Continue to research and test biofuel technology. Current testing includes biofuels from pig waste at NIWA Hamilton
Implement guidelines for new buildings and renovations to achieve at least 4 star Green Star rating; continue to encourage behavioural changes to help reduce electricity consumption	Building guidelines in place by 2009 and electricity reduction target of 5kWh/m <sup>2</sup> by 2010
Encourage staff to use more environmentally friendly transport for commuting	70% of staff using 'alternative' modes
Enhance mitigation initiatives for overseas travel	Develop formal mitigation strategy. In 2008, NIWA paid for 700 and planted over 400 trees to offset 2007 travel
Measure and track staff opinions on the place of sustainability in NIWA's work	70% of staff believe sustainability is core to NIWA's ethos
Increase use of video conferencing and reduce travel needs	300 hours in 2008–09
Implement projects aimed at increasing the centralisation of processes and Information and Communication Technology (ICT) infrastructure to help reduce electricity and petrol consumption across NIWA's operations	Separate budgets for ICT by 2009; centralised records and registers by 2010

## Key performance indicators

Indicator	Target
Total GHG emissions	Reduce total emissions to below 2006–07 levels by 2010 and reduce emissions for vessels to 2006–07 levels by 2010
Total GHG emissions per full-time employee	Reduce to 2006–07 levels by 2010 and reduce by a further 10% on 2006–07 levels by 2012
Energy consumption per full-time employee	Reduce by 10% of 2006–07 consumption by 2012
Solid waste generation	Reduce solid waste generated by 10% of 2003–04 levels by 2009

## Stakeholder interview

Barry Biggs, General Manager, Operations



### What is the scope of your role?

Until July 2008, I was General Manager, Environmental Information and International. A big part of my role was to develop new and more robust approaches to monitoring New Zealand's climate and water resources to enhance environmental planning and sustainable resource use/management throughout New Zealand.

I was also responsible for NIWA's international programmes, which includes helping Pacific Island countries meet their sustainable development objectives under a changing climate.

Now, as General Manager, Operations, I lead NIWA's sustainable development strategy, including continuous improvement processes in our operations and identifying opportunities to improve sustainable development initiatives for our clients.

### What are the main focus areas for NIWA's environmental performance?

NIWA's involvement in sustainability operates on two levels:

1. Developing tools and systems to enhance sustainability of New Zealand's productive sector, including farming practices and fisheries, whilst maintaining and enhancing the environment. This is our most important contribution to sustainability.
2. Adopting more sustainable business practices for our own organisation. It is important for us to be exemplary, and our main challenges currently are:
  - Fossil fuel consumption and GHG emissions by our research vessels
  - Energy consumption running our buildings
  - Fossil fuel consumption and GHG emissions through staff business travel
  - Improving practices for recycling organic waste, batteries, paper, and IT equipment.

### What are your goals for the next 12–24 months?

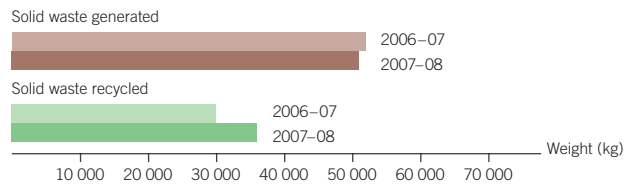
I would like to promote greater understanding of how our science-based tools are fundamental to the sustainability and development goals of society.

Operationally, we must integrate the demands for improved economic, environmental, social, and cultural sustainability whilst maintaining a viable science business that meets shareholder expectations. For example, our vessels produce most of our GHG emissions as they carry out research. There are only a limited number of further changes we can make whilst maintaining client services.

I think that there is a lot that can be done at the local staff level, particularly in carbon emission reduction. It is important that we make use of initiatives by industry, councils, and community groups at the many places where we operate to improve such general tasks as recycling organic waste, batteries, paper, and IT equipment. These are among the issues that I will be pursuing.

## GRI indicators and results

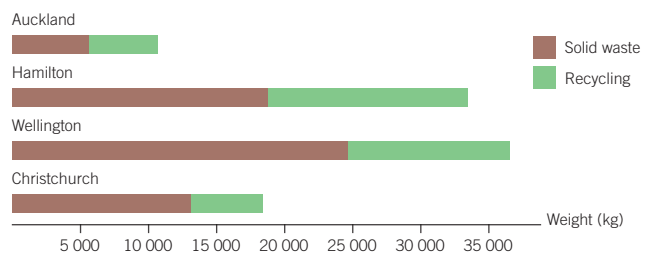
### Total NIWA solid waste and recycling



Despite a 4% increase in permanent full-time employees (FTEs) between 2006–07 and 2007–08, we reduced our solid waste generation by 2% per FTE, and increased our total recycling of solid waste by 18% per FTE. The key initiatives NIWA employed were:

- Influencing the supply chain: requesting IT equipment suppliers to reduce or eliminate packaging materials
- More frequent waste audits: better information about waste flows
- Making the process easier: introducing paper recycling trays and more recycling bins
- Better support: increased internal communication about new processes and benefits.

### Solid waste generated and recycled during 2007–08 at NIWA's main sites

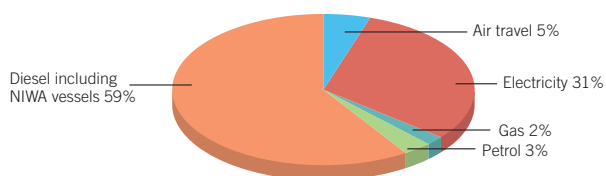


The figures provided for this performance indicator are the best measurements available for NIWA's solid waste across our major sites, but not including NIWA vessels.

