ANNUAL REPORT



Directors' report and financial statements PART TWO / 2014



CONTENTS

Landcare Research New Zealand Limited
(Manaaki Whenua)
Annual Report 2014

Part 1:

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Directors' Report and Financial Statements
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ANNUAL REPORT 2014

Our Annual Report is in two parts—together they fulfil our reporting responsibilities under the Crown Research Institutes Act 1992.

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

Detailed information about our research, operational activities, governance and philosophy is available on our website.

www.landcareresearch.co.nz



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Introduction

Our Annual Report is in two parts—together they fulfil our Annual Reporting responsibilities under the Crown Research Institutes Act 1992. PDFs of both Part I and Part II are available on our website.

Part I of the Annual Report gives a summary of our science, business and operational performance during the year, and includes summary sustainability and financial information.

Part II, this document, presents the Directors' Report and our financial statements, and a summary of Core funding achievements as required by the Ministry of Business, Innovation and Employment.

Financial Performance

Summary of group financial performance

For year ended 30 June:	2012	2013	2014	2014	2015
	Achieved	Achieved	Budget	Achieved	Budget
Revenue, \$m	58.4 ¹	55.5	55.7	54.7	58.7
EBIT before investment, \$m	3.3	2.2	2.2	3.6	2.7
EBIT, \$m	2.22	0.8	1.5	2.9	2.0
Investment, \$m	1.2	1.4	0.7	0.8	0.7
Total assets, \$m	45.3	45.5	43.3	45.4	42.1
Return on equity	4.9%	4.1%³	3.5%	7.2%	4.9%
Dividend \$m	1.1	-	-	-	-
Equity ratio	56%	61%	65%4	63%	69%
Gearing	0%	0%	0%	0%	0%
Interest cover	47	80	36	658	116

- 1 2012 Revenue achieved excludes Sirtrack, which was disclosed as a discontinued operation due to the sale of the business in November 2011.
- ² 2012 EBIT achieved excludes Sirtrack as this was disclosed as a discontinued operation as a result of the sale of the business in November 2011.
- 2011 and 2013 Return on equity excludes extraordinary restructuring costs.
- 4 2013 and 2014 Equity ratio target has been adjusted to calculate on averages rather than closing values (original SCI target 2013:64.1% and 2014 66.5%).
- ⁵ 2013 Interest cover target has been adjusted to calculate on EBITDAF rather than EBIT (original SCI target 28.3).

Revenue:

Includes science research, subsidiaries, contract work for government and commercial clients, royalties, licence fees, plus income from the sale of product and the lease of assets. It excludes income from gain on sale of subsidiaries and interest on investments and from finance leases, \$0.1m for 2014 (2013: \$0.1m).

EBIT:

Earnings before interest and tax, and after committed business development expenditure and commercialisation expenditure.

Return on equity:

NPAT ÷ average shareholders' funds, expressed as a percentage. NPAT is net profit after tax. Shareholders' funds include share capital and retained earnings.

Equity ratio:

Average shareholders' funds ÷ average total assets.

Gearing:

Financial debt includes all interest-bearing liabilities.

Gearing = interest bearing debt ÷ interest bearing debt plus shareholders' funds, expressed as a percentage.

(The Minister of Finance and the Minister of Science and Innovation each hold 50% of the shares on behalf of the public.)

Interest cover:

Interest is the cost of debt and financial leases. Interest cover = EBITDAF ÷ interest. (EBITDAF is EBIT before depreciation, amortisation and fair value adjustments.)

Directors' Report



















Top row: Peter Schuyt (Chair), Jane Taylor (Deputy Chair, appointed 1 July 2014), Tania Simpson (Deputy Chair, retired 30 June 2014) Bottom row: Chris Downs, Gavan Herlihy, John Luxton (retired 30 June 2014), Emily Parker, Steven Saunders (appointed appointed 1 July 2014), Victoria Taylor

The Directors of Landcare Research New Zealand Limited (Manaaki Whenua) are pleased to report that the Company fulfilled its obligations under the Crown Research Institutes Act 1992 for the year ended 30 June 2014. The disclosures relate to Landcare Research New Zealand Limited and its subsidiaries (the 'Group').

Core purpose

Landcare Research's purpose is to drive innovation in New Zealand's management of terrestrial biodiversity and land resources in order to both protect and enhance the terrestrial environment and grow New Zealand's prosperity.

Governance framework

The Minister of Finance and Minister of Science and Innovation each hold 50% of the Company's shares on behalf of the public. The shareholding Ministers appoint the Chair, Deputy Chair, and the five other directors to the Board of Landcare Research. Two directors, Tania Simpson (Deputy Chair) and John Luxton, reached the end of their appointed term on the 30th June 2014. Two new directors were appointed: Steven Saunders and Jane Taylor (our new Deputy Chair). All directors are non-executive. Board decisions are made collectively individual directors have no separate governing role. The Board evaluates its performance on a regular basis. The Board is also charged by the shareholding Ministers to take strategic advice from both leading scientists and key stakeholder partners. A formal Science Advisory Panel is in place and the Board has met with a stakeholder (user) panel. The Board appoints directors of subsidiary companies.

Board responsibilities

Board responsibilities include providing strategic direction, selecting, evaluating and recommending remuneration for the Chief Executive, succession planning for and appointment of a new Chief Executive, formulating policy, managing risk, ensuring legislative compliance, monitoring performance (economic, environmental and social), and communicating with the shareholding Ministers and other stakeholders.

The Crown Research Institute (CRI) reforms transferred significant accountability for investing in science and innovation to CRI boards. Landcare Research receives approximately \$24 million per year of revenue from Government in a Core Funding Agreement with the Ministry of Business, Innovation and Employment (MBIE). The Board is responsible to shareholding Ministers for the impacts and value achieved from investing this funding in our research and technology transfer to deliver on four National Outcomes for New Zealand, (see the Statement of Core Purpose in Part 1 of the Annual Report 2014).

Commitment to sustainability

The Board believes that sustainability is an essential part of management practices at Landcare Research and affects not only the Company's current operations but also opportunities to grow and prosper. Where possible the Board supports investment in green technologies (e.g. energy and water-use efficiency) for new and refurbished buildings. The Board reviews sustainability activities and initiatives quarterly.

Commitment to ethical standards and compliance
Our Code of Ethics Policy is an overarching document

that links numerous other ethics-related policies and codes of practice, and applies to all staff, senior executive managers and Directors. Policies include a Protected Disclosures (whistle-blower) Policy and guidelines. Every two years, the Audit and Risk Management subcommittee reviews Landcare Research's Code of Ethics Policy.

Many staff are committed to professional codes of ethics by virtue of membership in scientific and other professional societies. The Landcare Research Code of Ethics Policy complements these. If a correct course of action is not clear the issue must be raised with managers or, if necessary, the Board, which reviews the code biennially. The Board regularly monitors whether the directors, managers, and staff maintain high standards of ethical behaviour and generally act as good corporate citizens.

During the year, there were no material incidences of unethical practice or non-compliance with internal protocols or legislation.

As well as setting out an expectation that staff, executives and directors must act honestly and in good faith, refraining from any activities that might bring discredit to the organisation or harm to colleagues, the policy covers points relating to lawful conduct, conflicts of interest, diligence, confidentiality, intellectual property, scientific honesty, fairness in relationships, privacy, and environmental sustainability and animal welfare. There is a zero tolerance of corruption and financial fraud.

All policies, codes of practice and guidelines are available to all staff via our intranet 'staffroom'.

Health & Safety

Landcare Research is committed to the highest health & safety standards and practices. The Board reviews initiatives, practices and performance each month.

Vision Mātauranga

The Government created the Policy Framework Vision Mātauranga in 2005 to ensure that all Vote Science and Innovation investments and activity were benefiting Māori as well as New Zealand in general. The CRI reforms required CRIs to incorporate Vision Mātauranga into their statements of corporate intent and annual reports to show how science is enabling the innovation potential of Māori knowledge, resources and people.

Landcare Research has a well-established 20-year history of collaborative research projects involving significant

components of mātauranga Māori. These have included Māori values for land use planning, ecosystem health and sustainable development; integrated catchment management, including freshwater, wetland and estuary monitoring and restoration; indigenous biodiversity; and ethnobotanical resources. Māori increasingly want science that supports their goals and aspirations, and that builds capacity for managing their resources and sustaining cultural practices such as customary harvesting of taonga species (e.g. northern mutton birds) and native timber.

The Board supports moving to a more strategic position with specific iwi to support them in the particular stage they have reached in the Treaty of Waitangi claim settlement process.

Shareholding Ministers

Minister of Finance
Minister of Science & Innovation

CRI Ownership & Performance Unit (part of Ministry of Business, Innovation & Employment)

Statement of Corporate Intent

(Public document with a 5-year forward looking outlook, which outlines core business, performance measures and targets)

Quarterly Reports

ANNUAL REPORT

Board of Directors

Senior Management

Planning and reporting

In May and June each year, the Board negotiates a statement of corporate intent (SCI) for the next financial year with the shareholding Ministers. The SCI sets out the Company's core business, performance measures, and targets (financial and non-financial) for the coming year in accordance with the Operating Principles of the Crown Research Institutes Act 1992. The SCI is tabled in Parliament, and is a public document. All CRIs must produce an SCI, then report performance against the stated measures and targets.

All CRIs must produce an annual report by 30 September. The reports are tabled in Parliament, and each CRI's performance is reviewed by the Parliamentary Education and Science Select Committee.

Performance for 2013/14

Operating results

The consolidated net profit before taxation expense for 2013/14 was \$2.918 million and the consolidated net profit after tax attributable to Parent Company shareholders was \$2.084 million. Return on equity was 7.2%, compared to the target of 3.5%.

Directors

	Appointed	Term expires	Board meetings atttended (10)	Audit Committee meetings attended (2)	People & Performance Committee (2)	Remuneration 2013/14	Remuneration 2012/13
Peter M Schuyt	01-09-09	30-06-15	10 (Chair)	2	2	\$46,000	\$46,000
Chris Downs	01-07-12	30-06-15	10	2	-	\$22,334	\$23,000
Gavan Herlihy	01-07-11	30-06-15	10	-	-	\$22,334	\$23,000
M John F Luxton	01-07-09	30-06-14	9	2	-	\$22,334	\$23,000
Emily Parker	01-07-11	30-06-15	10	-	2	\$22,334	\$23,000
Tania J Simpson	01-07-09	30-06-14	9	2	2	\$28,083	\$28,750
Victoria A Taylor	01-09-09	30-06-15	8	-	1	\$26,334	\$23,000

Precautionary approach

The Board had no cause to adopt a precautionary approach during the year. No situation arose where there was uncertainty regarding serious potential risks to health of staff or public, or harm to the environment.

Declared interests

Pursuant to S140(2) of the Companies Act 1993, Directors have declared they should be regarded as having an interest in any contract that may have been made with the entities listed below by virtue of their directorship or membership of those entities during the year ended 30 June 2014:

Peter M Schuyt BCom, MInstD

Business Investments No. 9 Ltd, Shareholder Dairy Investment Fund Ltd, Director and Shareholder

Dairy NZ Inc. Ltd, Director

Foodstuffs North Island Ltd, Director

Port Nelson Ltd, Director Pumpkin Patch Ltd, Director

The Tatua Co-operative Dairy Company Ltd, Director

Tax Management New Zealand Ltd, Chair

Chris Downs PhD, MSc, BSc

CSIRO, Deputy Chief and Portfolio Director

Gavan J Herlihy MAgrSc(Hons), GradDipBusStuds

Greenbank Pastoral Ltd, Chair Hamiltons Dairy Ltd, Chair Herlihy Consulting, Principal Otago Rural Support Trust, Chair

Hon. M John F Luxton QSO, MMgt, PGDipBusAdmin,

PGDipAgriSc, BAgriScience

Ahuwhenua Trust Management Group, Member

Constitutional Advisory Panel, Member

DairyNZ Inc. Ltd, Chairman
JD & RD Wallace Ltd, Director

Luxton & Co. Ltd, Director and Shareholder Marire Holdings Ltd, Director and Shareholder

Massey University Foundation, Trustee Pouarua Farm General Partner Ltd, Chair

The Tatua Co-operative Dairy Company Ltd, Director

Walkato River Authority, Co-Chair Wallace Corporation Ltd, Director

Professor Emily J Parker PhD, BSc(Hons)

Biomolecular Interaction Centre Research Institute,

Director

Maurice Wilkins Centre, Management Investigator

Ministry of Business Innovation &

Employment - Catalyst Group, Group Member

University of Canterbury, Professor

Tania J Simpson MMM (Masters of Mātauranga Māori),

BA (Māori), AMInstD

AgResearch Ltd, Director

King's Council, Council Member
Kowhai Consulting Ltd, Director and Shareholder
Maniapoto FM, Trustee
Mighty River Power Ltd, Director
Oceania Group Ltd, Director and Shareholder
The Law Commission – Māori Consultative Committee,
Member
Tui Trust, Trustee

Victoria A Taylor BCom, MInstD Enviro-Mark Solutions Ltd, Chair Hall Family Trust, Beneficiary

Waitangi Tribunal, Member

No directors acquired or disposed of equity securities in the company during the year; and the Board has received no notices from directors of the company requesting to use company information received in their capacity as directors which would not otherwise have been available to them.

Directors of subsidiaries

Enviro-Mark Solutions Limited

Peter M Schuyt *BCom, MInstD* Resigned 21-08-13 Robert G M Fenwick *CNZM*, *DNatRes* (honoris causa, Lincoln University) Richard F S Gordon *PhD*Victoria A Taylor *BCom, MlnstD*Nigel W Thomson *BCA, BSc, CA* Appointed 24-04-14
Carol R Bellette *MBA(Dist.)*, *BCom, CA, MlnstD*Resigned 15-04-14

Landcare Research US Limited

Carol R Bellette MBA(Dist.), BCom, CA, MInstD Resigned 31-12-13 Elizabeth G Harrison PhD, MSc, BA Resigned 31-08-13 Phil B S Hart, PhD, Appointed 27-02-14 Nigel W Thomson, BCA, BSc, CA Appointed 27-02-14

Directors' and officers' liability insurance

The Group has entered into a deed of indemnity that includes insurance to cover directors and certain employees to the fullest extent permissible by law. Certain actions are excluded – for example, penalties and fines imposed in respect to breaches of the law and liabilities arising from any activity not conducted for the benefit of, or on behalf of, Landcare Research or its subsidiaries.

Donations

The Group made \$nil donations during the year (\$16,000 in 2012/13).

Employee remuneration

Total cost to the Group	Number of e	mployees
iotal cost to the Group	2013/14	2012/13
\$400,000 - \$409,999	1(*)	-
\$390,000 – \$399,999	-	1(*)
\$220,000 - \$229,999	-	1
\$200,000 - \$209,999	1	1
\$190,000 – \$199,999	3	2
\$180,000 – \$189,999	1	4
\$170,000 – \$179,999	1	2
\$160,000 – \$169,999	4	2
\$150,000 – \$159,999	1	3
\$140,000 – \$149,999	4	4
\$130,000 – \$139,999	7	7
\$120,000 – \$129,999	10	8
\$110,000 – \$119,999	11	14
\$100,000 - \$109,999	18	21

^{*} CEO of Landcare Research New Zealand Limited

This table includes redundancy and termination payments to 2 employees in 2013/14 (2012/13: eight).

Compensation paid or payable to 2 persons in 2013/14 (2012/13:13) who ceased to be employees during the year totalled \$31,000 in 2013/4 (2012/13: \$581,000).

Auditors

Audit New Zealand has been appointed as the agent of the Auditor General in accordance with S32 of the Public Audit Act 2001.

Remuneration to Audit New Zealand in 2013/14 totalled \$129,000 (\$140,000 in 2012/13) for audit work, plus \$15,000 for other services (\$6,000 in 2012/13).