NIWA Wellington is our largest site with 274 staff (permanent and fixed-term), as at 30 June 2008, followed by Hamilton with 154 and Christchurch 139. Waste generated and waste recycled reflect these staff numbers and related activity, except for NIWA Hamilton, where a recent waste audit and subsequent recycling initiatives have increased recycling.

## NIWA's GHG emissions profile by source, 2007–08

Source	Tonnes of CO <sub>2</sub> e
Diesel incl. NIWA vessels	5790
Electricity	3026
Air travel	465
Petrol	317
Gas	158
<b>Total</b>	<b>9756</b>



Diesel consumption makes up the largest part of NIWA's GHG emissions. Of this, 96% is attributed to NIWA Vessels' operations and 4% to the rest of NIWA's land-based operations. While air travel is a key requirement for the professional development of NIWA scientists and international collaboration, it makes up only 5% of total emissions. Nevertheless NIWA is developing a mitigation strategy for this.

Gas usage is limited to heating at NIWA's Wellington site. Petrol usage is limited to NIWA staff car use in daily operations.

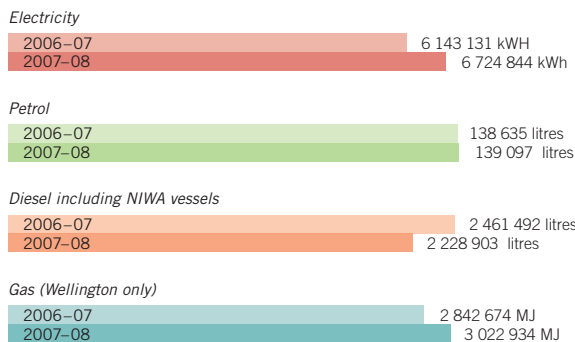
Emissions from electricity consumption provide a good opportunity for emissions reduction through the implementation of Green Star building guidelines as well as evolving staff behaviour. NIWA is installing monitoring systems at sites with high energy consumption while investing more resources into research and development of alternative energy systems.

### Statement on NIWA's environmental mandate as a New Zealand Crown Research Institute (CRI)

NIWA aspires to help maintain the health of the environment and minimise our operational impacts and, through our science, help New Zealanders make decisions and take actions that promote the sustainable use of our natural resources. In addition, NIWA:

- Complies with all environmental regulations, actively monitors processes, and sets improvement targets with the goal of attaining or exceeding them
- Works towards sustainability of operations in support of our mandate to minimise our impacts on the environment
- Endeavours to implement and invest in energy efficient and energy saving initiatives, practices, and behaviours in our operations
- Strives to prevent pollution and minimise material wastes in our operations.

## NIWA's total energy consumption by source

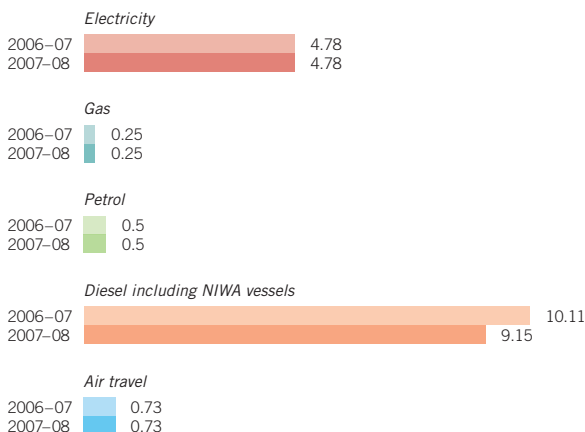


Includes taxis but does not include air travel and rental car usage.

While we have been able to reduce diesel consumption, a four percent growth in permanent full-time employees in 2007–08 – and associated work activity – saw small increases in the consumption of electricity, petrol, and gas. In the coming year, NIWA will continue to seek to reduce energy consumption across the board.

The increases in energy consumption shown above translated to negligible increases in GHG emissions on a per FTE basis. The significant change was the reduction in GHG emissions from our largest source, diesel.

## GHG emissions (in tonnes of CO<sub>2</sub>e) per full-time employee



# Sustainability – Economic

NIWA aims to deliver and communicate expert science that critically informs decision making in the New Zealand economy. As a Crown Research Institute (CRI) operating in a competitive environment, NIWA must balance commercial imperatives with its sustainability aspirations. To be a positive contributor to New Zealand's economy, our own viability – as a business and science organisation – is fundamental. We are focused on improving our operational, science delivery, and financial performance as the basis for future success.

NIWA intends to continue providing the best possible science for all of our customers. The continued increase in our revenue demonstrates an ongoing growth in demand for the research, products, and services that we provide. It also shows NIWA's ability to respond to new opportunities and issues facing New Zealand.

## Stakeholder interview

*John Morgan, Chief Executive*

### How do you describe NIWA's economic impact?

NIWA's economic impact is considerable. Economic decisions are being made everyday as a result of NIWA's science – from fishing quotas, biosecurity and freshwater management guidelines, to planning for roading infrastructure.

One of NIWA's key roles is climate science and environmental forecasting – in a land-based production economy this is critical. Not to mention the requirements of tourism, the energy sector, the insurance industry, and local and central government.

### Is sustainability a fad?

No. But even if you do think sustainability is a fad, it is a global one. New Zealand sells to the world, and as long as those markets consider a clean green image important, maintaining that image here is critical. NIWA has an important role to play in ensuring New Zealanders get comfortable with facts: yes, we do have a water supply issue; yes we do have an energy supply issue. With that national consciousness, we can ensure we do not become complacent about improved sustainability, as individuals, as a society, and as an economy. I wish the facts were wrong. But they are stark and real – and they demand that we take action.

### How should New Zealanders approach climate change?

What we should be talking about is how we – as an economy and a society – will adapt to future changes, not debating whether or not it's real.