Signed, for and on behalf of the Board

PM Schuyt

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Chair

20 August 2014

J Taylor

Deputy Chair

20 August 2014

Audited Financial Statements

Statement of comprehensive income

for the year ended 30 June 2014

			Consolidate	d			Parent	
		2014	2014	2013	2	014	2014	2013
		Actual	Budget	Actual	Ac	tual	Budget	Actual
	Note	\$000s	\$000s	\$000s	\$0	00s	\$000s	\$000s
Revenue	2.	54,709	55,739	55,566	52,	128	52,942	53,758
Finance costs	3.	11	158	64		11	158	64
Operating expenses	3.	51,780	54,198	54,649	49,	176	51,331	52,861
Profit / (Loss) before tax		2,918	1,383	853	2,	941	1,453	833
Income tax expense	26.	834	389	268		857	409	372
Profit / (Loss) after tax		2,084	994	585	2,	084	1,044	461
Other comprehensive income		0	0	0		0	0	0
Total comprehensive income		2,084	994	585	2,	084	1,044	461

The accompanying notes form part of these financial statements.

Statement of changes in equity

for the year ended 30 June 2014

		Consolidated			Parent	
	2014	2014	2013	2014	2014	2013
	Actual	Budget	Actual	Actual	Budget	Actual
	\$000s	\$000s	\$000s	\$000s	\$000s	\$000s
Balance at 1 July	27,776	27,790	27,191	27,775	28,262	27,314
Total comprehensive income for the year ended 30 June	2,084	994	585	2,084	1,044	461
Balance at 30 June	29,860	28,784	27,776	29,859	29,306	27,775
Total comprehensive income attributable	e to:					
Parent company	2,084	994	585	2,084	1,044	461
	2,084	994	585	2,084	1,044	461

The accompanying notes form part of these financial statements.

Statement of financial position

as at 30 June 2014

as at 30 June 2014		С	onsolidated			Parent	
		2014	2014	2013	2014	2014	2013
		Actual	Budget	Actual	Actual	Budget	Actual
	Note	\$000s	\$000s	\$000s	\$000s	\$000s	\$000s
ASSETS		,	,	•	•	• • • • • • • • • • • • • • • • • • • •	,
Current assets							
Cash and cash equivalents	4.	2,088	1,469	1,165	1,900	1,494	1,111
Trade and other receivables	5.	7,865	6,910	7,845	8,120	7,466	7,756
Inventories	6.	51	111	37	38	96	0
Income tax paid in advance		0	0	171	0	0	57
Assets classified as held for sale	7.	0	0	48	0	0	476
Finance lease receivable	8.	106	106	97	106	106	97
Total current assets	_	10,110	8,596	9,363	10,164	9,162	9,497
Non-current assets							
Property, plant and equipment	10.	33,168	35,614	33,925	33,149	35,603	33,910
Patents and intellectual property	11.	506	624	490	96	532	80
Intangible assets	12.	1,003	1,153	1,025	1,003	1,153	1,025
Investments	13.	0	0	0	71	71	71
Finance lease receivable	8.	602	602	707	602	602	707
Total non-current assets	-	35,279	37,993	36,147	34,921	37,961	35,793
Total assets	_	45,389	46,589	45,510	45,085	47,123	45,290
LIABILITIES							
Current liabilities							
Trade and other payables	14.	5,442	6,091	5,701	5,344	6,279	5,627
Employee benefit liabilities	15.	4,104	4,347	4,068	3,951	4,205	3,945
Borrowings	16.	0	0	2,038	0	0	2,038
Liabilities classified as held for sale	7.	0	0	0	0	0	83
Revenue in advance	17.	1,586	2,796	1,954	1,526	2,647	1,842
Tax payable		586	575	0	586	675	0
Derivative financial instruments	9.	3	0	2	3	0	2
Total current liabilities	_	11,721	13,809	13,763	11,410	13,806	13,537
Non-current liabilities	_						
Employee benefit liabilities	15.	566	701	722	549	686	703
Deferred tax liability	26.	3,242	3,295	3,249	3,267	3,325	3,275
Total non-current liabilities	20. –	3,808	3,996	3,971	3,816	4,011	3,978
Total liabilities	-	15,530	17,805	17,734	15,226	17,817	17,515
NET ASSETS	-	29,860	28,784	27,776	29,859	29,306	27,775
EQUITY	_						
Ordinary shares	18.	10,515	10,515	10,515	10,515	10,515	10,515
Retained earnings	18.	19,345	18,269	17,261	19,344	18,791	17,260
Total equity	_	29,860	28,784	27,776	29,859	29,306	27,775
	_						

The accompanying notes form part of these financial statements.

PM Schuyt

Chair

20 August 2014

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J Taylor Deputy Chair 20 August 2014

Statement of cash flows

for the year ended 30 June 2014

		C	onsolidate	d			Parent	
		2014	2014	2013		2014	2014	2013
		Actual	Budget	Actual		Actual	Budget	Actual
	Note	\$000s	\$000s	\$000s		\$000s	\$000s	\$000s
Cash flows from operating activities								
Receipts from customers		54,382	58,070	55,364		51,730	55,333	53,469
Interest received		36	91	26		36	91	26
Payments to suppliers and employees		(47,921)	(49,544)	(51,028)		(45,242)	(46,648)	(48,790)
Interest paid		(11)	(158)	(64)		(11)	(158)	(64)
Tax refund/(paid)		73	818	(641)	_	(106)	798	(929)
Net cash generated from operating activities	20.	6,559	9,277	3,657	_	6,407	9,416	3,712
Cash flows from investing activities								
Cash transferred to assets held for sale		48	0	(48)		722	0	(64)
Proceeds from sale of property, plant and equipment		1	0	153		0	0	153
Purchase of property, plant and equipment		(3,259)	(2,570)	(6,611)		(3,579)	(2,576)	(6,621)
Purchase of intangible asset		(388)	(493)	0		(388)	(488)	0
Advances made (to)/from subsidiaries		0	0	0	_	(335)	(80)	75
Net cash used in investing activities		(3,598)	(3,063)	(6,506)	_	(3,580)	(3,144)	(6,457)
Cash flows from financing activities								
Drawdown (repayment) of borrowings		(2,038)	(4,900)	2,038		(2,038)	(4,900)	2,038
Net cash generated from (used in) financing activities		(2,038)	(4,900)	2,038	_	(2,038)	(4,900)	2,038
Net increase/(decrease) in cash		923	1,314	(811)		789	1,372	(707)
Cash, cash equivalents and bank overdrafts at beginning of the year		1,165	155	1,976		1,111	122	1,818
Cash, cash equivalents and bank overdrafts at end of the year	4.	2,088	1,469	1,165	_	1,900	1,494	1,111

The accompanying notes form part of these financial statements.

Notes to the financial statements

for the year ended 30 June 2014

1. Summary of Accounting Policies

Reporting entity

Landcare Research New Zealand Limited is a Crown Research Institute governed by the Crown Research Institutes Act 1992, Crown Entities Act 2004, Companies Act 1993, Financial Reporting Act 2013 and the Public Finance Act 1989. The Landcare Research Group ('the Group') consists of Landcare Research New Zealand Limited and its subsidiaries, Landcare Research US Limited (100% owned) and Enviro-Mark Solutions Limited (100% owned). Landcare Research New Zealand Limited and Enviro-Mark Solutions Limited are incorporated and domiciled in New Zealand; Landcare Research US Limited is incorporated and domiciled in the USA.

The core purpose of the Group is to drive innovation in New Zealand's management of terrestrial biodiversity and land resources in order to both protect and enhance the terrestrial environment and grow New Zealand's prosperity.

These audited financial statements of the Group are for the year ended 30 June 2014 and were authorised by the Board of Landcare Research New Zealand Limited on 20 August 2014.

Basis of preparation

The financial statements of the Group have been prepared in accordance with generally accepted accounting practice. The financial statements comply with NZ IFRS, and other applicable financial reporting standards, as appropriate for Tier 1 for-profit entities.

The accounting policies set out below have been applied consistently to all periods presented in these financial statements.

The financial statements have been prepared on an historical cost basis modified by revaluation of certain financial instruments. The financial statements are presented in New Zealand dollars, the functional currency of the Group, and all values are rounded to the nearest thousand dollars (\$000).

Foreign currency transactions are translated into the functional currency, using the exchange rates prevailing at the dates of the transactions. Foreign exchange gains and losses resulting from the settlement of such transactions are recognised in the profit or loss.

Standards, amendments and interpretations issued but not yet effective

Standard/Interpretation	Effective for annual reporting periods beginning on or after	Expected to be initially applied in the financial year ending
NZ IFRS 9 Financial Instruments	1 January 2017	30 June 2018
NZ IFRS 10 Consolidated financial statements	1 January 2014	30 June 2015
NZ IFRS 11 Joint arrangements	1 January 2014	30 June 2015
NZ IFRS 12 Disclosure of interest in other entities	1 January 2014	30 June 2015
NZ IFRS 21 Effects of changes in foreign exchange rates	1 January 2014	30 June 2015
NZ IAS 19 Employee Benefits	1 January 2014	30 June 2015
NZ IAS 27 Consolidated and separate financial statements	1 January 2014	30 June 2015
NZ IAS 32 Financial instruments: presentation	1 January 2014	30 June 2015
NZ IAS 36 Impairment of assets	1 January 2014	30 June 2015
NZ IAS 39 Financial instruments: recognition and measurement	1 January 2014	30 June 2015

The above standards and interpretations are not expected to have a material impact on the financial results. Except for the impending changes noted above there are no other standards or interpretations applicable to the Group that have been issued but are not yet effective.

Subsidiaries

Where the Group has the capacity to control the financing and operating policies of an entity, so as to obtain benefits from its activities, all such entities are consolidated as subsidiaries within the Group financial statements. This power exists where the Group controls the majority voting power on the governing body, or where such policies have been irreversibly predetermined by the Group, or where the determination of such policies is unable to materially impact the level of potential ownership benefits that arise from the activities of the subsidiary.

The Group measures the cost of a business combination as the aggregate of the fair values, at the date of exchange, of assets given, liabilities incurred or assumed, in exchange for control of the subsidiary plus any costs directly attributable to the business combination. Any excess of the cost of the business combination over the Group's interest in the net fair value of the identifiable assets, liabilities and contingent liabilities is recognised as goodwill. If the Group's interest in the net fair value of the identifiable assets, liabilities and contingent liabilities recognised exceeds the cost of the business combination, the difference will be recognised immediately in the profit or loss.

Basis of consolidation

The purchase method is used to prepare the consolidated financial statements; this involves adding together like items of assets, liabilities, equity, income and expenses on a line-by-line basis. All significant intragroup balances, transactions, income and expenses are eliminated on consolidation.

Landcare Research New Zealand Limited's investment in its subsidiaries is carried at cost less impairment in its 'Parent entity' financial statements.

Revenue

Revenue is measured at the fair value of consideration received.

Revenue from the rendering of services is recognised by reference to the stage of completion of the transaction at balance date, based on the actual service provided as a percentage of the total services to be provided. Income received for goods and services which have not yet been supplied to customers has been recognised as Revenue in Advance. Sales of goods are recognised when a product is sold to the customer.

Core Funding from the Ministry of Building, Innovation and Employment (MBIE), previously the Ministry of

Science and Innovation (MSI) is treated as a government grant and generally recognised in the year of receipt. The only exception is where MBIE gives prior written consent to carry over to the next financial year any part of the Core Funding that will be allocated to specified long term or large scale research activities that require the accumulation of funds over two or more financial years to fully fund those activities.

Interest income is recognised using the effective interest method, whereby the estimated future cash receipts are exactly discounted from the net carrying amounts through the expected life of the financial assets.

Dividends are recognised when the right to receive payment has been established.

Borrowing costs

Borrowing costs directly attributable to the acquisition, construction or production of a qualifying asset (i.e. an asset that necessarily takes a substantial period of time to get ready for its intended use or sale) are capitalised as part of the cost of that asset in accordance with NZ IAS 23 Borrowing costs (revised). All other borrowing costs are expensed in the period they occur.

Borrowing costs consist of interest and other costs that an entity incurs in connection with the borrowing of funds.

Income tax

Income tax expense in relation to the profit or loss for the period comprises current tax and deferred tax.

Current tax is the amount of income tax payable based on the taxable profit for the current year, plus any adjustments to income tax payable in respect of prior years. Current tax is calculated using rates that have been enacted or substantively enacted by balance date.

Deferred tax is the amount of income tax payable or recoverable in future periods in respect of temporary differences and unused tax losses. Temporary differences are differences between the carrying amount of assets and liabilities in the financial statements and the corresponding tax bases used in the computation of taxable profit. Deferred tax *liabilities* are generally recognised for all taxable temporary differences. Deferred tax assets are recognised to the extent that it is probable that taxable profits will be available against which the deductible temporary differences or tax losses can be utilised. Deferred tax is not recognised if the temporary difference arises from the initial recognition of goodwill, or from the initial recognition of an asset and liability in a transaction that is not a business combination, and

at the time of the transaction affects neither accounting profit nor taxable profit. Deferred tax is recognised on taxable temporary differences arising on investments in subsidiaries and associates, and interests in joint ventures, except where the Company can control the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future. Deferred tax is calculated at the tax rates that are expected to apply in the period when the liability is settled or the asset is realised, using tax rates that have been enacted or substantively enacted by balance date.

Current tax and deferred tax are recognised against the profit or loss, except to the extent that they relate to a business combination, or to transactions recognised in other comprehensive income or directly in equity.

Finance leases

A finance lease is a lease that substantially transfers to the lessee all risks and rewards incidental to ownership of an asset, whether or not title is eventually transferred.

At the commencement of the lease term, the Group recognises finance leases as assets and liabilities in the Statement of Financial Position at the lower of the fair value of the leased item or the present value of the minimum lease payments. The amount recognised as an asset is depreciated over its useful life. If there is no certainty as to whether the Group will obtain ownership at the end of the lease term, the asset is fully depreciated over the shorter of the lease term or its useful life.

Operating leases

An operating lease is a lease that does not substantially transfer all the risks and rewards incidental to ownership of an asset. Lease payments under an operating lease are recognised as an expense on a straight-line basis over the lease term. Lease incentives received are recognised evenly over the term of the lease as a reduction in rental expense.

Cash and cash equivalents

Cash and cash equivalents include cash in hand, deposits held at call with banks, other short-term highly liquid investments with original maturities of three months or less, and bank overdrafts. Bank overdrafts are shown within borrowings in current liabilities in the Statement of Financial Position.

Trade and other receivables

Trade and other receivables are initially measured at fair value and subsequently measured at amortised cost, using the effective interest method, less any provision for impairment.

Loans are initially recognised at the present value of their expected future cash flows, discounted at the current market rate of return for a similar asset/investment. They are subsequently measured at amortised cost using the effective interest method. The difference between the face value and present value of expected future cash flows of the loan is recognised in the Statement of Comprehensive Income as a grant.

A provision for impairment of receivables is established when there is objective evidence that the Group will not be able to collect all amounts due according to the original terms of receivables. The amount of the provision is the difference between the asset's carrying amount and the present value of estimated future cash flows, discounted using the effective interest method.

Inventories

Inventories (such as spare parts and other items) held for distribution or consumption in the provision of services that are not supplied on a commercial basis are measured at the lower of cost and net realisable value. Inventories held for use in the production of goods and services on a commercial basis are valued at the lower of cost and net realisable value. The cost of purchased inventory is determined using the average cost method.

The write-down from cost to net realisable value is recognised in the profit or loss.

Financial assets

The Group classifies its financial assets into the following three categories: financial assets at fair value through profit or loss, loans and receivables, and financial assets at fair value through other comprehensive income. The classification depends on the purpose for which the investments were acquired. Management determines the classification of its investments at initial recognition and re-evaluates this designation at every reporting date.

Financial assets and liabilities are initially measured at fair value plus transaction costs unless they are carried at fair value through profit or loss, in which case the transaction costs are recognised in the profit or loss.