### In the big picture, who is NIWA undertaking its science for?

The world's citizens. The species of Earth. New Zealanders. Our clients are in various industry segments, but also, critically, those who make decisions on behalf of New Zealanders, such as local councils and central government. Just as important, we want our knowledge to create communities that are better prepared for a constantly changing environment. Droughts, for example: they may be less dramatic and less newsworthy than floods, but they can have enormous economic impacts. Droughts affect productivity and economic growth in a much more insidious way. Treasury reported this year that the 1998 drought likely triggered or precipitated the onset of the recession in the late 1990s. How well communities and industries are prepared for such events will determine how well they survive and push through it. The value of NIWA's science is in delivering knowledge for better decisions, taken at the right time.



### What are the key challenges?

Something we recognise is that the science sector is not too good at promoting itself. We need to better communicate our science. NIWA's duty is to be experts and confidently present facts. This can be a challenge in a media environment where personal opinions and controversy often gain profile.

Science has been undervalued for the past 20 years. But there is a shift; there is an increasing demand for, and investment in, scientists and good science. This does present challenges in a tight and extremely competitive job market.

For NIWA, economic sustainability is a holistic view. It is about continuous capability building; when some projects are 10 years or longer, we need to ensure we are still here delivering to our mandate in the long term. We need to continue to make good financial and commercial decisions and correctly prioritise our limited resources.

To meet its obligations of economic sustainability, NIWA needs to generate sufficient operating surpluses to enable continued growth, and investment in capital expenditure and areas that extend our current base beyond fee-for-service.

### And key opportunities?

The opportunities are enormous. Today there is high pressure for science to deliver answers for society and industries, and there is a correspondingly high demand for human resources in our field.

In a globalised job market, attraction and retention is always going to be a challenge. We are fortunate that New Zealand offers an attractive lifestyle and interesting work. We need to ensure that a New Zealand-based job with NIWA can be a professional career highlight.

As Chief Executive, a key challenge is creating the environment and work culture that allows this to happen.

The fact that most NIWA staff cite 'making a difference' as their key reason for being here reflects what I enjoy most about running an organisation like NIWA – we have so many bright people who are passionate about finding solutions.

## Key issues and challenges

NIWA has had three exceptional years. The challenge for NIWA is to maintain a good level of growth, profitability, and shareholder return in an economic environment defined by increasing competition, a tight labour market, and rising costs. In this regard, the critical focus areas for NIWA in the next 12–24 months include:

- Increasing commercialisation and other avenues to turn our research outcomes into new products, services, and industries for New Zealand
- Continuing to find new investment and growth opportunities that extend beyond straight fee-for-service
- Continuing to evolve services to meet changing client needs.

## Strategic initiatives

Initiative	Target
<b>Continue to increase and enhance positive contribution to the New Zealand economy</b>	
Roll-out of sustainable purchasing and ethical supply policy	NIWA has 2600 active suppliers and processes, generating approximately 23 000 invoices p.a. NIWA to reduce both by 50%. Preferred suppliers to be identified
<b>Maintain financial and business momentum</b>	
Setting clear targets for financial performance as well as key science outputs	Refer indicators opposite
<b>Increase commercialisation of NIWA science and research in the New Zealand economy</b>	
Setting specific targets for licensing arrangement and patents granted	Refer indicators opposite
<b>Expand growth and investment opportunities</b>	
Setting specific targets for joint ventures and formal associations with other agencies and industries	Refer indicators opposite
Setting specific targets for new or improved products, processes or services	Refer indicators opposite
<b>Better meet client needs</b>	
Implement greater use of the project management system to better track client requirements	Identify and pilot a new enterprise project management system in NIWA and provide staff with appropriate training to use it effectively to manage opportunities, keep track of resources, and track progress on projects. By June 2010

### Influencing the supply chain

NIWA is developing a sustainable purchasing and ethical supply policy to align our own policy with best practice. The policy's general guidelines and criteria will include:

- Value for money
- Preference for New Zealand made goods and services
- Recycled content
- Energy and waste efficient products and processes
- Disposal and pollution reduction.

A Strategic Procurement & Asset Manager has been employed to realign our regional spend into national spend with preferred suppliers, and to provide more centralised management of assets.

### Customers and clients

As a Crown-owned operation, NIWA has a nominal nine per cent return on equity target to meet the shareholders' expectations over the long term.

NIWA continues to meet these targets while retaining the capability to reinvest its profit into improving infrastructure, which includes sustainable development initiatives or enhancing sustainable practices (this includes developing skills/tools for future financial viability).

Our direct customers are those who fund our science and research. The New Zealand Government is our largest customer, but we also conduct research for, and provide advice and information to, many others ranging from multinational corporations to local commercial fishing operators to schools. We consider the New Zealand public to be our most important customer.

### Statement on NIWA's economic mandate as a New Zealand CRI

NIWA aspires to provide science that supports the sustainable management of New Zealand's natural resources and promotes innovation and economic success. We adopt financial strategies that ensure we continuously invest in our people, facilities, and equipment to enhance our scientific capabilities. In addition, NIWA aims to:

- Operate a financially viable operation in a fully contestable funding environment
- Collaborate with other agencies where there is an opportunity to enhance the science and delivery or to optimise returns
- Transfer commercialisation opportunities to private enterprise in a way that maximises economic benefits to New Zealanders.

Economic sustainability addresses our effect on the economic circumstances of our stakeholders and their economic systems. As a CRI, NIWA is required to be financially viable and undertake research for the benefit of New Zealand. Economic sustainability is not just about attaining economic growth year on year. It is also about delivering improvements to our community and the environment, as well as satisfying customer needs.

## Key performance indicators

Financial	Performance 2007–08	Target in 2009
Total revenue (Includes interest income)	\$120,671,000	\$125,709,000
<b>Operating results:</b>		
Operating expenses	\$106,291,000	\$115,067,000
EBIT & dividend received	\$13,656,000	\$10,642,000
Profit before income tax	\$14,335,000	\$10,529,000
Profit after tax	\$10,121,000	\$7,670,000
Average total assets	\$109,481,000	\$126,243,000
Average equity (shareholders' funds)	\$79,306,000	\$87,391,000
Adjusted average total assets	\$82,244,000	\$89,006,000
Adjusted average equity	\$56,444,000	\$64,529,000
Capital expenditure, incl. capital committed	\$13,985,000	\$19,224,000
<b>Liquidity:</b>		
Current ratio	1.5	1.21
Quick ratio (a.k.a. acid test)	2.1	1.59
<b>Profitability:</b>		
Return on equity	12.8%	8.8%
Adjusted return on equity <sup>1</sup>	17.9%	11.9%
<b>Percentage of NIWA revenue directed towards sustainability initiatives</b>	0.4%	0.5%

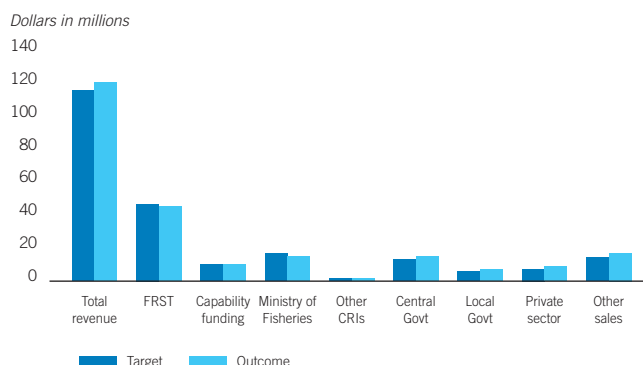
Science output	Performance 2007–08	Target in 2009
Commissioned reports <sup>2</sup>	495	500
Presentations on technical information and research results <sup>2</sup>	1028	500
Peer reviewed articles <sup>2</sup>	315	300
Keynote and plenary presentations <sup>2</sup>	31	15
<b>External requests for information from NIWA's nationally significant databases and collections</b>		
National Climate Database	267 000	25 000
Water Resources Archive	88 000	60 000
NZ Freshwater Fish Database	1550	1500
Marine invertebrate collection and database	more than 150	150
<b>Collaboration</b>		
Representations on international committees	66	110
Collaborative formal links with overseas organisations	150	30
Number of NIWA-funded international visits & visiting scientists	159 & 45	150
<b>Innovation</b>		
Licensing arrangements entered into	1	3
Patents granted in New Zealand & overseas	New Zealand, 0 Overseas, 0	New Zealand, 1 Overseas, 1
Joint ventures or formal associations	6	6
New or improved products, processes, or services	19	20

<sup>1</sup> The CCMA guideline for this indicator is 9%. However, this is averaged out over the long term. NIWA is confident that this target will remain achievable in the long term. The reduced target is due to increased spending on plant & equipment, and resulting increase in depreciation and payroll related costs, with corresponding effects on profitability.

<sup>2</sup> Based on calendar not financial year data.

## GRI indicators and results

### Revenue, 2007–08



Sales to international clients are included under 'Other sales'. In 2007–08 this totalled \$NZ10,251,000

### Operating surplus and return on equity

#### Operating surplus before tax

2006–07	\$14,279,000
2007–08	\$14,335,000

#### Return on average equity (%)

2006–07	14.1%
2007–08	12.8%

### Expenditure

#### Cost of all goods, materials, and services

2006–07	\$47,712,000
2007–08	\$54,859,000

#### Total payroll and benefits

2006–07	\$48,571,000
2007–08	\$54,702,000

#### Providers of capital

As of 30 June 2008, NIWA had no interest bearing debt.

#### Taxes paid

Most of our research is aimed at addressing issues of relevance to the general public – the sustainability of our society and civilisation. As a commercial entity, we also contribute by paying tax. Taxes paid in other countries were minimal.

2006–07	\$6,063,000
2007–08	\$4,731,000

# Sustainability – Social

NIWA is an environmental science research and consultancy organisation. As at 30 June 2008, NIWA has 753 permanent and fixed-term employees based at 15 sites in New Zealand and in Perth, Australia. In the course of their jobs, NIWA staff work through the length of New Zealand, the surrounding oceans, and beyond, notably the South Pacific and Antarctica.

## Key issues and challenges

- Attraction and retention of staff in a competitive global talent market, particularly as the demand for environmental scientists increases while we face restricted funding and limited resources
- Communications and project management in a geographically widespread and professionally diverse organisation
- Limited graduate numbers entering the environmental science field
- Specialist staff in demanding and busy roles.

## Strategic initiatives

Initiative	Target
<b>Attract and retain good staff</b>	
Carry out internal climate and engagement survey	Repeat in 2008–09
Implement plans for continuous improvement based on staff survey	Successfully carry out results 'roadshow' and engagement seminars. Set future improvement targets
Continue to implement work-life balance strategy	Continue to evolve and enhance strategy based on staff feedback
<b>Communications in a geographically widespread and professionally diverse organisation</b>	
Implement new project management system	Identify and pilot a new enterprise project management system in NIWA and provide staff with appropriate training to use it effectively to manage opportunities, keep track of resources, and track progress on projects. By June 2010
Improve collaboration at a distance and knowledge-sharing through enhanced tools and training	Identify and pilot a collaboration platform/toolset and provide staff with appropriate training to use it effectively to enhance the productivity of distributed teams, increase knowledge transfer, and better preserve organisational memory. By June 2009
<b>Enhance supply of graduates into the field</b>	
<b>Maintain strong relationships with educational institutions</b>	
<b>Increase and enhance collaborative training with other agencies</b>	
Continue to sponsor the NIWA Interactive Room at Kelly Tarlton's Antarctic Encounter & Underwater World. This facility has over 45 000 students visit through organised education programmes and over 400 000 visitors of which approximately 55% are New Zealanders	Agreed sponsorship until 2010, when it will be reviewed
NIWA will be the major sponsor of five regional Science & Technology Fairs and provide funding for six other science fairs and the national Genesis Energy 'Realise the Dream' event for primary and secondary school students	Agreed sponsorship until 2010, when it will be reviewed
Continue to host teacher fellows	Host at least one New Zealand Science, Mathematics & Technology Teacher Fellow to upskill teachers in environmental science
Provide scientific expertise and advice for environmental education programmes such as GLOBE (Global Learning & Observations to Benefit the Environment) and the New Zealand Waterways project	Continue until 2009