The fair value of financial instruments traded in active markets is based on quoted market prices at the balance sheet date. The quoted market price used is the current bid price. The fair value of financial instruments that are not traded in an active market is determined using valuation techniques. The Group uses a variety of methods and makes assumptions that are based on market conditions existing at each balance date. Quoted market prices or dealer quotes for similar instruments

are used for long-term debt instruments held. Other techniques, such as estimated discounted cash flows, are used to determine fair value for the remaining financial instruments.

The three categories of financial assets are:

• Financial assets at fair value through profit or loss
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 designated as so
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 remeasurement are recognised in the profit
or loss. Financial assets in this category include foreign
currency forward contracts.

· Loans and receivables

These are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market. After initial recognition they are measured at amortised cost using the effective interest method. Gains and losses when the asset is impaired or derecognised are recognised in the profit or loss. 'Trade and other receivables' are classified as loans and receivables in the Statement of Financial Position.

Financial assets at fair value through other comprehensive income

Financial assets at fair value through other comprehensive income are those that are designated as fair value through other comprehensive income or are not classified in any of the other categories above. This category encompasses:

- Investments that the Group intends to hold long term but which may be realised before maturity.
- Shareholdings that the Group holds for strategic purposes. The Parent's investments in its subsidiaries are not included in this category as they are held at cost (as allowed by NZ IAS 27 Consolidated and Separate Financial Statements) whereas this category is to be measured at fair value.
- Investment in Kiwi Innovation Network Limited.

After initial recognition, these investments are measured at their fair value. Gains and losses are recognised directly in other comprehensive income except for impairment losses, which are recognised in the profit or loss. In the event of impairment, any cumulative losses previously recognised in other comprehensive income will be removed from other comprehensive income and recognised in the profit or loss even though the asset has not been derecognised. On derecognition, the cumulative gain or loss previously recognised in other comprehensive income is recognised in the profit or loss.

Impairment of financial assets

At each balance sheet date the Group assesses whether there is any objective evidence that a financial asset or group of financial assets is impaired. Any impairment losses are recognised in the profit or loss.

Accounting for derivative financial instruments and hedging activities

The Group uses derivative financial instruments to cover the risk on foreign exchange. In accordance with its treasury policy, the Group does not hold or issue derivative financial instruments for trading purposes.

Derivatives are initially recognised at fair value on the date a derivative contract is entered into and are subsequently remeasured at their value. The Group does not designate derivatives as a hedging instrument and therefore accounts for derivative instruments at fair value through profit or loss. Changes in the fair value of derivative instruments are recognised immediately in the profit or loss.

Non-current assets held for sale

Non-current assets held for sale are classified as held for sale if their carrying amount will be recovered principally through a sale transaction, not through continuing use. Non-current assets held for sale are measured at the lower of their carrying amount and fair value less costs to sell. Any impairment losses for write-downs of non-current assets held for sale are recognised in the profit or loss.

Any increases in fair value (less costs to sell) are recognised up to the level of any impairment losses that have been previously recognised. Non-current assets (including those that are part of a disposal group) are not depreciated or amortised while they are classified as held for sale. Interest and other expenses attributable to the liabilities of a disposal group classified as held for sale continue to be recognised.

Property, plant and equipment

Property, plant and equipment consist of:

• Operational assets these include land, buildings, library books, plant and equipment, and motor vehicles.

- Restricted assets these are collections and databases, held by the Group, that provide a benefit or service to the community and cannot be disposed of because of legal or other restrictions.
- Capital work in progress this has been included within plant and equipment, and is not depreciated until ready for use.

Property, plant and equipment are shown at cost, less accumulated depreciation and impairment losses. Assets are not reported with a financial value in cases where they are not realistically able to be reproduced or replaced, and when they do not generate cash flows and where no market exists to provide a valuation.

Additions

The cost of an item of property, plant and equipment is recognised as an asset if, and only if, it is probable that future economic benefits or service potential associated with the item will flow to the Group and the cost of the item can be measured reliably. In most instances, an item of property, plant and equipment is recognised at its cost. Where an asset is acquired at no cost, or for a nominal cost, it is recognised at fair value as at the date of acquisition.

Disposals

Gains and losses are determined by comparing the proceeds with the carrying amount of the asset. Gains and losses on disposals are included in the profit or loss.

Subsequent costs

Costs incurred subsequent to initial acquisition are capitalised only when it is probable that future economic benefits or service potential associated with the item will flow to the Group and the cost of the item can be measured reliably.

Depreciation

Depreciation is provided on the Group's property, plant and equipment, other than land, at rates that will write off the cost of the assets to their estimated residual values over their useful lives. All Parent and Enviro-Mark Solutions depreciable assets are depreciated on a straight-line (SL) basis. The residual value and useful life of an asset is reviewed, and adjusted if applicable, at each financial year end.

Depreciation rates	Parent and Enviro-Mark Solutions (SL)
Buildings	1.67–10%
Plant and equipment	4–33%
IT equipment	25%
Motor vehicles	25%
Furniture and fittings	6.67–10%
Office equipment	20%
Finance lease assets	20%
Library books and periodicals	20–50%
Rare books collections	1%

Intangible assets

Software acquisition and website development costs

Acquired computer software licences are capitalised on
the basis of the costs incurred to acquire and bring to use
the specific software. Costs associated with maintaining
computer software and websites are recognised as an
expense when incurred. Costs that are directly associated
with the development of software and websites for
internal use by the Group are recognised as an intangible
asset. Direct costs include the software development
employee costs and an appropriate portion of relevant
overheads.

Patents and intellectual property

Patents and intellectual property are capitalised on the basis of costs incurred. The useful life of trade marks is assessed as being indefinite as the trade mark is renewed every ten years by paying the applicable fee, and continues in use.

Patents

Marsupial Contraceptive (NZ)
Possum Kill Trap (NZ)
Equi-pF (NZ)
Equi-pF (USA)
Nitrate removal sytems (NZ)
Lysimeter installation method (NZ)

Trademarks

NZeem

Xstinguish; X-stinguish

Cost NZ

EBEX

EcoGene (NZ)

EcoGene (AU)

carboNZero

Amortisation

The carrying value of an intangible asset with a finite life is amortised on a straight-line basis over its useful life. Amortisation begins when the asset is available for use and ceases at the date that the asset is derecognised. The amortisation charge for each period is recognised in the profit or loss. The useful lives and associated amortisation rates of major classes of intangible assets have been estimated as follows:

Computer software 4 years 25% Intellectual property 3–20 years 5–35%

Impairment of non-financial assets

Non-financial assets that have an indefinite useful life are not subject to amortisation and are tested annually for impairment. Assets that have a finite useful life are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment loss is recognised for the amount by which the asset's carrying amount exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less costs to sell and value in use.

Value in use is depreciated replacement cost for an asset where the future economic benefits or service potential of the asset are not primarily dependent on the asset's ability to generate net cash inflows and where the entity would, if deprived of the asset, replace its remaining future economic benefits or service potential. The value in use for cash-generating assets is the present value of expected future cash flows.

If an asset's carrying amount exceeds its recoverable amount the asset is impaired and the carrying amount is written down to the recoverable amount. The total impairment loss is recognised in the profit or loss.

Employee benefits

Short-term benefits

Employee benefits that the Group expects to be settled within 12 months of balance date are measured at nominal values based on accrued entitlements at current rates of pay. These include salaries and wages accrued up to balance date, annual leave earned to but not yet taken at balance date, retirement and long-service leave entitlements expected to be settled within 12 months, and sick leave.

The Group recognises a liability for sick leave to the extent that absences in the coming year are expected to be greater than the sick leave entitlements earned in the coming year. The amount is calculated based on the unused sick leave entitlement that can be carried forward

at balance date; to the extent that the Group anticipates leave entitlements will be used by staff to cover those future absences.

The Group recognises a liability and an expense for bonuses where contractually obliged or where there is a past practice that has created a constructive obligation.

All actuarial gains and losses that arise subsequent to the transition date in calculating the Group's obligation with respect to long service leave, retirement gratuities and sick leave are recognised as an expense in the profit or loss.

Superannuation schemes

- Defined contribution schemes: obligations for contributions to defined-contribution superannuation schemes are recognised as an expense in the profit or loss as incurred.
- Defined benefit schemes: the Group makes contributions to the Government Superannuation Fund, which is a multi-employer defined benefit scheme. Insufficient information is available to use defined benefit accounting, as it is not possible to determine from the terms of the scheme the extent to which the profit or loss will affect future contributions by individual employers, as there is no prescribed basis for allocation. The scheme is therefore accounted for as a defined contribution scheme.

Long service leave, retirement leave and sick leave
Entitlements that are payable beyond 12 months, such as
long service leave, retirement leave and sick leave, have
been calculated on an actuarial basis. The calculations
are based on likely future entitlements accruing to staff,
based on years of service, years to entitlement, payment
history, the likelihood that staff will reach the point of
entitlement, and contractual entitlements information.

Provisions

The Group recognises a provision for future expenditure of uncertain amount or timing when there is a present obligation (either legal or constructive), as a result of a past event, that probable expenditures will be required to settle the obligation, and a reliable estimate can be made of the amount of the obligation. Provisions are not recognised for future operating losses. Provisions are measured at the present value of the expenditures expected to be required to settle the obligation, using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the obligation. The increase in the provision due to the passage of time is recognised as an interest expense.

Borrowings

Borrowings are initially recognised at their fair value. After initial recognition, all borrowings are measured at amortised cost, using the effective interest method.

Goods and Service Tax (GST)

All items in the financial statements are stated exclusive of GST, except for receivables and payables, which are stated on a GST-inclusive basis. Where GST is not recoverable as input tax then it is recognised as part of the related asset or expense.

The net amount of GST recoverable from, or payable to, the Inland Revenue Department (IRD) is included as part of receivables or payables in the Statement of Financial Position. The net GST paid to or received from the IRD, including the GST relating to investing and financing activities, is classified as an operating cash flow in the Statement of Cash Flows.

Commitments and contingencies are disclosed exclusive of GST.

Budget figures

The budget figures are those in the Statement of Corporate Intent approved by the shareholding Ministers at the beginning of the year. The budget figures have been prepared in accordance with NZ GAAP, using accounting policies that are consistent with those adopted by the Group for the preparation of the financial statements.

Critical accounting estimates and assumptions

In preparing these financial statements the Group has made estimates and assumptions concerning the future. These estimates and assumptions may differ from the subsequent actual results. Estimates and judgements are continually evaluated and are based on historical experience and other factors, including expectations or future events that are believed to be reasonable under the circumstances. The estimates and assumptions that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are discussed below:

Revenue recognition

The Group uses the percentage-of-completion method in accounting for its fixed-price contracts to deliver research services. Use of the percentage-of-completion method requires the Group to estimate the services performed to date as a proportion of the total services to be performed.

Critical judgements in applying the Group's accounting policies

Management has exercised the following critical judgements in applying the Group's accounting policies for the year ended 30 June 2014:

Leases classification

Judgement is required on various aspects that include, but are not limited to, the fair value of the leased asset, the economic life of the leased asset, whether or not to include renewal options in the lease term, and determining an appropriate discount rate to calculate the present value of the minimum lease payments. Classification as a finance lease means the asset is recognised in the Statement of Financial Position as property, plant and equipment, whereas for an operating lease no such asset is recognised.

The Group has exercised its judgement on the appropriate classification of property and equipment leases and has determined that a number of lease arrangements are finance leases.

Changes in accounting policies

There were no changes in accounting policy during the financial year.

Notes to the financial statements contd.