Initiative	Target
Provide supervision for PhD and Masters students	Increase PhD numbers to approximately 50 by 2010. Continue interactions with University of Canterbury, University of Otago, and University of Auckland through our joint 'Centres of Excellence'
Work with the Institute of Policy Studies, Victoria University to identify a mechanism for adding policy and economic dimensions to our climate change research	Both organisations are members of the NZ Climate Change Centre, along with all other CRIs, and University of Canterbury. NIWA will continue to host the centre's secretariat in 2008–09
Provide staff, where appropriate, in our core science areas to serve on advisory boards and councils of tertiary institutions	Adjunct professorships appointed to NIWA staff at University of Canterbury and University of Otago until 2011
Provide a range of training courses, in specific areas of NIWA's core business, for the professional development of staff from local and regional councils and central government agencies, other organisations, and students	20 training courses for 2008–09
Publish NIWA's <i>Water &amp; Atmosphere</i> magazine quarterly to communicate the results of NIWA research to students, resource managers, and the public. This magazine includes senior secondary school curriculum links	<i>Water &amp; Atmosphere</i> published and distributed for at least 2008–09
Work collaboratively with two local government agencies, Ngāi Tahu, Lincoln University, and Landcare Research to provide scientific advice to the community based Styx River Living Laboratory project	Continued support of Styx River project with clients and collaborators
<b>Extend specialist knowledge to deeper levels within the organisation</b>	
Continue development and succession plans for key staff and positions; ensure all staff have development plans in place	Have development plans for 90% of staff by 2009

## Stakeholder interview

*Leighton Abbot, Senior Consultant, JRA (NZ) Ltd*

One of the biggest issues facing organisations is the attraction and retention of good staff. Many companies promote the thinking that “people are our most valuable asset”, but there is a big step from that intent to creating an environment where people thrive.



### Measuring employee engagement

What we've found from conducting our annual unlimited/JRA Best Places to Work in New Zealand Survey is that the level to which staff feel connected to your organisation, and are motivated or 'engaged' can directly impact on your bottom line, whatever that may be. In short, our research demonstrates that higher levels of engagement lead to improved efficiencies, increased productivity, and reduced costs.

An engaging organisation is more likely to hold on to its people, reducing turnover. In New Zealand, the estimated real cost of turnover can be up to two and a half times the salary of the role being filled or replaced. For NIWA as a science organisation, employing highly skilled people from a competitive global market, this is a critical issue to get right.

NIWA contracted JRA to conduct a combined 'workplace climate and engagement' survey. A response rate of 69.4 percent was the basis of our analysis of NIWA's permanent and fixed-term staff.

### What are the key drivers of engagement for NIWA staff and how did they perform?

Based on the survey, the key drivers of engagement for NIWA staff include:

- Clear and strong vision and values
- Emphasis on building a sense of community in the organisation
- Learning and development opportunities that helped them realise their potential as professionals and individuals
- Systems to encourage and reward high performance.

The survey suggests some clear future direction to better engage NIWA staff: help them get the most out of their jobs, in terms of learning and development, including creating more variety in roles and challenges to use and develop their knowledge and skills.

### What are the key positives for NIWA?

In general NIWA staff feel they understand where they fit in the big picture and feel their work gives them a sense of achievement. NIWA's turnover is well below the typical average 17–20% for New Zealand organisations. Together with the already high skill levels of staff and the high standards expected by the organisation, these factors form a great platform for NIWA's future success.

*Leighton Abbot is a Senior Consultant with JRA (NZ) Ltd, and holds an MCom(Hons)/BA from the University of Auckland. For the past five years he has project managed New Zealand's largest survey of employee engagement, the unlimited/JRA Best Places to Work in New Zealand Survey.*

## Key performance indicators

Indicator	Performance 2007–08	Target in 2009
Total staff FTEs permanent and fixed-term	726	750
New jobs created, main centres	32	20
New jobs created, rural areas	2	10
Staff composition (permanent only)	501 Researchers 41 Research support staff 110 General support staff 28 Management staff 15 Post-docs	502 Researchers 43 Research support staff 117 General support staff 28 Management staff 20 Post-docs
Work-life balance	75.8% of staff intend to continue working at NIWA for at least the next 12 months	70% of staff are positive about working for NIWA and see themselves working for NIWA in three years' time
Total staff turnover	9.3%	Less than 12%
Key staff turnover	1.2%	Less than 5%
Development – staff with personal development plans	Data not yet available	90%
Development – staff days allocated to personal development	502	400
Lost time from injuries and accidents	0.012%	Less than 0.03% of total work days
Number of incident and near miss reports	140	Less than 90
Number of post-docs funded	27	20
Number of PhD and MSc students supervised	41 PhDs, 10 MSc	60
Number of teacher fellowships	3	2
Number of external training courses run	13	20

## GRI indicators and results

**NIWA's work-life balance strategy**

NIWA has a work-life balance strategy that promotes personal development and satisfaction alongside professional performance.

Financial rewards	+ Non-financial rewards
<b>Base pay</b> <ul style="list-style-type: none"> <li>Benchmarked against New Zealand market, not just science industry</li> </ul> <b>Variable pay</b> <ul style="list-style-type: none"> <li>Profit Share – equal distribution of excess profit to all permanent staff</li> </ul> <b>Benefits</b> <ul style="list-style-type: none"> <li>Training and personal development leave, including 3 days p.a. to pursue non-work, personal interests</li> <li>Professional membership fees</li> <li>Free car parking on all sites</li> <li>Three NIWA days – extra leave entitlement in Christmas period</li> <li>Up to 5% company superannuation contributions to KiwiSaver</li> <li>Life insurance – for permanent staff</li> <li>Professional study support for agreed work related study</li> <li>National Bank loan and account discounts</li> <li>30 day ex-gratia parental leave payment</li> <li>Work-related allowances</li> <li>Overseas travel/conferences subsidies – assessment on case-by-case basis</li> <li>Public Service Association (PSA) Day – PSA members entitlement</li> </ul>	<b>Recognition</b> <ul style="list-style-type: none"> <li>Site-specific social events</li> </ul> <b>Opportunities to develop</b> <ul style="list-style-type: none"> <li>Clients and work – matching staff skills with clients and work</li> <li>Extensive technical and non-technical training</li> <li>Sabbaticals – assessment on case-by-case basis</li> <li>Technical Training Awards – internal certification programme</li> <li>Innovation Seed Fund</li> </ul> <b>Career opportunities</b> <ul style="list-style-type: none"> <li>Promotion through levels</li> <li>Inter-office transfers</li> </ul> <b>Quality of work life</b> <ul style="list-style-type: none"> <li>Flexible working hours</li> <li>Sponsored sporting events – assessment on case-by-case basis</li> <li>Long service leave</li> <li>Three free confidential counselling sessions – self referral</li> <li>Optical subsidy – available for permanent staff who spend more than a third of work time in front of computer screen or who carry out microscope work</li> <li>Southern Cross health insurance group discount</li> <li>Melanoma checks</li> <li>Hearing tests</li> <li>Flu shots</li> <li>PSA health care subsidy</li> <li>Generous sick leave entitlements</li> </ul>

**NIWA guidelines on retirement**

NIWA recognises that for many, retirement no longer represents a sudden change from work to leisure, but rather more of a gradual transition.

Retirement is no longer compulsory based on age.

However, to aid transition for both NIWA and the employee and the transfer of knowledge, staff may – by mutual agreement – reduce their hours, if this meets with operational requirements.

Phased retirement options can be considered, by mutual agreement, where staff can take reduced work schedules, or return to work after retirement on a part-time or fixed-term basis.

Continued association with NIWA can include:

- Fixed-term engagement after retirement
- Part-time employment
- Staff working on a pro bono basis with access to NIWA facilities to work on science and mentor staff
- Staff engaged as 'emeritus scientists'.

To help manage career endings NIWA facilitates workshops on a variety of areas including presentation skills, leadership training, and retirement financial planning.

**NIWA staff profile as at 30 June 2008 (permanent staff only)**

Categories	Staff numbers				Workforce diversity										Service	
	Staff numbers (of total)	Male	Female	Av. age	Full-time	NZ Euro	NZ Māori	South Africa	Indian	Aust	US	UK	Asian	Pacific Island	Other ethnicity	Av. yrs
<b>NIWA Science</b>																
Research Teams (incl. scientists, technicians, and post-docs)	507 (78%)	73%	27%	43	97%	74.2%	3.4%	0.4%	0.4%	1.8%	1.8%	3.0%	2.4%	0.6%	1.4%	12.7
Research Support	14 (2%)	7%	93%	48	96%	71.4%	7.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	14.3%	8.1
General Support	105 (16%)	46%	54%	43	95%	73.3%	3.8%	1.0%	6.7%	1.0%	1.0%	2.0%	1.0%	2.0%	2.9%	6.9
Executive/Management	26 (4%)	85%	15%	50	100%	76.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.8%	17.3
<b>NIWA Vessels</b>																
Research Support	27 (90%)	93%	7%	48	100%											13.4
Support, Admin, and Mgmt	3 (10%)	67%	33%	47	100%											6.0
<b>Unidata</b>																
Technical	9 (69%)	89%	11%	40	93%											3.0
Support, Admin, and Mgmt	4 (31%)	50%	50%	47	95%											2.8

Information for NIWA Science, NIWA Vessel Management Ltd, and Unidata Pty Ltd. (Unidata is NIWA's Australian-based environmental technology company. Unidata is 80 percent owned by NIWA.)

Data on ethnicity is currently unavailable for NIWA Vessel Management Ltd and Unidata Pty Ltd.

NIWA Science staff may choose not to record ethnicity. As a result, figures may not add to 100%.

## NIWA staff turnover

NIWA Science	No. of staff	Turnover	Average age	Male	Female
Research Teams	45	9%	41	69%	31%
Research Support	1	7%	30	–	100%
General Support	12	11%	45	42%	58%
Executive/Management	2	8%	35	50%	50%
Total	60	9%	41	62%	38%

## Absenteeism

NIWA Science	Total hours	Hours per employee
All staff eligible to take sick leave	20 893	32
All staff eligible to take family sick leave	5221	8

## Parental leave

NIWA Science	No.	% returned
Maternity leave	15	87%
Paternity leave	7	100%
<b>Total</b>	<b>22</b>	<b>91%</b>

## Health & Safety

In 2007–08, NIWA lost 19.5 days due to staff injury, corresponding to 0.012% of total work days.