	Consc	olidated	Pa	rent
	2014	2013	2014	2013
	Actual	Actual	Actual	Actual
2 REVENUE	\$000s	\$000s	\$000s	\$000s
Revenue from operations consisted of the following	itoms:			
Research contracts funded by the Crown via Ministry of	items.			
Business, Innovation and Employment	24.205	24.205	24.205	24.205
Core	24,205	24,205	24,205	24,205
Other	7,376	6,403	7,377	6,403
Other New Zealand revenue	21,233	23,350	18,937	21,776
International revenue	1,790	1,441	1,504	1,209
Interest revenue:				
Bank deposits	36	28	36	26
Finance leases	68	77	68	77
Total interest	104	105	104	103
Gain on foreign currency contracts fair value	0	25	0	25
Gain on disposal of fixed assets	1	37	1	37
Total revenue	54,709	55,566	52,128	53,758
		·		
	Consc	olidated	Pa	arent
	2014	2013	2014	2013
	Actual	Actual	Actual	Actual
	71010.01			71010.0.
3 PROFIT BEFORE INCOME TAX	\$000s	\$000s	\$000s	\$000s
3 PROFIT BEFORE INCOME TAX Profit before income tax has been arrived at after cha	\$000s	\$000s		
	\$000s	\$000s		
Profit before income tax has been arrived at after cha	\$000s	\$000s		
Profit before income tax has been arrived at after characteristic costs:	\$000s rging the following e	\$000s expenses:	\$000s	\$000s
Profit before income tax has been arrived at after characteristic finance costs: Interest on loans	\$000s rging the following e	\$000s expenses:	\$000s	\$000s
Profit before income tax has been arrived at after characteristic finance costs: Interest on loans Inventory write off	\$000s rging the following e 11 0	\$000s expenses: 64 40	\$000s 11 0	\$000s 64 40
Profit before income tax has been arrived at after characteristic costs: Interest on loans Inventory write off Employee remuneration	\$000s rging the following e 11 0 27,789	\$000s expenses: 64 40 29,249	\$000s 11 0 26,169	\$000s 64 40 28,088
Profit before income tax has been arrived at after characteristic finance costs: Interest on loans Inventory write off Employee remuneration Restructuring costs	\$000s rging the following e 11 0 27,789 31	\$000s expenses: 64 40 29,249 753	\$000s 11 0 26,169 31	\$000s 64 40 28,088 644
Profit before income tax has been arrived at after characteristics. Interest on loans Inventory write off Employee remuneration Restructuring costs Superannuation contributions	\$000s rging the following e 11 0 27,789 31 1,159	\$000s expenses: 64 40 29,249 753 1,171	\$000s 11 0 26,169 31 1,111	\$000s 64 40 28,088 644 1,143
Profit before income tax has been arrived at after char- Finance costs: Interest on loans Inventory write off Employee remuneration Restructuring costs Superannuation contributions Employee entitlements increase/(decrease)	\$000s rging the following e 11 0 27,789 31 1,159 (91)	\$000s expenses: 64 40 29,249 753 1,171 (463)	\$000s 11 0 26,169 31 1,111 (176)	\$000s 64 40 28,088 644 1,143 (550)
Profit before income tax has been arrived at after char- Finance costs: Interest on loans Inventory write off Employee remuneration Restructuring costs Superannuation contributions Employee entitlements increase/(decrease) Net bad and doubtful debts	\$000s riging the following e 11 0 27,789 31 1,159 (91) 9	\$000s expenses: 64 40 29,249 753 1,171 (463) 40	\$000s 11 0 26,169 31 1,111 (176) 9	\$000s 64 40 28,088 644 1,143 (550) 40
Profit before income tax has been arrived at after char- Finance costs: Interest on loans Inventory write off Employee remuneration Restructuring costs Superannuation contributions Employee entitlements increase/(decrease) Net bad and doubtful debts Donations	\$000s riging the following e 11 0 27,789 31 1,159 (91) 9	\$000s expenses: 64 40 29,249 753 1,171 (463) 40	\$000s 11 0 26,169 31 1,111 (176) 9	\$000s 64 40 28,088 644 1,143 (550) 40
Profit before income tax has been arrived at after char- Finance costs: Interest on loans Inventory write off Employee remuneration Restructuring costs Superannuation contributions Employee entitlements increase/(decrease) Net bad and doubtful debts Donations Auditors' remuneration:	\$000s riging the following e 11 0 27,789 31 1,159 (91) 9 0	\$000s expenses: 64 40 29,249 753 1,171 (463) 40 16	\$000s 11 0 26,169 31 1,111 (176) 9 0	\$000s 64 40 28,088 644 1,143 (550) 40 16
Profit before income tax has been arrived at after char- Finance costs: Interest on loans Inventory write off Employee remuneration Restructuring costs Superannuation contributions Employee entitlements increase/(decrease) Net bad and doubtful debts Donations Auditors' remuneration: Audit New Zealand – audit services	\$000s rging the following e 11 0 27,789 31 1,159 (91) 9 0 129	\$000s expenses: 64 40 29,249 753 1,171 (463) 40 16	\$000s 11 0 26,169 31 1,111 (176) 9 0	\$000s 64 40 28,088 644 1,143 (550) 40 16
Profit before income tax has been arrived at after char- Finance costs: Interest on loans Inventory write off Employee remuneration Restructuring costs Superannuation contributions Employee entitlements increase/(decrease) Net bad and doubtful debts Donations Auditors' remuneration: Audit New Zealand – audit services Audit New Zealand – other services	\$000s rging the following e 11 0 27,789 31 1,159 (91) 9 0 129 15	\$000s expenses: 64 40 29,249 753 1,171 (463) 40 16	\$000s 11 0 26,169 31 1,111 (176) 9 0	\$000s 64 40 28,088 644 1,143 (550) 40 16
Profit before income tax has been arrived at after char- Finance costs: Interest on loans Inventory write off Employee remuneration Restructuring costs Superannuation contributions Employee entitlements increase/(decrease) Net bad and doubtful debts Donations Auditors' remuneration: Audit New Zealand – audit services Audit New Zealand – other services Directors' fees	\$000s riging the following e 11 0 27,789 31 1,159 (91) 9 0 129 15 226	\$000s expenses: 64 40 29,249 753 1,171 (463) 40 16 140 6 238	\$000s 11 0 26,169 31 1,111 (176) 9 0 95 0 190	\$000s 64 40 28,088 644 1,143 (550) 40 16 93 0 190
Profit before income tax has been arrived at after char- Finance costs: Interest on loans Inventory write off Employee remuneration Restructuring costs Superannuation contributions Employee entitlements increase/(decrease) Net bad and doubtful debts Donations Auditors' remuneration: Audit New Zealand – audit services Audit New Zealand – other services Directors' fees Depreciation and amortisation of non-current assets	\$000s rging the following e 11 0 27,789 31 1,159 (91) 9 0 129 15 226 4,418	\$000s expenses: 64 40 29,249 753 1,171 (463) 40 16 140 6 238 4,360	\$000s 11 0 26,169 31 1,111 (176) 9 0 95 0 190 4,414	\$000s 64 40 28,088 644 1,143 (550) 40 16 93 0 190 4,355
Profit before income tax has been arrived at after char- Finance costs: Interest on loans Inventory write off Employee remuneration Restructuring costs Superannuation contributions Employee entitlements increase/(decrease) Net bad and doubtful debts Donations Auditors' remuneration: Audit New Zealand – audit services Audit New Zealand – other services Directors' fees Depreciation and amortisation of non-current assets Loss on sale of non-current assets	\$000s rging the following e 11 0 27,789 31 1,159 (91) 9 0 129 15 226 4,418 0	\$000s expenses: 64 40 29,249 753 1,171 (463) 40 16 140 6 238 4,360 6	\$000s 11 0 26,169 31 1,111 (176) 9 0 95 0 190 4,414 0	\$000s 64 40 28,088 644 1,143 (550) 40 16 93 0 190 4,355 0
Profit before income tax has been arrived at after char- Finance costs: Interest on loans Inventory write off Employee remuneration Restructuring costs Superannuation contributions Employee entitlements increase/(decrease) Net bad and doubtful debts Donations Auditors' remuneration: Audit New Zealand – audit services Audit New Zealand – other services Directors' fees Depreciation and amortisation of non-current assets Loss on sale of non-current assets Operating lease rental	\$000s rging the following of the follow	\$000s expenses: 64 40 29,249 753 1,171 (463) 40 16 140 6 238 4,360 6 652	\$000s 11 0 26,169 31 1,111 (176) 9 0 95 0 190 4,414 0 647	\$000s 64 40 28,088 644 1,143 (550) 40 16 93 0 190 4,355 0 648
Profit before income tax has been arrived at after char- Finance costs: Interest on loans Inventory write off Employee remuneration Restructuring costs Superannuation contributions Employee entitlements increase/(decrease) Net bad and doubtful debts Donations Auditors' remuneration: Audit New Zealand – audit services Audit New Zealand – other services Directors' fees Depreciation and amortisation of non-current assets Loss on sale of non-current assets Operating lease rental Cost of sales	\$000s rging the following e 11 0 27,789 31 1,159 (91) 9 0 129 15 226 4,418 0 866 498	\$000s expenses: 64 40 29,249 753 1,171 (463) 40 16 140 6 238 4,360 6 652 500	\$000s 11 0 26,169 31 1,111 (176) 9 0 95 0 190 4,414 0 647 15	\$000s 64 40 28,088 644 1,143 (550) 40 16 93 0 190 4,355 0 648 166

	Cons	olidated		Parent
	2014	2013	2014	2013
	Actual	Actual	Actual	Actual
4 CASH AND CASH EQUIVALENTS	\$000s	\$000s	\$000s	\$000s
Cash at bank and in hand	465	1,164	277	1,110
Short-term deposits maturing three months or less from date of acquisition	1,623	1	1,623	1
Total cash and cash equivalents	2,088	1,165	1,900	1,111
The carrying value of short-term deposits with maturity of	dates of three months	or less approximate	es their fair value.	
Cash and bank overdrafts include the following for t	he purposes of the	cash flow stateme	nt:	
Cash at bank and in hand	465	1,164	277	1,110
Short-term deposits maturing three months or less from date of acquisition	1,623	1	1,623	1
	2,088	1,165	1,900	1,111

	Cor	nsolidated		Pare	
	2014	2013		2014	2013
	Actual	Actual	A	ctual	Actual
5 TRADE AND OTHER RECEIVABLES	\$000s	\$000s	•	8000s	\$000s
Trade debtors	6,080	5,431		5,518	4,974
Accrued income and sundry debtors	942	1,631		917	1,454
Receivables from controlled entities (note 23)	0	0		389	336
Prepayments	846	839		814	804
Loans to controlled entities (note 23)	15	0		491	234
	7,883	7,901		8,129	7,802
Less provision for impairment of receivables	(18)	(56)		(9)	(46)
Total trade and other receivables	7,865	7,845		8,120	7,756
Total non-current portion	0	0		0	0
Total current portion of trade & other receivables	7,865	7,845	<u></u>	8,120	7,756

The carrying value of trade and other receivables approximates their fair value. The carrying value of loans to related parties approximates their fair value.

Apart from the Ministry of Business, Innovation and Employment, which is Government owned, there is no concentration of credit risk to receivables outside the Group, as the Group has a large number of customers.

As of 30 June 2014, all overdue receivables have been assessed for impairment and appropriate provisions applied. Landcare Research holds no collateral as security or other credit enhancements over receivables that are either past due or impaired. The impairment provision has been calculated based on expected losses for Landcare Research's pool of debtors. Expected losses have been determined based on review of specific debtors.

Movements in the provision for impairment of receivables are as follows:

Total trade debtors	6,080	5,431	5,518	4,974
Outstanding	(795)	420	(815)	315
Current	6,875	6,424	6,333	6,072
Age of trade debtors:				
As at 30 June	18	56	9	46
Transferred to assets held for sale	0	0	0	0
Receivables written off during the period	(47)	0	(46)	(2)
Additional provisions made during the year	9	38	9	46
As at 1 July	56	18	46	2

	Co	onsolidated		Parent
6 INVENTORIES	2014	2013	2014	2013
	Actual	Actual	Actual	Actual
	\$000s	\$000s	\$000s	\$000s
Finished goods	51	37	38	0
Total inventories	51	37	38	0

Inventories are valued at the lower of cost and net realisable value. Inventory cost includes the cost of direct materials.

Net realisable value is the estimated selling price in the ordinary course of business less estimated costs necessary to make the sale.

	Co	onsolidated			Parent
7 ASSETS/(LIABILITIES) HELD FOR SALE	2014	2013		2014	2013
7 700E10/(EI/IBIEITIES) TIEED TOTTO ALE	Actual	Actual		Actual	Actual
	\$000s	\$000s		\$000s	\$000s
Current assets	0	48		0	147
Non-current assets	0	0		0	329
Current liabilities	0	0		0	(80)
Non-current liabilities	0	0		0	(3)
Total assets/(liabilities) held for sale	0	48	-	0	393

Prior to 30 June 2013 the Landcare Research Board agreed to transfer the operations of its Enviro-Mark business unit to its subsidiary Company carboNZero Holdings Limited. The assets of Enviro-Mark were held for sale in the Parent in 2013. Net assets at book value were transferred to carboNZero Holdings on 1 July 2013. carboNZero Holdings Ltd subsequently changed its name to Enviro-Mark Solutions Limited.

Prior to 30 June 2013 Landcare Research agreed to cease Manaaki Whenua Press Bookshop operation. The assets of Manaaki Whenua Press Bookshop were held for sale at 30 June 2013 and show in the Parent and Group 2013 actual columns. Since June 2013 the Bookshop assets, consisting of books and periodicals, are being sold to the public via a national distributor on a commission basis.

Consolidated

Parent

	CO	iisoiiuateu		Farent		
8 ANALYSIS OF FINANCE LEASE RECEIVABLE	2014	2013	2014	2013		
	Actual	Actual	Actual	Actual		
	\$000s	\$000s	\$000s	\$000s		
Total minimum lease payments are receivable:						
Not later than one year	165	165	165	165		
Later than one year and not later than five years	379	465	379	465		
Later than five years	530	608	530	608		
Total minimum lease payments	1,074	1,238	1,074	1,238		
Future finance charges	(366)	(434)	(366)	(434)		
Total present value of minimum lease payments	708	804	708	804		
Present value of minimum lease payments are receivable	:					
Not later than one year	106	96	106	96		
Later than one year and not later than five years	206	271	206	271		
Later than five years	396	437	396	437		
Total	708	804	708	804		
Current	106	97	106	97		
Non-current	602	707	602	707		
Total	708	804	708	804		

Finance lease receivable relates to the animal house facility. The building transfers to Lincoln University for nil consideration in 2016. Landcare Research New Zealand Limited has the right to continue occupying the building for a further 10 years to 2026 at a rent of \$1.00 per annum.

	Co	nsolidated		Parent		
	2014	2013	2014	2013		
	Actual	Actual	Actual	Actual		
9 DERIVATIVE FINANCIAL INSTRUMENTS	\$000s	\$000s	\$000s	\$000s		
Current asset/(liability) portion						
Foreign currency forward contracts	(3)	(2)	(3)	(2)		
Total derivative financial instruments	(3)	(2)	(3)	(2)		

10 PROPERTY, PLANT AND EQUIPMENT

	Paren	t					Group)				
	Land	Buildings	Plant &	Library	Finance	Total	Land	Buildings	Plant &	Library	Finance	Total
2013			equipment	assets	lease				equipment	assets	lease	
	\$000s	\$000s	\$000s	\$000s	\$000s	\$000s	\$000s	\$000s	\$000s	\$000s	\$000s	\$000s
Cost at 1 July 2012	519	24,375	39,963	5,448	122	70,427	519	24,375	39,986	5,448	122	70,450
Accumulated depreciation and impairment charges	0	(7,338)	(26,098)	(4,212)	(10)	(37,658)	0	(7,338)	(26,101)	(4,212)	(10)	(37,661)
Net book value at the beginning of the year	519	17,037	13,865	1,236	112	32,769	519	17,037	13,885	1,236	112	32,789
Year ended 30 June 2013												
Net book value at the beginning of the year	519	17,037	13,865	1,236	112	32,769	519	17,037	13,885	1,236	112	32,789
Additions	0	1,669	3,065	493	0	5,227	0	1,669	3,065	493	0	5,227
Disposals and transfers	0	(32)	(538)	0	(112)	(682)	0	(32)	(538)	0	(112)	(682)
Accumulated depreciation on disposals and transfers	0	32	538	0	0	570	0	32	538	0	0	570
Current year depreciation	0	(450)	(3,004)	(520)	0	(3,974)	0	(450)	(3,009)	(520)	0	(3,979)
Net book value at the end of the year	519	18,256	13,926	1,209	(0)	33,910	519	18,256	13,941	1,209	(0)	33,925
At 30 June 2013												
Cost	519	26,012	42,490	5,942	0	74,973	519	26,012	42,513	5,942	0	74,986
Accumulated depreciation	0	(7,756)	(28,564)	(4,733)	(0)	(41,063)	0	(7,756)	(28,572)	(4,733)	(0)	(41,061)
Net book value at the end of the year	519	18,256	13,926	1,209	(0)	33,910	519	18,256	13,941	1,209	(0)	33,925

	Paren	ıt					Group)				
2014	Land	Buildings	Plant & equipment	Library assets	Finance lease	Total	Land	Buildings	Plant & equipment	Library assets	Finance lease	Total
	\$000s	\$000s	\$000s	\$000s	\$000s	\$000s	\$000s	\$000s	\$000s	\$000s	\$000s	\$000s
Cost at 1 July 2013	519	26,012	42,490	5,942	0	74,963	519	26,012	42,513	5,942	0	74,986
Accumulated depreciation and impairment charges	0	(7,756)	(28,564)	(4,733)	(0)	(41,053)	0	(7,756)	(28,572)	(4,733)	(0)	(41,061)
Net book value at the beginning of the year	519	18,256	13,926	1,209	(0)	33,910	519	18,256	13,941	1,209	(0)	33,925
Year ended 30 June 2014												
Net book value at the beginning of the year	519	18,256	13,926	1,209	(0)	33,910	519	18,256	13,941	1,209	(0)	33,925
Additions	0	468	2,318	453	0	3,239	0	468	2,327	453	0	3,248
Disposals and transfers	0	0	(333)	0	0	(333)	0	0	(334)	0	0	(334)
Accumulated depreciation on disposals	0	0	333	0	0	333	0	0	333	0	0	333
Current year depreciation	0	(479)	(3,020)	(501)	0	(4,000)	0	(479)	(3,024)	(501)	0	(4,004)
Net book value at the end of the year	519	18,245	13,224	1,161	(0)	33,149	519	18,245	13,243	1,161	(0)	33,168
At 30 June 2014												
Cost	519	26,480	44,473	6,395	0	77,867	519	26,480	44,504	6,395	0	77,898
Accumulated depreciation	0	(8,235)	(31,249)	(5,234)	0	(44,718)	0	(8,235)	(31,262)	(5,234)	0	(44,730)
Net book value at the end of the year	519	18,245	13,224	1,161	0	33,149	519	18,245	13,243	1,161	0	33,168

Heritage Assets

Heritage collection assets are those assets held for the duration of their physical lives because of their unique scientific importance. The Crown, when establishing Crown Research Institutes in 1992, transferred various national databases and reference collections to individual Institutes at nil value. Many of these databases and collections were specifically identified by the Foundation for Research, Science and Technology as being of significant national importance, and they have covenants attached to them restricting an Institute's ability to deal with them.

Landcare Research has the following nationally significant collections and databases that have been defined as heritage assets:

- The New Zealand Arthropod Collection (NZAC), including the New Zealand National Nematode Collection (NZNNC) and associated database NZACbugs, BUGS bibliography and Pacific database
- The New Zealand Fungal & Plant Disease Herbarium (PDD)
- The International Collection of Micro-Organisms from Plants (ICMP) and associated NZFungi Database
- · The Allan Herbarium
- The National Vegetation Survey Databank (NVS)
- · The 'Ngā Tipu Whakaoranga' Ethnobotany Database and New Zealand Flax and Living Plant collections

Further details on these heritage assets are shown in the company's Statement of Corporate Intent page 52.

The nature of these heritage assets and their significance to the science and research that Landcare Research undertakes make it necessary to disclose them.

No reliable valuation is able to be obtained for these assets, and so they remain at nil value.

A rare books collection, previously considered to be part of the reference collections, was introduced in 2002/03 on a market value basis. This value has been accepted as deemed cost.

	Consolidated	Parent
	Actual	Actual
11 PATENTS AND INTELLECTUAL PROPERTY	\$000s	\$000s
As at 1 July 2012		
Cost	481	388
Accumulated amortisation and impairment	(14)	(13)
Net book amount	467	375
Year ended 30 June 2013		
Opening net book amount	467	375
Additions	32	32
Disposals/transfers	(6)	0
Amortisation charge	(3)	(3)
Closing net book amount	490	404
As at 1 July 2013		
Cost	506	420
Accumulated amortisation and impairment	(16)	(16)
Net book amount	490	404
Classified as Patents and Intellectual Property	490	80
Classified as Non-current Assets Held For Sale	0	324
	490	404
Year ended 30 June 2014		
Opening net book amount	490	404
Additions	351	26
Disposals/transfers	(332)	(331)
Amortisation charge	(3)	(3)
Closing net book amount	506	96
As at 30 June 2014		
Cost	525	114
Accumulated amortisation and impairment	(19)	(18)
Net book amount	506	96

Landcare Research has patents and trademarks amounting to \$506,000 (2013: \$490,000), which are carried at an indefinite life in the financial statements. These assets have not been impaired during the year (2013: no impairment writedown). Landcare Research has not recognised an impairment charge, as these assets are still used by the business.

	Consolidated	Parent
12 INTANGIBLE ASSETS	Actual \$000s	Actual \$000s
As at 1 July 2012		
Cost	4,200	3,677
Accumulated amortisation and impairment	(3,263)	(2,740)
Net book amount	937	937
Year ended 30 June 2013		
Opening net book amount	937	937
Additions	490	490
Amortisation charge/impairment charge	(402)	(402)
Closing net book amount	1,025	1,025
As at 30 June 2013		
Cost	4,690	4,167
Accumulated amortisation and impairment	(3,665)	(3,142)
Net book amount	1,025	1,025
Year ended 30 June 2014		
Opening net book amount	1,025	1,025
Additions	388	388
Amortisation/impairment charge	(410)	(410)
Closing net book amount	1,003	1,003
As at 30 June 2014		
Cost	5,078	4,555
Accumulated amortisation and impairment	(4,075)	(3,552)
Net book amount	1,003	1,003

	Consc	olidated	Parent		
	2014	2013	2014	2013	
	Actual	Actual	Actual	Actual	
13 INVESTMENTS	\$000s	\$000s	\$000s	\$000s	
Investment in Landcare Research US Limited	0	0	71	71	
Total investments	0	0	71	71	

Landcare Research New Zealand Limited has 100% interest in Landcare Research US Limited and Enviro-Mark Solutions Limited (name changed from carboNZero Holdings Limited on 1 July 2013).

Enviro-Mark Solutions Limited commenced trading on 1 July 2011. The parent invested \$1,200,000 in shares of carboNZero Holdings Limited, the investment included assets and liabilities transferred as a non cash transaction.

Landcare Research sold the net assets of its Enviro-Mark business unit to 100% owned subsidiary Enviro-Mark Solutions Limited on 1 July 2013. These assets were classified as held for sale as at 30 June 2013, and were sold at net book value.

The subsidiaries are unlisted companies, and accordingly, there are no published price quotations to determine the fair value of these investments; therefore, they are accounted at cost less impairment as per the accounting policies.

As at 30 June 2012 the Parent Board assessed a \$1,200,000 impairment of the investment in carboNZero Holdings Limited reducing the investment to zero value.

During the 2012 year Landcare Research New Zealand Limited purchased an 11.1% investment in Kiwi Innovation Network Limited for \$30,000. As at 30 June 2012 the Parent Board assessed a \$30,000 impairment of the investment in Kiwi Innovation Network Limited reducing the investment to zero value.

Landcare Research New Zealand Limited has a 49% share in Staron LLC. This Company is non-trading.

Consolidated		Parent	
2014	2013	2014	2013
Actual	Actual	Actual	Actual
\$000s	\$000s	\$000s	\$000s
2,897	2,910	2,815	2,893
0	0	76	86
1	1	0	0
1,141	1,208	1,083	1,135
1,403	1,582	1,369	1,513
5,442	5,701	5,344	5,627
	2014 Actual \$000s 2,897 0 1 1,141 1,403	2014 2013 Actual Actual \$000s \$000s 2,897 2,910 0 0 1 1 1,141 1,208 1,403 1,582	2014 2013 2014 Actual Actual Actual \$000s \$000s 2,897 2,910 2,815 0 0 76 1 1 0 1,141 1,208 1,083 1,403 1,582 1,369

The carrying value of trade and other payables approximates their fair value.

	Consolidated		Parent		
	2014	2013	2014	2013	
	Actual	Actual	Actual	Actual	
15 EMPLOYEE BENEFIT LIABILITIES	\$000s	\$000s	\$000s	\$000s	
Accrued pay	803	682	764	652	
Annual leave	1,871	1,941	1,784	1,861	
Long service leave	1,018	1,197	1,001	1,178	
Retirement leave	40	40	40	40	
Time in lieu	94	164	93	160	
Sick leave	61	62	59	61	
Staff incentives and at risk payments	783	371	759	363	
Restructuring provision	0	333	0	333	
Total employee benefit liabilities	4,670	4,790	4,500	4,648	
Comprising:					
Current	4,104	4,068	3,951	3,945	
Non-current	566	722	549	703	
Total	4,670	4,790	4,500	4,648	

Entitlements that are payable beyond 12 months, such as long service leave and retirement leave, have been calculated on an actuarial basis by Eriksen and Associates Limited as at 30 June 2014. The calculations are based on:

- Likely future entitlements accruing to staff, based on years of service, years to entitlement, likelihood staff will reach the point of entitlement and contractual entitlements information; and
- Present value of estimated future cash flows using the following key assumptions:
 - Discount rates of 3.42% 5.5% based on the risk-free rates as calculated from the yields on New Zealand Government Bonds
 - Inflation factor of 2.5% was based on the expected long-term increase in remuneration of employees.

Staff incentives and at risk payments include a contracted profit share of \$421,000 (2013 \$0).

The Parent Company's Profit Share Policy establishes a contractual Profit Share Scheme which provides a means for staff to share in the Company's profits. Any changes to the scheme during its existence require ratification by staff who are eligible Public Service Association members.

	Consolidated			Parent	
	2014	2013	2014	2013	
	Actual	Actual	Actual	Actual	
16 BORROWINGS	\$000s	\$000s	\$000s	\$000s	
Oversont	0	0.000	0	0.000	
Current	0	2,038	0	2,038	
Borrowings	0	2,038	0	2,038	

The carrying value of borrowings approximates their fair value. Borrowings are unsecured.

	Consolidated	Parent
	Borrowings	Borrowings
	\$000s	\$000s
Maturity analysis and effective interest rates		
2013		
Less than one year	2,038	2,038
Later than one year	0	0
Greater than five years	0	0
2014		
Less than one year	0	0
Later than one year	0	0
Greater than five years	0	0
Interest rates		
June 2014	5.45%	5.45%
June 2013	5.45%	5.45%

	Consolidated		Parent		
	2014	2013	2014	2013	
	Actual	Actual	Actual	Actual	
17 REVENUE IN ADVANCE	\$000s \$000s		\$000s	\$000s	
MBIE public good science funding	437	552	437	552	
MBIE capability funding	0	1	0	0	
Commercial contracts	1,149	1,401	1,089	1,290	
	1,586	1,954	1,526	1,842	

The carrying value of revenue in advance approximates fair value.

	Consolidated		Parent	
	2014 2013		2014 20	
	Actual	Actual	Actual	Actual
18 EQUITY	\$000s	\$000s	\$000s	\$000s
Retained earnings				
As at 1 July	17,261	16,676	17,260	16,799
Profit / (loss) for the year	2,084	585	2,084	461
As at 30 June	19,345	17,261	19,344	17,260
Share capital				
As at 1 July	10,515	10,515	10,515	10,515
As at 30 June	10,515	10,515	10,515	10,515

The issued capital of the company is 10,515,000, fully paid up, and equally ranking shares. No dividends were paid during the year ended 30 June 2014. (2013: \$0).

19 CAPITAL MANAGEMENT

The Group's capital is its equity, which comprises retained earnings and other reserves. Equity is represented by net assets.

The Group is subject to the financial management and accountability provisions of the Crown Entities Act 2004, Crown Research Institutes Act 1992 and the Shareholding Ministers' Annual Operating Framework, which impose restrictions in relation to borrowings, acquisition of securities, issuing guarantees and indemnities, and the use of derivatives.

The Group manages its equity as a by-product of prudently managing revenues, expenses, assets, liabilities, investments, and general financial dealings to ensure the Group effectively achieves its objectives and purpose, while remaining a going concern.

	Cons	olidated		Parent
20 RECONCILIATION OF NET PROFIT / (LOSS)	2014	2013	2014	2013
AFTER TAX TO NET CASH FLOW FROM OPERATING ACTIVITIES	Actual	Actual	Actual	Actual
OPERATING ACTIVITIES	\$000s	\$000s	\$000s	\$000s
Profit / (loss) after tax	2,084	585	2,084	461
Add/(less) non-cash items:	,		,	
Depreciation and amortisation	4,418	4,360	4,414	4,355
Movement in non-current employee entitlements	(156)	(42)	(154)	(46)
Increase in deferred tax	(7)	(47)	(8)	(50)
Add/(less) items classified as investing or financing activities	S:			
(Gain)/loss on sale of non-current assets and investments	0	(35)	0	(35)
(Gain)/loss in fair value of financial assets	(1)	(26)	(1)	(26)
Movement in finance lease receivable	96	97	96	97
Advances to Enviro-Mark Solutions Limited	0	0	335	(75)
Add/(less) movements in working capital items:	(14)	84	(38)	96
Inventory	(27)	301	(385)	666
Trade and other receivables	498	(792)	374	(911)
Trade and other payables	36	(519)	6	(531)
Employee benefit liabilities	0	0	0	0
Revenue in advance	(368)	(309)	(316)	(289)
Net cash inflow/(outflow) from operating activities	6,559	3,657	6,407	3,712

	Cons	solidated	Parent		
	2014	2013	2014	2013	
21 CAPITAL COMMITMENTS AND OPERATING	Actual	Actual	Actual	Actual	
LEASES	\$000s	\$000s	\$000s	\$000s	
Capital commitments					
Estimated capital expenditure contracted for at balance date but not paid or provided for	31	607	31	607	
Operating lease commitments					
Lease commitments under non-cancellable operating lease	s:				
Within one year	648	645	431	474	
Later than one year and not later than two years	466	626	412	456	
Later than two years and not later than five years	1,073	1,300	1,065	1,130	
Later than five years	2,378	3,588	2,378	3,588	

22 CONTINGENCIES

The Group is not aware of any significant contingent liabilities as at balance date (2013:nil).

23 RELATED PARTY TRANSACTIONS

Landcare Research New Zealand Limited is the ultimate parent of the Group and controls two entities, being Landcare Research US Limited and Enviro-Mark Solutions Limited.

Intercompany transactions between Landcare Research New Zealand Limited and its subsidiaries are transacted on a commercial basis. No transaction between companies within the Landcare Research Group took place at nil or nominal value during the year.

		Parent
	2014	2013
	Actual	Actual
The following transactions were carried out with related parties:	\$000s	\$000s
Enviro-Mark Solutions Limited:		
Services provided to Enviro-Mark Solutions Limited	132	312
Products and services provided by Enviro-Mark Solutions Limited	131	17
Loan outstanding	506	234
Intercompany current account receivable/(payable)	388	250
Subvention payment	113	292
Loss offset	289	750
Impairment of investment/receivable in subsidiary	103	391
Landcare Research US Limited:		
Intercompany current account receivable/(payable)	(71)	(71)

Landcare Research New Zealand Limited has capitalised Landcare Research US Limited for a sum of US\$50,000, but the amount has been held by the Parent company pending requirement, and will be paid out on request.

	Consol	idated	Parent		
	2014	2014 2013		2013	
	Actual	Actual	Actual	Actual	
Key management personnel compensation	\$000s	\$000s	\$000s	\$000s	
Salaries and other short-term employee benefits	2,489	2,458	1,969	1,938	

Key management personnel include Directors, Chief Executive Officer and other senior management personnel.

During the year Director remuneration payments (including expense reimbursements) were made to the following entities at the request of the Directors and relate exclusively to Director remuneration payments that would have otherwise been paid directly to the existing Directors.

	2014	2013	2014	2013	2014	2013
	Services received from	Services received from	Services provided to	Services provided to	Amounts (Payable to)/ Receivable	Amounts (Payable to)/ Receivable
	\$000s	\$000s	\$000s	\$000s	\$000s	\$000s
Luxton & Co. Limited	26	24	0	0	0	0
Edition & Co. Elimited	20	24	U	U	U	U
Hall Family Trust	32	25	0	0	0	0
The Commonwealth Scientific & Industrial Research Organisation	21	23	0	0	0	0

During the year Landcare Research provided services to or received services from the following companies, in which Directors have declared an interest. These transactions were conducted on normal commercial terms. Related parties have ceased and commenced during the year due to changes in directorships as noted.

	2014	2013	2014	2013	2014	2013
	Services received from	Services received from	Services provided to	Services provided to	Amounts (Payable to)/ Receivable	Amounts (Payable to)/ Receivable
	\$000s	\$000s	\$000s	\$000s	\$000s	\$000s
AgResearch	985	1,066	1,657	1,879	311	276
Enviro-Mark Solutions Limited	94	270	132	141	64	29
The Commonwealth Scientific & Industrial Research Organisation	286	3	4	3	0	0
Dairy NZ Inc. Limited	29	0	10	36	12	24
Leadership NZ	0	23	0	0	0	0
Mighty River Power Limited	0	1	0	0	0	2
Rural Support Trust	0	9	0	0	0	0
The Catalyst Group	0	481	0	163	0	(5)
University of Canterbury	169	206	19	21	(60)	0
Waikato River Authority	0	0	56	0	(65)	0

In conducting its activities Landcare Research New Zealand Limited is required to pay various taxes and levies (such as GST, FBT, PAYE and ACC levies) to the Crown and entities related to the Crown. The payment of these levies and taxes, other than income tax, is based on the standard terms that apply to all tax and levy payers.

Landcare Research New Zealand Limited also supplies and purchases goods and services from entities controlled, significantly influenced or jointly controlled by the Crown. Sales to and purchases from these entities during the year ended 30 June 2014 were:

	2014	2013	2014	2013	2014	2013
	Services received from \$000s	Services received from \$000s	Services provided to \$000s	Services provided to \$000s	Amounts (Payable to)/ Receivable \$000s	Amounts (Payable to)/ Receivable \$000s
Crown entities, SOEs and government						
departments	6,868	7,309	42,749	43,958	2,213	2,189
Inland Revenue Department	11,325	13,374	187	2	(1,670)	(1,097)

24 EVENTS AFTER THE BALANCE SHEET DATE

Nil to report

25 FINANCIAL INSTRUMENT RISKS

The Group has a series of policies to manage the risks associated with financial instruments. The Group is risk averse and seeks to minimise exposure from its treasury activities. Treasury and cash management policies approved by the Board do not allow any transactions that are speculative in nature to be entered into.

Market risk

Price risk

Group price risk is the risk that the value of a financial instrument will fluctuate as a result of changes in market prices. The Group is not exposed to price risk as it does not hold financial assets held at fair value through other comprehensive income.

Currency risk

Group currency risk is the risk that the value of a financial instrument will fluctuate due to changes in foreign exchange rates. The Group operates internationally and is exposed to foreign exchange risk arising from various contract exposures, primarily with respect to the US dollar, Australian dollar, Euro and UK pound. Currency risk arises when future commercial transactions, recognised assets and recognised liabilities are denominated in a currency that is not the entity's functional currency.