NIWA Science	No. of incidents
Medical treatment injuries/lost time	3
Medical treatment injuries/no lost time	41
First aid injuries	17
Minor injuries: no treatment	36
Other incidents	30
Near misses	13
<b>Total</b>	<b>140</b>

Safety of our staff at work is paramount. NIWA reports injuries, but also other incidents and near misses, as a way to ensure potential hazards are identified and addressed. We provide monthly incident data to all staff, and publish health and safety newsletters. Our long-term aim is for no employee to be injured at work.

In the last 12 months NIWA's medically treated injuries have mostly been sprains, strains, and minor cuts and abrasions.

NIWA's incident reporting system requires an investigation into all incidents to document the causes of injuries as the basis for identifying any training needs, or assigning responsibility for corrective action where necessary. NIWA has recently appointed a full-time National Health and Safety Manager to oversee these processes.

All figures on this page relate to permanent staff only.

## Personal development

NIWA Science – Personal development hours taken	Total hours taken	Average hours per employee
Personal development leave	3768	6

NIWA Science – Personal development cashed up	Total cashed up	Average cash per employee
Personal development cashed up	\$100,095.00	\$160

Personal development training is a benefit provided only to permanent staff. In keeping with NIWA's intent to promote and encourage work-life balance, permanent staff have a three-day leave entitlement to pursue personal interests. NIWA permanent staff have the option to cash in this leave.

## Union membership

	PSA	Seafarer's Union	NZ Merchant Services Guild
<b>NIWA Science</b>			
Research Teams	353		
Research Support	9		
General Support	47		
<b>NIWA Vessels</b>	4	13	5

## Governance profile as at 30 June 2008

	Male	Female	Total	%Male	%Female
NIWA Board of Directors	5	2	7	71%	29%
Executive Team	7	2	9	78%	22%
Sustainable Development Committee	12	6	18	67%	33%

### Statement on NIWA's social and cultural mandate as a New Zealand CRI

As New Zealand's foremost environmental science CRI, NIWA's services have a significant impact on the social and economic future of New Zealand and New Zealanders. NIWA's science and expert opinion influences many decisions made by local and central government and businesses every day.

Our recognised expertise in climate change science puts NIWA in an influential position in terms of how New Zealand will respond to the challenge of climate change. Dr David Wratt, NIWA's Chief Scientist, Climate, is a member of the Bureau of the Intergovernmental Panel on Climate Change (IPCC). Many other New Zealanders contribute to the work of the IPCC, which in 2007 was jointly awarded the Nobel Peace Prize for building and disseminating "greater knowledge about man-made climate change, and to lay the foundations for the measures that are needed to counteract such change."

In line with its Statement of Corporate Intent and Corporate Social Responsibility Charter, NIWA aspires to create a safe and supportive environment for staff to grow and develop professionally, and as individuals.

In addition, NIWA:

- Encourages a workplace that is empowering and free of discrimination
- Provides remuneration that attracts and retains quality staff to the best of our ability
- Encourages and supports people to achieve work-life balance.

NIWA's cultural impacts and initiatives are addressed in the Cultural pillar spread.

# Sustainability – Cultural

NIWA staff and management work under a directive to develop effective long-term relationships with Māori. This is NIWA's key cultural impact. These relationships are managed through NIWA's Māori environmental research group, Te Kūwaha o Taihoro Nukurangi.

The main goal of Te Kūwaha is to establish NIWA as New Zealand's leading provider of water- and atmosphere-related research of benefit to Māori. In addition, Te Kūwaha is also responsible for providing tikanga and te reo Māori training courses within NIWA so that all staff can become more confident in their interactions with Māori.

As at 30 June 2008, Te Kūwaha consists of 11 staff spread across NIWA's sites.

## Strategic initiatives:

### NIWA's protocols for iwi liaison<sup>1</sup>

To build positive working relationships with iwi, hapū and Māori organisations in areas impacted by research NIWA wishes to conduct, the following procedures apply:

1. Staff are to communicate with the Regional Manager and Chief Scientist, Māori when considering, or undertaking, research that involves Māori
2. The Regional Manager and Chief Scientist, Māori will liaise (or delegate responsibility to Manager, Māori Development) with an iwi or hapū representative of that rohe (region). This is to ensure science research considers cultural aspects and acknowledges kaitiakitanga (guardianship) of the iwi, hapū and/or Māori organisation.

### High-level objectives

- To identify key areas of NIWA's work of specific relevance to Māori in consultation with iwi, hapū and Māori organisations throughout the country
- To develop programmes, in collaboration with iwi, hapū and Māori organisations, which will enable NIWA to provide appropriate and relevant science for Māori
- To develop, in consultation with iwi, hapū and Māori organisations, a policy regarding relationships, responsibilities and consultation with Māori; and to educate staff with respect to this policy.

### Specific objectives

- To be a centre of excellence for environmental research with a Māori focus
- To develop strong personal relationships at a flax roots level with Māori organisations throughout the country
  - To allow NIWA staff to do work with their own iwi, where that is applicable
- To encourage the dissemination of information from NIWA to Māori and vice versa

## Key issues and challenges

For Te Kūwaha, the key challenge is continuing to improve the way we carry out our work, including formalising relationships with Māori and representative organisations within an increasingly complex context of sustainability. Te Kūwaha's critical focus areas include:

- Continuously finding improvements in procedures and processes, including formalising relationships with Māori and representative organisations.
- Securing resourcing to continuously grow NIWA's Māori research capacity in an increasingly competitive funding environment.
- Finding space and time in busy schedules to achieve buy-in and increase awareness of tikanga and te reo Māori amongst NIWA staff.

- To identify funding sources and develop programmes which will enable NIWA to provide appropriate and relevant science for different iwi and hapū
  - To encourage collaborative research projects between NIWA and Māori organisations
  - To develop funding applications in collaboration with Māori organisations
- To develop and implement policy regarding relationships, responsibilities and consultation with Māori and educate staff with respect to this policy
  - To check new NIWA projects during set-up to ensure that collaboration with Māori will be appropriately managed, and potential conflicts are avoided
  - To provide tikanga and te reo Māori training to NIWA staff
- To provide opportunities for Māori to work in areas of NIWA science that is of relevance to iwi, and makes NIWA an attractive place for Māori researchers to work.

### NIWA specialist staff

NIWA employs two full-time staff members specifically to initiate and maintain successful working relationships with Māori:

- Mr Apanui Skipper (Manager, Māori Development) – Te Whānau-a-Apanui, Ngāti Tamaterā, Ngāti Paoa, Ngāti Tūkorehe, Ngāti Raukawa ki te Au o Te Tonga, Ngāti Toa Rangatira, Te āitanga-a-Mahaki
- Mr Weno Iti (Manager, Māori Development) – Ngāti Maniapoto, Te Atiawa, Ngāti Tauaiti.

### Formalising relationships

NIWA currently has over 85 working relationships with various Māori groups throughout New Zealand. Some of these have been formalised, or are in the process of being formalised, through a number of mechanisms including:

- Memorandum of Understanding
- Letters of support
- Letters of intent
- Various subcontracts.

These relationships are recorded in NIWA's client database. The relationships have been formalised with Māori organisations depending on the requirements and wishes of our partners. Generally these agreements outline the appropriate behaviours to be upheld by the two parties. All agreements are reviewed and approved by both parties' legal teams before signing.

<sup>1</sup> From section 2.4 of NIWA's Policy and Procedures manual.

### Considerations when formalising relationships:

- Intellectual property arrangements (especially projects that involve mātauranga Māori)
- Dispute resolution process
- Code of conduct
- Process for publicising research outcomes (i.e., approval from research partner required before any publication of material emanating from research)
- Specific timeframes for activities and initiatives.

## Results and targets

To be able to measure overall success, we have to measure the success of our interactions and relationships. The key mechanisms for this are:

- Recording the daily interactions/hui NIWA staff members have with various Māori organisations as a way to improve/ensure longevity in NIWA's institutional memory
- Internally, we record the numbers of staff members who have attended the te reo and tikanga Māori training courses run by Te Kūwaha. At the end of each course, staff fill out an evaluation form. Relevant feedback/suggestions are incorporated into future courses.

The target for Noho Marae attendees for 2008–09 is a minimum of 60.

The formalisation of NIWA's relationships with Māori research partners, and the type of agreement entered into, are typically driven by the needs of our partners (except subcontracts where we have a fee-for-service arrangement). Therefore, Te Kūwaha have not established targets as these relationships are managed on a case-by-case basis. In all cases Te Kūwaha work hard to ensure NIWA has a 'seen face' and is easily contactable to ensure that the relationships remain functional and healthy for the long-term benefit of both parties.

Agreement type	Typical use	Total
Memorandum of Understanding (MoU)	Typically for long-term working relationships with larger Māori groups/entities	10
Letter of support/understanding	Pre-research proposal submission; supplied by potential research partner in support of a specific research proposal	16
Letter of intent	Typically after research funding has been approved. Project and timeframe specific	3

## Stakeholder interview

*Geraldine Baker, Fisheries Management Consultant.  
Formerly General Manager, Ngāpuhi Fisheries Ltd, asset-holding company for Te Rūnanga A Iwi O Ngāpuhi*



### When working with NIWA what is the scope of your role?

I have worked with NIWA in two roles. The first was in my former capacity as General Manager for Ngāpuhi Fisheries Ltd, the asset-holding company for Te Rūnanga A Iwi O Ngāpuhi, the mandated iwi authority for Ngāpuhi. We worked together on two projects with NIWA. The first project involved Ngāpuhi's interest in finfish farming opportunities. Through NIWA's international networks, we were able to acquire first-hand experience, from an indigenous perspective, of how first nation peoples benefited culturally, socially, and economically from their involvement in marine farming and the sustainable management of marine resources in their environment. The second project involved contracting NIWA's services to develop a sustainable comprehensive eel management framework for Māori in Te Tai Tokerau.

The second role is in my current capacity as a commercial fisheries consultant. This role involves providing services to NIWA in the form of a scoping report on the regulatory process involved in establishing an Aquaculture Management Area (AMA) in Northland.

### How are NIWA helping you in your role?

In my first role, NIWA provided the contacts, essential technical and scientific research processes and frameworks that complimented the traditional mātauranga. In the first instance this assisted Ngāpuhi to make better decisions in terms of our aquaculture aspirations, and in the second instance provided Māori in Te Tai Tokerau with the know-how to confidently collate, record, and sustainably manage freshwater resources within their particular hapū and tribal rohe. These services were provided in a culturally respectful and embracing environment, engendering trust and open communication, thereby encouraging opportunities for future collaborative projects together.

In my second role, NIWA are assisting me to grow my business and to become more knowledgeable about the environment in which I work and the people engaged within that environment.

### From a Māori perspective how is NIWA helping Aotearoa/New Zealand?

Te Ao Māori stems from a traditional foundation of tikanga and kawa, mātauranga and oral history. By combining the western scientific methodologies and knowledge base with Māori traditional methodologies and knowledge base, not only will all New Zealanders benefit from a greater understanding and appreciation of both cultures, they will also be better informed and equipped to manage the increasingly rapid changes to our environmental landscape and be in a healthier position to take advantage of opportunities as they come to hand. By combining both world-views, there is real potential for Māori to enhance traditional practices of kaitiakitanga, manaakitanga, rangatiratanga, and whanaungatanga. Only by becoming more knowledgeable about our environment and resources can we truly behave in ways that ensure the sustainable longevity of Aotearoa.