At 30 June 2014, if the US dollar had weakened/strengthened by 10% against the New Zealand dollar with all other variables held constant, profit after tax for the year would have been \$4,000 (2013: \$7,000) higher/lower, mainly as a result of foreign exchange gains/ losses on translation of US-dollar-denominated trade payables and receivables and the US dollar bank account.

At 30 June 2014, if the Australian dollar had weakened/strengthened by 10% against the New Zealand dollar with all other variables held constant, profit after tax for the year would have been \$27,000 (2013: \$23,000) higher/lower, mainly as a result of foreign exchange gains/losses on translation of Australian-dollar-denominated trade payables and receivables and the Australian dollar bank account.

At 30 June 2014, if the Euro had weakened/strengthened by 10% against the New Zealand dollar with all other variables held constant, profit after tax for the year would have been \$0 (2013: \$0) higher/lower, mainly as a result of foreign exchange gains/losses on translation of Euro denominated trade payables and receivables.

At 30 June 2014, if the UK pound had weakened/strengthened by 10% against the New Zealand dollar with all other variables held constant, profit after tax for the year would have been \$7,000 (2013: \$6,000) higher/lower, mainly as a result of foreign exchange gains/ losses on translation of UK-pound-denominated trade payables and receivables.

The Group foreign exchange management policy is to cover the risk on any foreign currency transactions greater than \$50,000.

Interest rate risk

The interest rates on the Group's borrowings are disclosed in note 16.

Cashflow interest rate risk is the risk that the cashflows from a financial instrument will fluctuate because of changes in market interest rates. Short term bank deposits which receive variable interest rates expose the Group to cash flow interest rate risk.

Credit risk

Credit risk is the risk that a third party will default on its obligation to Landcare Research, causing Landcare Research to incur a loss. Landcare Research has a significant concentration of credit risk with the Ministry of Business, Innovation and Employment; however, the risk is mitigated as this entity is also Government owned.

Liquidity risk

Liquidity risk is the risk that the Group will encounter difficulty raising liquid funds to meet commitments as they fall due. Prudent liquidity risk management implies maintaining sufficient cash and the availability of funding through an adequate amount of committed credit facilities. The Group aims to maintain flexibility in funding by keeping committed credit lines available.

Contractual maturity analysis of financial liabilities, excluding derivatives

The table below analyses the Parent's and Group's financial liabilities into relevant maturity groupings based on the remaining period at balance date to the contractual maturity date. Future interest payments on floating rate debt are based on the floating rate on the instrument at balance date. The amounts disclosed are the contractual undiscounted cash flows and include interest payments.

2013	Carrying amount \$000s	Contractual cash flows \$000s	Less than 1 year \$000s	1–2 years \$000s	2–5 years \$000s	More than 5 years \$000s
Group						
Creditors & other payables	5,701	5,701	5,701	0	0	0
Total	5,701	5,701	5,701	0	0	0
Parent						
Creditors & other payables	5,627	5,627	5,627	0	0	0
Total	5,627	5,627	5,627	0	0	0

2014	Carrying amount \$000s	Contractual cash flows \$000s	Less than 1 year \$000s	1–2 years \$000s	2–5 years \$000s	More than 5 years \$000s
Group						
Creditors & other payables	5,442	5,442	5,442	0	0	0
Total	5,442	5,442	5,442	0	0	0
Parent						
Creditors & other payables	5,344	5,344	5,344	0	0	0
Total	5,344	5,344	5,344	0	0	0

Capital risk management

The Group's objectives when managing capital are to safeguard the Group's ability to continue as a going concern in order to provide returns for shareholders and benefits for other stakeholders and to maintain an optimal capital structure to reduce the cost of capital.

	Co	onsolidated		Parent		
	2014	2013	2014	2013		
	Actual	Actual	Actual	Actual		
26 TAXATION	\$000s	\$000s	\$000s	\$000s		
Components of tax expense						
Current tax	877	284	906	397		
Adjustments to current tax in prior years	(44)	29	(46)	30		
Deferred tax expense	1	(45)	(3)	(55)		
Total income tax expense	834	268	857	372		

857

371

Consolidated **Parent 26 TAXATION CONTINUED** 2014 2013 2014 2013 Actual Actual Actual Actual \$000s \$000s \$000s \$000s Relationship between tax expense and accounting profit Profit / (loss) before tax 2,918 853 2,941 833 Tax at 28% 817 258 825 233 Non-deductible expenditure 12 (114) 12 37 Non-taxable income 3 109 0 108 2 Prior-year adjustment 15 (5) 18 0 Group loss offset 0 0 0

268

	Property, Employee plant and entitlements equipment		Other provisions	Total	
Deferred tax assets/(liabilities)	\$000s	\$000s	\$000s	\$000s	
Parent					
Balance at 1 July 2012	(4,240)	851	64	(3,325)	
Transfer Asset held for sale	0	(5)	0	(5)	
Charged to profit / (loss)	98	(42)	(1)	55	
Balance at 1 July 2013	(4,142)	804	63	(3,275)	
Charged to profit / (loss)	164	(135)	(21)	8	
Balance at 30 June 2014	(3,978)	669	42	(3,267)	
Group					
Balance at 1 July 2012	(4,241)	877	68	(3,296)	
Charged to profit / (loss)	99	(49)	(3)	47	
Balance at 1 July 2013	(4,142)	828	65	(3,249)	
		//o=:	(00)	_	
Charged to profit / (loss)	168	(135)	(26)	7	
Balance at 30 June 2014	(3,974)	693	39	(3,242)	

834

27 EXPLANATION OF SIGNIFICANT VARIANCES AGAINST BUDGET AND BETWEEN YEARS

There were the following significant variances:

Statement of Comprehensive Income

Total income tax expense

- June 2014 result was impacted by lower research revenues in the Parent and lower international revenues for Enviro-Mark Solutions Limited.
- Due to the reduced revenues the organisation put in place stringent measures to lower indirect and corporate costs to ensure that budgeted net profit was achieved.

Statement of Financial Position

- On 1 July 2013 Landcare Research's Enviro-Mark business unit was acquired by its subsidiary company Enviro-Mark Solutions Limited. The assets of Enviro-Mark business unit were classified as held for sale in the June 2013 Parent result.
- Cash on hand increased substantially over budget and prior year due to deferred capital expenditure.

Statement of Responsibility

In terms of Section 155 of the Crown Entities Act 2004, we hereby certify that:

- 1 We have been responsible for the preparation of these financial statements and the judgements used therein.
- 2 We have been responsible for establishing and maintaining a system of internal control designed to provide reasonable assurance as to the integrity and reliability of financial reporting.
- 3 We are of the opinion that the financial statements of Landcare Research New Zealand Limited and the Group fairly reflect the financial position and operations for the year ended 30 June 2014.

PM Schuyt

Im soy

Chair 20 August 2014 J Taylor Deputy Chair 20 August 2014

AUDIT NEW ZEALAND

Mana Arotake Aotearoa

Audit Report

INDEPENDENT AUDITOR'S REPORT

To the readers of Landcare Research New Zealand Limited and group's financial statements for the year ended 30 June 2014

The Auditor-General is the auditor of Landcare Research New Zealand Limited (the company) and group. The Auditor -General has appointed me, Bede Kearney, using the staff and resources of Audit New Zealand, to carry out the audit of the financial statements of the company and group, on her behalf.

We have audited the financial statements of the company and group on pages 8 to 31, that comprise the statement of financial position as at 30 June 2014, the statement of comprehensive income, statement of changes in equity and statement of cash flows for the year ended on that date and the notes to the financial statements that include accounting policies and other explanatory information.

Opinion

Financial statements

In our opinion the financial statements of the company and group on pages 8 to 31:

- comply with generally accepted accounting practice in New Zealand; and
- give a true and fair view of the company and group's:
 - » financial position as at 30 June 2014; and
 - financial performance and cash flows for the year ended on that date.

Other legal requirements

In accordance with the Financial Reporting Act 1993 we report that, in our opinion, proper accounting records have been kept by the company as far as appears from an examination of those records.

Our audit was completed on 28 August 2014. This is the date at which our opinion is expressed.

The basis of our opinion is explained below. In addition, we outline the responsibilities of the Board of Directors and our responsibilities, and we explain our independence.

Basis of opinion

We carried out our audit in accordance with the Auditor-General's Auditing Standards, which incorporate the International Standards on Auditing (New Zealand).

Those standards require that we comply with ethical requirements and plan and carry out our audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

Material misstatements are differences or omissions of amounts and disclosures that, in our judgement, are likely to influence readers' overall understanding of the financial statements. If we had found material misstatements that were not corrected, we would have referred to them in our opinion.

An audit involves carrying out procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on our judgement, including our assessment of risks of material misstatement of the financial statements whether due to fraud or error. In making those risk assessments, we consider internal control relevant to the company and group's preparation of the financial statements that fairly reflect the matters to which they relate.

We consider internal control 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 company and group's internal control.

An audit also involves evaluating:

- · the appropriateness of accounting policies used and whether they have been consistently applied;
- the reasonableness of the significant accounting estimates and judgements made by the Board of Directors;
- the adequacy of all disclosures in the financial statements; and
- · the overall presentation of the financial statements.

We did not examine every transaction, nor do we guarantee complete accuracy of the financial statements. Also we did not evaluate the security and controls over the electronic publication of the financial statements.

In accordance with the Financial Reporting Act 1993, we report that we have obtained all the information and explanations we have required. We believe we have obtained sufficient and appropriate audit evidence to provide a basis for our audit opinion.

Responsibilities of the Board of Directors

The Board of Directors is responsible for preparing financial statements that:

- comply with generally accepted accounting practice in New Zealand; and
- give a true and fair view of the company and group's financial position, financial performance and cash flows.

The Board of Directors is also responsible for such internal control as it determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error. The Board of Directors is also responsible for the publication of the financial statements, whether in printed or electronic form.

The Board of Directors' responsibilities arise from the Crown Research Institutes Act 1992 and the Financial Reporting Act 1993.

Responsibilities of the Auditor

We are responsible for expressing an independent opinion on the financial statements and reporting that opinion to you based on our audit. Our responsibility arises from section 15 of the Public Audit Act 2001 and the Crown Research Institutes Act 1992.

Independence

When carrying out the audit, we followed the independence requirements of the Auditor-General, which incorporate the independence requirements of the External Reporting Board.

In addition to the audit, we completed an assurance engagement reporting on the profit calculation pursuant to the staff profit share scheme. This engagement is compatible with the independence requirements of the Auditor-General.

Other than the audit and the assurance engagement performed, we have no relationship with or interests in the company or any of its subsidiaries.

Bede Kearney
Audit New Zealand

On behalf of the Auditor-General Christchurch, New Zealand

Core Funding Achievements 2013/14

Landcare Research received \$24.2 million Core Funding in 2013/14 for research to achieve, for New Zealand:

Outcome 1: Improve the measurement, management and protection of New Zealand's terrestrial ecosystems and biodiversity, including those in the conservation estate

Outcome 2: Achieve the sustainable use of land resources and their ecosystem services across catchments and sectors

Outcome 3: Improve the measurement and mitigation of greenhouse gases from the terrestrial biosphere

Outcome 4: Increase the ability of New Zealand industries and organisations to develop within environmental limits and meet market and community requirements

Our Core Funding investment and key achievements are shown in the following table.

Research activity 2013/14 Key Achievements		Core Funding Investment (\$M excl GST)		
		2012/13 (actual)	2013/14 (planned)	2013/14 (actual)
Portfolio:	Managing Invasive Weeds Pests and Diseases	\$3.01	\$2.58	\$2.95
	End-users: MPI; DOC; MFAT; researchers; NZ Defence Force; community industries; regional councils; Invasive Animals CRC.	conservatio	on groups; bu	sinesses and
Beating weeds -	- Outcomes 1 and 4		\$1.08	\$1.08

- Showed the ragwort flea beetle is saving dairy farmers NZ\$41.5m/yr in control costs.
- Used 'genetic rescue' techniques to enhance the impact of heather beetle as a biocontrol agent.
- A paste of a naturally-occurring fungus was successful as a cut-stump treatment, providing an environmentally friendly
 alternative to herbicides for control of willows in wetlands.
- Organised the popular 'Biosecurity Bonanza' as a knowledge transfer mechanism to network with stakeholders from 40
 organisations.

Strategic pest control – Outcomes 1 and 4 \$0.05 \$0.29

 Reviewed image recognition software for rapid processing of data captured by remote sensors, resulting in funding support from TBfree New Zealand to further test thermal imaging for detection of pest animals.

Invasive mammal impacts on biodiversity – Outcomes 1 and 4 \$0.95 \$1.20

- Work on pest aggregation led to spatially-targeted control by TBfree New Zealand across 3.5 million ha.
- Our analyses of pest impacts in alpine areas prompted DOC to establish a network of alpine research sites.
- Demonstrated, with DOC, the efficacy of 3-yearly pest control in forests, prompting TBfree New Zealand to fund further monitoring and motivating LINZ to investigate use of LiDAR surveys for vegetation composition and possum browse.
- Demonstrated that wide-scale predator control on production land benefits native biota, giving Hawkes Bay Regional Council (HBRC) confidence to move to cost-saving maintenance control.
- Discovered that camera traps are highly effective at capturing predators at low densities, prompting HBRC investment in this method for routine monitoring.
- Using analyses of 'resource selection' by sika deer, improved DOC's plant sampling protocols and increased efficiency of sika culling by DOC and recreational hunters.

Research activity	Core Funding Investment (\$M excl GST)		
2013/14 Key Achievements	2012/13 (actual)	2013/14 (planned)	2013/14 (actual)
Preventing and managing disease impacts – Outcome 1		\$0.15	\$0.15

- Illustrated the very low risk of disease associated with dung beetle releases, resulting in the first releases of new species into New Zealand for 40 years.
- Enhanced capability in pathogen discovery resulted in new partnerships with the philanthropic Fauna Research Alliance, and the B3 partnership.
- Developed a powerful new surveillance tool for regional councils to monitor freshwater for Phytophthora threats to native flora.
- In collaboration with NIWA, worked with MPI's Antarctic Working Group to finalise recommendations for a coordinated plan for tracking disease emergence in penguin species.

Invasive species international – Outcomes 1 and 4

\$0.19

\$0.16

- Supported development of collaborative research with the Invasive Animals Cooperative Research Centre (Australia) that:
 - Quantified the likely impact of benign rabbit caliciviruses on the effectiveness of virulent strains for rabbit biocontrol in both New Zealand and Australia;
 - o Used newly-developed spatial modelling techniques to improve forecasts for outbreaks of mice at a regional scale;
 - Used our models to help agencies costs-effectively mitigate invasions by pest birds.

Invasive invertebrates – Outcomes 1 and 4

\$0.00

\$0.07

- Built end-user confidence in pre-emptive biocontrol approaches (preparedness for invasive invertebrates that have not yet reached our shores).
- Used population modelling to assess the importance of climate drivers of Vespula wasp dynamics, to facilitate advance planning for biocontrol.
- With Auckland Council and DOC's 'Treasure Islands' campaign, we used 'proof of eradication' modelling to achieve significant progress in eradication of Argentine ants from Kawau Island.

PORTFOLIO: CHARACTERISING LAND RESOURCES \$2.73 \$3.32 \$3.16 End-users: MPI; DOC; MfE; LINZ; Statistics New Zealand; educators; landowners; New Zealand public; data managers; regional councils; researchers; AgResearch; Māori; primary industries and sector groups, notably the fertiliser industry. Soil mapping and modelling – Outcome 2 \$0.73 \$0.73

- Completed digital soil mapping for complex Hawkes Bay soft-rock hill country, and uploaded into S-map.
- Developed a new statistical model and associated pedotransfer functions for a range of key soil water variables. Extended S-map coverage to 26% of New Zealand.
- Explored the potential for S-map to support farm-scale mapping.
- Collated knowledge on the soil-erosion-landscape relationships in five major New Zealand landscapes, summarising over 223
 years of collective research knowledge from five senior pedologists close to retirement.
- Mapped and uploaded ~800,000 ha of the Otago lowland soil-survey coverage into the S-map database.
- Progressed understanding on the leaching of multiple contaminants through a young stony sand soil as well as microbes through stony soils.

Research activity 2013/14 Key Achievements	Core Funding Investment (\$M excl GST)		
	2012/13 (actual)	2013/14 (planned)	2013/14 (actual)
Ecosystem services state and trend – Outcome 2		\$0.39	\$0.40

- Published a 540-page book on the condition and trend of ecosystem services, synthesising New Zealand-wide expertise.
- Developed models for downscaling ecosystem services to catchment-scale (Ruamahanga) and improved soil-water models and
 indicators for water quality (faecal bacteria, nitrate leaching from gorse covered soil), erosion control and pollination.

Data stewardship infoservices - Outcome 2

\$1.63 \$1.68

- Led the development and implementation of the Antarctic Environments Portal for Antarctica New Zealand and the Ministry for Foreign Affairs and Trade. The portal has been well received by Antarctic Treaty partners.
- Established a Land Use Capability Classification System Governance Group. Engaged in various standards activities, e.g. development of New Zealand time series data standard.
- Maintained and improved content, infrastructure and access to LRIS data via the LRIS Portal, S-map Online, Our Environment,
 Soils Portal and web services, including:
 - o published significant data updates, e.g. LCDB4, S-map data, new versions of maps;
 - o used Cloud technology to scale delivery and guarantee availability of mapping web services.

Usage of all services continues to grow reflecting increasing value of data to end-users and stakeholders.

- Compiled a first draft of a correlated, amalgamated and rationalised set of Land Use Capability (LUC) units from the various
 regional extended legends into a single New Zealand-wide set of LUC units. A national legend will facilitate consistent regional
 and farm plan LUC mapping across the whole country, and hence will be of immense benefit to local and central government
 agencies responsible for developing and implementing policy.
- Scanned and commenced geo-referencing of the full set of NZLRI published map sheets for editions 1 and 2 along with other
 original field compilation sheets and supporting hard copy (720 images along with the capture of related metadata). This work
 secures important source material about New Zealand's land resources for future researchers and users.
- Improved robustness, deployment and functionality of portals so that they remain fit for purpose. This included new visualisations in Our Environment, support for newer versions of open geospatial standards, introduction of a data quality feedback facility and further development of soils portal mobile application.
- Significant progress made in the enhancement of the National Soils Database (NSD). Legacy NSD data has been migrated and addition of TopoClimate South soils data is in progress.
- Using the Māori Land Visualisation Tool as a platform, we helped maintain, build and enhance required Māori skills, expertise, networks and knowledge in land and soils.
- Working with partners and key stakeholders in the land domain, the National Land Resources Centre (NLRC) has made big strides forward with respect to its core areas of activity; fostering strategic collaboration and alignment between science providers and science users, enabling and building capability across sectors and facilitating better information management and uptake. Examples include acting as a broker between the regional councils and the Our Land and Water National Science Challenge during the drafting of the challenge proposal and coordinating a project for the regional councils' Land Managers Group and Land Monitoring Forum to review and update their research priorities.

Uncertainty and error – Outcome 2

\$0.26

\$0.26

- Assessed the accuracy of soil water parameters and nutrient modelling results.
- Prepared draft report on an uncertainty analysis of the economic land use model NZ-FARM.

Land cover and land use – Outcome 2

\$0.08

\$0.09

 Developed an improved paddock segmentation algorithm and showed it works with cheaper Landsat imagery, enabling our land-use-classification analysis to be applied to large areas for assessing land use impacts.

Research activity		Core	Funding Inve (\$M excl GS	
2013/14 Key Achie	evements	2012/13 (actual)	2013/14 (planned)	2013/14 (actual)
Portfolio:	Supporting trade	\$0.47	\$0.53	\$0.72
	End-users: MPI; DOC; MfE; MFAT; TBfree New Zealand; researchers; re businesses; export industries; primary industries and sector groups, notably	_		ector (SMEs);
TB freedom – Outcome 4		\$0.13	\$0.20	

- Progressed development of the spatially explicit, individually-based model of possum population dynamics for simulating alternative high level possum control scenarios.
- Provided TBfree New Zealand with strategic decision-making aids that will help them declare local TB freedom in wildlife more quickly and cheaply.
- Completed surveys to assess the ancillary benefits of TB-possum control and determined New Zealander's willingness to pay for it.
- Developed and successfully trialled a new theoretical approach to TB surveillance. This concept has potential in other biosecurity settings.

Production pests and environmental compensation – Outcome 1 and 4 \$0.19 \$0.28

- Showed how environmental offsetting can use vertebrate pesticides to control biodiversity.
- Initiated work on biological control of *Lagarosiphon major* and prepared a proposal outlining the cost-benefit of investing in aquatic weed biocontrol.
- Found PBDEs (an emerging persistent organic pollutant) and exceedingly high DDT levels in Australian harrier hawks.
- Began safety testing UK-sourced potential insect biocontrol agents for the weed field horsetail.

Competitiveness and green growth – Outcomes 1 and 4 \$0.12 \$0.25

- Enhanced private sector understanding about integrated thinking and reporting underpinning overall performance, and identified niche areas for further research in New Zealand.
- Progressed development of a DNA database of New Zealand weevil genera that will assist in diagnostics and allow identification
 of weevil incursions.
- Provided feedback and suggestions to MFAT on market intelligence reporting and developed the summary findings and webpage of Landcare Research's comparative food and beverage survey.
- · Progressed understanding and improved knowledge and awareness of natural capital valuation for business.
- Used new statistical methods and MCMC simulation to increase the certainty and accuracy for client businesses of data on their greenhouse gas impacts.

PORTFOLIO:	DEFINING LAND BIOTA	\$6.41	\$6.12	\$6.17
	End-users: MPI; DOC; regional councils; educators; museums; researchers; primary industries and sector groups, notably the horticultural industry.	Māori and	d other New	Zealanders;
Defining plants –	Outcomes 1 and 4		\$2.25	\$2.25

- · Progressed discovery, description and interpretation of New Zealand's indigenous and naturalised terrestrial flora:
 - o improved accessibility for DOC to the eFlora by implementing new search capabilities and a PDF maker, added 15 new families to the Moss Flora, six new fern families and one new flowering plants family;
 - provided new names and described new species of algae, ferns and flowering plants (e.g. *Trachydiscus, Gingidia, Nothofagaceae* and *Blechnum*), and completed a draft revision recognising 30 new species of *Cardamine* for biodiversity management;

Core Funding Investment

Research activity

2013/14 Key Achievements

2012/13 2013/14 2013/14
(actual) (planned) (actual)

- o added over 4000 specimens to the Allan Herbarium, increased records and data quality in the Specimen Database (c. 7900 records added, c. 8200 updated) and the Plant Names Database (c. 2500 records added, c. 2900 updated) providing essential information to DOC, MPI and regional councils;
- identified over 1150 plants in response to queries related to biosecurity and biodiversity, including plants related to breaching border biosecurity;
- improved identification and access to information by developing a new online diagnostic tool for Cotoneaster and adding bibliographic information to online databases for 600 genera of naturalised plants useful for regional council and DOC officers;
- clarified species concepts in the morphologically diverse and taxonomically difficult genera Craspedia and Brachyglottis by genetic analyses - top priorities of DOC.

Ethnobotany - Outcome 1

\$0.20

\$0.20

Enhanced knowledge of harakeke by completing assessment of leaf and fibre qualities of the Matthews Collection (Dunedin).
 Genotyping revealed some were clones of known varieties, demonstrating that valued selections of harakeke were gifted and traded throughout New Zealand by Māori and flaxmillers.

Defining invertebrates - Outcomes 1 and 4

\$1.67

\$1.71

- Progressed discovery, description and interpretation of New Zealand's indigenous and naturalised terrestrial invertebrate fauna for utilisation by New Zealand biosecurity and biodiversity end-users:
 - published two new volumes of the Fauna of New Zealand (FNZ) on *Micropterygidae* jawed moths and *Fanniidae* flies. These
 include species descriptions, diagnostic tools and phylogenetic information for biosecurity and biodiversity end-users. The
 Micropterygidae moths include several species of conservation concern;
 - o deployment of arthropod names via an online taxonomic names portal. This online tool will provide up-to-date taxonomic names for arthropod species of relevance to New Zealand that have been verified by taxonomic experts;
 - published on beetles, hemiptera, nematodes, hymenoptera, and nematodes, all including diagnostic tools for biosecurity and biodiversity users;
 - completed assembly of the common stick insect genome, involving developing novel data analysis pipelines that will be utilised for future projects;
 - used expert taxonomic knowledge and NZAC resources to revise the DOC Threatened Species Listings for earthworms, stick insects, hemiptera, moths, butterflies, bees, ants and wasps. This will allow more efficient use of DOC resources for conserving threatened species;
 - generated a dataset of DNA diagnostic information that will enable biodiversity and biosecurity end-users from the pastoral environment to identify native earthworms and differentiate them from exotic species.

Defining fungi and bacteria - Outcomes 1 and 4

\$1.50

\$1.50

- Progressed discovery, description and interpretation of New Zealand's indigenous and naturalised terrestrial fungi and bacteria:
 - o specimens from the National Fungal Herbarium (PDD) and the International Collection of Micro-organisms from Plants (ICMP) contributed to the GenBank-led international collaborative RefSeq project, which aims to provide an authoritative subset of DNA sequences from vouchered type specimens for reliable DNA-based identifications of fungi;
 - o specimens from PDD and ICMP were cited in 112 scientific articles, ensuring the taxonomy of New Zealand's fungi and bacteria remains internationally relevant;
 - o provided greater understanding of the trans-oceanic dispersal ability of the wood-rotting fungus *Schizophyllum commune*, a key piece of knowledge for managing New Zealand's biosecurity in relation to fungal plant pathogens;
 - formally described the *Phytophthora* species causing kauri dieback and resolved the taxonomy and phylogeny of closely related species, so providing a sound basis for better understanding the origins and ecology of PTA, and ultimately its control;
 - showed that the regional structure present in *Botrytis* on grapes at flowering was not evident in populations associated
 with disease at harvest, meaning that national rather than regional guidelines for control of *Botrytis* diseases of grape are
 valid:
 - collaborated with Massey University by providing DNA from ICMP for developing genomic methods to detect pathogenicity genes.

Research activity	Core Funding Investment (\$M excl GST)		
2013/14 Key Achievements	2012/13 (actual)	2013/14 (planned)	2013/14 (actual)
Developing information systems – Outcomes 1 and 4		\$0.30	\$0.33

- Released a new version of the Systematics Collections Data website, providing improved searching and download facilities for collection data for a wide range of users.
- Completed essential maintenance work on website and batch-match facility. The names in the Developing New Zealand Organisms Register (NZOR) underpin all biodiversity and biosecurity work in New Zealand.

Defining land biota initiatives – Outcomes 1 and 4

\$0.13

\$0.18

- Conducted the first genetic testing of seed paternity in red and mountain beech to assess hybridisation rates. This information may prove valuable in modelling beech mast.
- An International review of our biological NSCDs focused on assessing current approaches to managing the collections, databases and information infrastructure; research direction; end-user engagement; commercialisation and revenue generation against a lens of international best practice. The review is part of a suite of work to derive greater value, impact and revenue from our collections.

PORTFOLIO:	MEASURING BIODIVERSITY CHANGE \$2.	2.15	\$1.93	\$1.99
	End-users: Regional councils; DOC; landowners; Māori and other New Zealanders; (NGOs); community conservation groups.	rs; non-gov	ernmental org	anisations
Interpreting mea	sures of ecological integrity – Outcome 1		\$0.85	\$0.87

- Demonstrated that intermittent seed fall by common tree species is spatially asynchronous over short distances, and strongly
 driven by soil fertility. DOC can use this research to achieve more cost-effective control of predators that threaten vulnerable
 avifauna.
- Demonstrated that ungulates modify soils and hence indirectly affect plant growth. Without these data, agencies are likely to underestimate the consequences of ungulates on long-term maintenance of ecological integrity.
- Demonstrated that slow wood decay rates of some tree species can buffer forest carbon stocks against disturbance. This is
 critical for informing New Zealand's commitments under the Intergovernmental Panel on Climate Change (IPCC), for forecasting
 forest carbon stocks, and for guiding management prescriptions for harvesting dead wood on public conservation lands.
- Analysed deer Faecal Pellet Index (FPI) data from catchments where experimental deer control was implemented. FPI is a key
 component of DOC's monitoring, and understanding how it varies among and within sites and in response to management is
 critical.
- Demonstrated why natural disturbance is key to the long-term maintenance of the world's warm-temperate evergreen
 rainforests, emphasising the need to maintain landscape-scale disturbance events in warm-temperate regions if diversity is to
 be maintained.

Measuring biodiversity outcomes – Outcome 1

\$0.16

\$0.15

Developed 'Vital Sites and Actions' in partnership with DOC, presenting a solution to combine conservation planning and reporting to help conservation agencies have a more coherent action plan.

National vegetation survey (NVS) databank - Outcome 1

\$0.42

- Collaborative research shattered a common assumption about how trees grow. Trees do not slow in their growth rate as they
 get older and larger; instead their growth keeps accelerating. Therefore big, old trees are better at absorbing carbon from the
 atmosphere than once believed.
- Showed, using the first scientific results from the largest botanical dataset yet assembled for species occurrences in the New World, that plant ranges are determined by habitat area and climate stability. This can assist DOC and regional councils to better understand controls on species' range sizes in New Zealand.

Research activity 2013/14 Key Achievements	Core Funding Investment (\$M excl GST)		
	2012/13 (actual)	2013/14 (planned)	2013/14 (actual)
Biodiversity condition and trends – Outcome 1		\$0.51	\$0.56

- Demonstrated that size, mass and condition of Adélie penguin chicks is greater when environmental conditions allow for more
 efficient parental foraging. This will inform the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR)
 on how factors such as climate change and altered food webs may affect changes in their populations.
- Developed a satellite method for counting Adélie penguins that provides a robust, quantitative mechanism for estimating population size. Adélie penguins are a key indicator of the status of the Southern Ocean ecosystem.
- Estimated skua abundance over two years and showed how these data can inform ecosystem models applied to fisheries
 management in the Ross Sea.
- Examined heavy-metal contaminant loadings in seabirds to predict potential adverse effects (e.g. Rena oil spill).
- Worked with North Island iwi to identify biodiversity priorities and develop biodiversity indicators that have meaning and
 usefulness to their communities. These will inform and facilitate work and relationships with iwi around New Zealand.

PORTFOLIO:	MANAGING BIODIVERSITY	\$3.91	\$3.33	\$3.46
	End-users: DOC; non-governmental conservation organisations (NGOs); groups; local government; Environment Court; researchers; Māori; landowner	•	conservation/r	estoration
Biodiversity in production landscapes – Outcome 1		\$0.67	\$0.67	

- Provided assurance to agencies and councils that the widespread natural succession from grassland to shrubland in protected
 areas presents little threat to indigenous biodiversity in the dry interior of the South Island.
- Assisted in evaluating national patterns and changes in land cover and biodiversity protection using updated land cover (LCDB3)
 and protection data for DOC. This forms a basis for agencies and councils to assess policy performance for sustaining
 biodiversity.
- Developed improved tools for predicting land-use-change impacts on biodiversity, which may offer a practical and responsive technical bridge for the gap between science and implementation.
- Assisted councils to achieve improved biodiversity outcomes through the RMA consent process by contributing technical advice to Environment Court mediation on the creation of a QEII conservation covenant in a severely threatened environment.
- Our work on dryland ecology was the primary driver of Central Otago District Council's review of biodiversity policy on private land.
- Developed easy and reliable genetic identification assays for accurate detection of 19 common terrestrial mammals in New Zealand, creating a basis for servicing conservation and pest-control agencies and groups in New Zealand and internationally (EcoGene®).

Threatened species and ecosystems – Outcome 1 \$0.70 \$0.83

- Supported councils to identify significant biodiversity associated with naturally rare ecosystems through applying biodiversity
 prioritisation assessments to identify the most significant sites, and developed indicators for councils to use for standardised
 reporting on vulnerable ecosystems.
- Provided a risk profile for a major threat to naturally rare ecosystems from the spread of wilding conifers, enabling councils and DOC to focus monitoring and prioritise control.
- Developed new methods for detecting and monitoring the abundance of rare and elusive highly threatened species, and successfully applied these to assess translocation success of threatened species and the impact of new water-level regimes for hydroelectricity generation.

Research activity 2013/14 Key Achievements	Core Funding Investment (\$M excl GST)		
	2012/13 (actual)	2013/14 (planned)	2013/14 (actual)
Biodiversity management outcomes – Outcome 1		\$0.60	\$0.60

- Shared our leadership experience internationally in linking urban aspirations for indigenous species with regional management plans and activities to achieve desired biodiversity outcomes. Our experience based on a successful long-term (15-year) collaboration between Landcare Research and stakeholders and the public.
- Assisted the recovery of threatened and iconic New Zealand species, including tūī, bellbirds, kōkako, kākāpō, takahē, New Zealand storm petrel, giant weta, tusked weta and Duvaucel's gecko.
- Provided an explanation for mouse irruptions following rat eradication in predator-controlled areas, based on probable predation and aggression by rats towards mice in natural systems.

Strategic biodiversity initiatives – Outcome 4

\$0.33 \$0.33

- Determined the factors responsible for alternative vegetation states, to assist the maintenance and management of naturally rare communities as part of a QEII National Trust Covenant.
- Discovered a new technique that enables citizen science observations to be combined with other types of available data to measure population trends nationally.

Ecosystem resilience - Outcome 1

\$0.79

\$0.79

- Demonstrated that New Zealand's fire-naïve woody ecosystems are vulnerable to fire, but that this is not related to commonly
 predicted traits such as bark thickness and serotiny (seed dispersal). Understanding fire resistance is critical for modelling how
 remaining fragments of lowland forest will fare under a warmer, drier, more fire-prone future, and for developing management
 strategies.
- Demonstrated how four species of moa managed to co-exist in the same habitat by niche partitioning, providing us with baselines for restoring lost ecological function (e.g. pollination, seed dispersal) and improving understanding of the legacy of moa extinction on forests today.
- Provided palaeoecological baselines to DOC to guide island restoration objectives. Pollen analyses of soil profiles showed how
 current forest composition on offshore northern islands differs radically to their prehuman state.
- Identified that under warming climates invasion of exotic trees above our treeline will likely be minimal. Our research shows that New Zealand treelines, contrary to long-held beliefs, form at the same growing-season temperatures as elsewhere. This decreases the level of management required for invasive trees in this important and extensive bioclimatic zone.

Biodiversity use by Māori - Outcomes 1 and 4

\$0.25

- Demonstrated that for long-lived culturally significant bird species, estimates of productivity can be effective indicators of environmental change or responses to management. This allows iwi to have a flexible approach to harvest levels.
- Showed that cultural-based indicators used to assess ecosystem health by integrating science and practitioner-based knowledge systems can measure the current state of biodiversity and ecosystem services in a way that fosters broad participation in monitoring by the iwi community, and associated deepening of commitment to supporting biodiversity and ecosystem services.
- Collaborated with Northland iwi to identify options for restoration initiatives that would assist and sustain cultural priorities
 and involvement in the management coastal ecosystems.

Research activity		Core Funding Investment (\$M excl GST)			
2013/14 Key Achie	vements	2012/13 (actual)	2013/14 (planned)	2013/14 (actual)	
PORTFOLIO:	Understanding Ecosystem Services and Limits	\$2.03	\$2.84	\$2.76	
	End-users: MPI, DOC; regional councils; primary industries and sector grou	ups; AgResearch	n; researchers.		
Plant-soil interactions – Outcomes 1 and 2		\$0.81	\$0.80		

• We evaluated the interactions between vegetation and soil for widespread tree invasions and their ecosystem impacts in marginal lands, and the multiple benefits of more diverse pasture systems for dairy farming. Using primary data and measurement of ecosystem processes, we showed the importance of co-invasion involving non-native trees, their mutualistic mycorrhizal fungi, and mammals (i.e., deer and possums) that disperse these fungi. This tree-fungal-mammal interaction provides strong evidence for invasional meltdown, whereby multiple invasive species can have synergistic effects in ecosystems. Similarly, research in diverse pasture systems shows that pasture species partition resources seasonally, and can thus maintain primary production and efficient use of nutrients throughout the growing season or during drought. These findings provide new evidence that can be used to improve the outcomes for management of plant invasions and pasture systems.

Consequences of land use intensification – Outcomes 2 and 3

\$0.92 \$0.85

Developed measurement methods for the major greenhouse gases (CO₂, CH₄, N₂O), and applied these to recently-converted irrigated dairy pasture and neighbouring dryland pasture on a commercial farm, because the effects of these increasingly widespread conversions on GHGs and ecosystems processes are poorly understood. A next step is to integrate this research with belowground processes, including dynamics of soil carbon and nutrients, using empirical and modelling approaches. This provides an ecosystem approach to determining the consequences of land use intensification, which is needed to assess the match of land use and capability for the rapid and widespread land use change of previous dryland pasture to irrigated dairy systems.

Soil processes - Outcome 2

\$0.90

\$0.90

- Soils simultaneously provide multiple services such as buffering and filtering of excess nutrients or microbial contaminants, and sustain primary production. However, variation in these soil ecosystem services among major soil types, land uses and management is poorly understood despite their importance for determining the match between land use and capability. This work:
 - o determined the major changes in soil carbon (C), nitrogen (N) and contaminants (microbial and nutrients) using primary data, key experimental sites and spatial modelling;
 - o used this approach to develop spatial predictions for the risk of soil microbial bypass contamination at the catchment to regional scale in the Waikato Region;
 - o showed that stony soils (which cover almost 2 million ha and are undergoing rapid transformations in land use) can leach multiple nutrients (N, P) and contaminants (Cd, microbes) rapidly from application of dairy shed effluent.

These approaches provide empirical evidence for state and change in soil processes that underpin services and their mitigation or management.

Ecosystem service forecasting – Outcome 2

\$0.20

\$0.20

• Management of lands for individual outcomes such as carbon sequestration, increasing primary production or maintaining indigenous biodiversity has generated potential conflicts when these outcomes are not congruent. This work considered a range of ecosystem services using marginal lands and their management as a model system, and soil natural capital; and how such understanding can be used to overcome or mitigate potential conflicts. For example, trade-offs between carbon sequestration and biodiversity of different taxa have been demonstrated for invasive trees, whereby there are different thresholds and limits for biodiversity than for carbon. More generally, this information will be used to improve forecasts of long-term changes in multiple services resulting from shorter-term changes in management, and underpins future efforts to evaluate ecosystem condition and trends, valuation, and scenario modelling.

Research activity		Core Funding Investment (\$M excl GST)			
2013/14 Key Achi	evements	2012/13 (actual)	2013/14 (planned)	2013/14 (actual)	
Portfolio:	Realising Land's Potential	\$0.77	\$0.39	\$0.48	
	End-users: MPI; MfE; regional councils; landfill operators; urban planners; pri notably the fertiliser industry.	mary indust	ries and sector	groups,	
Land and water management – Outcomes 1, 2 and 4		\$0.12	\$0.37		

- Completed 80 releases of dung beetles.
- Assisted development of a new precision irrigation scheduling product that uses sensor networks.
- Used a new tool to inform four lysimeter projects of the likely efficacy of their design and layout. All four experimental designs were improved.
- Used a sampling strategy to optimise device selection for leaching monitoring under a large forage crop grazed by dairy cows.
- Provided reports on cadmium (Cd) mitigations to the Cadmium Management Group, Fertiliser Association of New Zealand (FANZ) and MPI.
- Progressed development of multifunctionality as an integrating research concept.

Erosion process and hazards – Outcome 2

\$0.00

\$0.11

- Produced two erosion hazards reports. The first reviewed the erosion information in the NZLRI and assessed options for
 updating it; the second developed a quantitative model of factors controlling landslide erosion in New Zealand.
- SedNetNZ was used to determine the impact of SLUI farm plan implementation on sediment generation and yield at catchment scale, and then tested the effect of different on-farm mitigation scenarios for Horizons Regional Council.

PORTFOLIO: ENHANCING POLICY DEVELOPMENT

\$0.83

\$1.13

\$1.19

End-users: MfE; DOC; regional councils; community groups; Māori and other New Zealanders; urban planners; primary industries and sector groups; Sustainable Business Council; Waterfront Auckland; Natural Resource Sector; Aotearoa Fisheries Limited; Fonterra.

Effective policy to protect biodiversity – Outcomes 1 and 4

\$0.00

\$0.05

• Completed an assessment and associated policy brief of the impact of planning provisions on the removal of woody vegetation in urban areas (Auckland) with recommendations on how to implement vegetation protection provisions that can be both more effective and more effectively monitored using remote sensing.

Mainstreaming ecosystem services in decision-making – Outcomes 2 and 4

\$0.36

\$0.39

Significantly progressed capacity development to support ecosystem services (ES) in decision-making, including advancement
of decision support systems (national version of NZ-FARM; incorporation of ES models in NZ-FARM and LUMASS; Version 1.0 of
the New Zealand Landscape Database; application of LUMASS to several integrated modelling projects), and improved
methods, protocols and processes for considering ES in government and business decision-making processes.

Responding to climate change pressures – Outcomes 3 and 4

\$0.18

- Further developed models and frameworks for assessing climate change responses and adaptation readiness, and identified
 and assessed pathways to address the complexity of integrating climate change within the context of other processes of social
 and environmental change.
- Continued development and enhancement of resilience to climate change research, including applying a livelihoods resilience framework to the kiwifruit industry, and understanding social knowledge in resilient urban systems.
- Identified Māori knowledge systems, networks, and actions for responding to climate change, informing climate-relevant initiatives organised by iwi, Māori organisations, regional councils, and policy agencies and published an article on the opportunities for carbon sequestration on Māori land in New Zealand.

Research activity	Core Funding Investment (\$M excl GST)	
2013/14 Key Achievements	2012/13 2013/14 2013/1 (actual) (planned) (actual	

- Updated and improved the New Zealand Agriculture and Forestry Model and published a paper demonstrating that NZ-FARM
 generates logical and intuitive results that can be used for robust agri-environmental policy decision-making.
- Led the agriculture, forestry and marine strategy development of the Low Carbon Auckland Plan.

The governance of complex systems - Outcome 4

\$0.48 \$0.49

Strengthened our depth and range of environmental social science research through a wide range of central and local
government engagements, increased revenue generation, new appointments and a series of high ranking journal papers.
 Together these will support the National Science Challenges through greater emphasis on economic, social and cultural aspects
that are both disciplinary and interdisciplinary in nature.

PORTFOLIO: MEASURING GREENHOUSE GASES AND CARBON STORAGE \$2.20 \$1.39 \$1.38

End-users: MfE; MPI; Regional councils; researchers; primary industries and sector groups, notably the forestry industry and New Zealand Beef + Lamb.

Agricultural greenhouse gas and mitigation – Outcome 3

\$0.71 \$0.71

- Successfully adapted the Denitrification Dynamics Gas Chromatograph analytical system (based on a Norwegian design), which
 directly measures microbial production of both nitrous oxide (N₂O) and dinitrogen (N₂). The system, the first in Australasia, will
 be used to test the technologies aimed at enhancing the reduction of nitrous oxide to dinitrogen complemented with our
 molecular research on denitrifiers.
- Led and facilitated the Global DNDC (Denitrification Decomposition) Network and contributed to organising an international Global DNDC Network Workshop in Beijing. In collaboration with AgResearch, provided a new approach for calculating N₂O emissions by taking into account the effect of slope classes on nitrous oxide emissions. The proposed methodology results in a 52% reduction in N₂O emissions estimates between 1990-2012 from sheep, beef and deer relative to using current inventory emission factors.
- Standardised molecular biology procedures, established the protocols for DNA extraction and appropriate primers for
 molecular analysis of the methanotrophic population diversity and abundance, and devised methodology for optimising the
 efficiency of the biofilter.

Model and upscale greenhouse gas emissions - Outcome 3

\$0.42

- Developed Climate Change Potentials (CCPs) as an alternative to Global Warming Potentials (GWPs) to quantify the relative contribution of different greenhouse gases to climate change.
- Produced a new index to compare different gases that is more closely linked to ultimate impacts than the current approach.
 Use of this new index could have far-reaching consequences for optimal climate change mitigation policies.
- Tested two meta-modelling approaches (lookup tables and regression model) for upscaling N₂O emissions to regional scale, with the regression model having substantially lower uncertainties. Use of this regression model approach made significant reductions in uncertainties of regional and national emissions estimates.

Improved soil carbon estimation – Outcome 3

\$0.26

\$0.26

- Developed and tested methods to spatially predict soil organic carbon (SOC) stocks, at the farm-scale. The process has used Vis-NIR spectroscopy, a national soil spectral library, electromagnetic soil survey data, LIDAR data and spatial modelling methods. The aim is to develop a suite of prediction models to simultaneously predict soil carbon and other soil attributes, to reduce the cost and uncertainty of SOC predictions and to aid prediction of soil properties, e.g. soil available water.
- Showed that New Zealand's natural forests are a significant sink of carbon: removing carbon from the atmosphere and storing
 it as wood in trees. This was the first time that New Zealand's United Nations Framework Convention on Climate Change
 (UNFCC) reporting has been able to report carbon stock changes in natural forests.

Financial Indicators

Financial key performance indicators as required by MBIE (not part of the Audited Financial Statements).

For year ending 30 June:	2014	2014
	Achieved	Budget
Efficiency:		
Operating margin	13.3%	10.0%
Operating margin per FTE	\$21,525	\$16,263
Risk:		
Quick ratio	0.91	0.72
Interest coverage	658	36
Operating margin volatility	12.7%	10.8%
Forecasting risk	0.9%	0.6%
Tailored rate of return:		
Return on equity (ROE) before investment	9.2%	5.4%
ROE (based on NPAT)	7.2%	3.5%
Growth/investment:		
Revenue growth	-1.4%	-4.6%
Capital renewal	0.8	0.6

Operating Margin:

EBITDAF ÷ Revenue, expressed as a percentage. (EBITDAF is EBIT before depreciation, amortisation and fair value adjustments.)

Quick ratio:

(Current assets – Inventory - Prepayments) ÷ (Current liabilities – Revenue in advance).

Interest cover:

Interest is the cost of debt and financial leases. Interest cover = EBITDAF ÷ interest. (EBITDAF is EBIT before depreciation, amortisation and fair value adjustments.)

Forecasting Risk:

5-year average of return on equity less forecast return on equity.

Return on equity:

NPAT \div Average shareholders' funds, expressed as a percentage.

(NPAT: net profit after tax.)

Shareholders' funds:

Includes share capital and retained earnings.

Capital Renewal:

Capital expenditure / Depreciation expense plus amortisation expense.

Directory

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Hon. M John F Luxton QSO (retired 30 June 2014)

Professor Emily Parker

Steven Saunders (appointed 1 July 2014)

Tania J Simpson (Deputy Chair; retired 30 June 2014) Jane Taylor (Deputy Chair; appointed 1 July 2014)

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Katrina Direen General Manager, People & Communications

Dr Phil Hart General Manager, Development

Rau Kirikiri Kaihautū (part time) Dr Peter Millard General Manager, Science

Nigel Thomson General Manager, Corporate Services (appointed 24 Feb 2014)

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