Australian Government

Fisheries Research and Development Corporation

ANNUAL REPORT 2011–12

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SUSTAINABILITY ON EVERYONE'S AGENDA

Sustainability in the seafood industry is particularly difficult to assess. Unlike terrestrial farming, where it is relatively easy to count the number of animals on a property, seafood species are difficult to tally.

Seafood is one of the most traded proteins on the planet, yet despite this, there is no single definition of sustainability for the industry. Combine this with the many varied definitions and complex terminologies relating to seafood and it is hard for any consumer to fully understand the status of the industry.

In 2011 the FRDC undertook a survey to understand community perceptions of the sustainability of the fishing industry in Australia. The survey indicates that 87 per cent of commercial and 79 per cent of recreational fishers are concerned about the sustainability of the fishing industry.

This view has been held over successive Community Perceptions Reports from the FRDC and the Marine Stewardship Council. Surveys as far back as the 2003, carried out by the Bureau of Rural Sciences (now the Australian Bureau of Agricultural and Resource Economics and Sciences, or ABARES) show that most people have reservations about the sustainability of the fishing industry.

While the results are not promising, of greater concern is that a very low percentage of the community are aware of the work being undertaken to ensure sustainability. Only 16 per cent reported they were aware of the work the seafood industry and government is doing to improve the industry's sustainability.

However, more than one in two adult Australians (54 per cent) believe the Australian fishing industry is ahead of other countries in regards to sustainability (18 per cent reporting Australia was well ahead and 36 per cent slightly ahead).

This means ongoing efforts and investment being made by all sectors of the industry and government have not achieved any significant level of public awareness. The FRDC has a role to extend information on research, development and innovation to key stakeholders—managers, industry as well as to the public—and ensure all are informed about the industry's progress (in regards to achieving sustainability) and are engaged with these efforts. For example, few people, if any, would be aware the first attempt at implementing a bycatch reduction device in a net took place over 130 years ago.

The report highlighted the fishing industry had undertaken little or no community education. On a more positive note, the majority of adult Australians (53 per cent) assume that both industry and government are working to make improvements in this area. It is likely perceptions are based on the way the media reports these issues. Key stakeholders including the FRDC, fisheries managers and the fishing industry will all have to continue to work on resolving the perception issue. This has to be done through highlighting and communicating improvements in fisheries science, management, fishing practices; especially where issues have been identified by the community.

A copy of the latest Community Perception Report, *Community perceptions of the sustainability of the fishing industry in Australia*, is available from the FRDC website—**www.frdc.com.au**

Australian Government
Fisheries Research and Development Corporation

29 August 2012

Senator the Hon. Joe Ludwig
Minister for Agriculture, Fisheries and Forestry
Parliament House
CANBERRA ACT 2600

Dear Minister,

On behalf of the directors of the Fisheries Research and Development Corporation, I have pleasure in presenting the Corporation's annual report for the year ended 30 June 2012.

It has been prepared in accordance with section 28 of the *Primary Industries and Energy Research and Development Act 1989*; and approved by the Board in accordance with section 9 of the *Commonwealth Authorities and Companies Act 1997*.

The contents of the report highlight achievements and activities against the FRDC's Research, Development and Extension Plan 2010–2015. It is intended to enable an informed judgement of the Corporation's performance during the year ended 30 June 2012 by you, the Minister for Agriculture, Fisheries and Forestry and the Australian Parliament.

The report is also intended to inform the FRDC's other stakeholders—in particular the financial contributors from the fishing industry and other sectors; as well as the broader members of the commercial, recreational and indigenous sectors of the fishing industry; and members of the research and development community and general public.

I take this opportunity to acknowledge the strong support of my fellow directors in guiding the Corporation towards outcomes that will greatly benefit the fishing industry, the natural resources on which it depends, and the Australian community.

Yours faithfully,

The Hon. Harry Woods
Chairman

Postal address: Locked Bag 222, Deakin West ACT 2600 Australia
Office location: Fisheries Research House, 25 Geils Court Deakin ACT
Telephone: 02 6285 0400 Web: http://www.frdc.com.au
Facsimile: 02 6285 0499 E-mail: frdc@frdc.com.au
Australian Business Number: 74 311 094 913

NEW APPROACH TO PROMOTE SUSTAINABILITY EVIDENCE

For more than 20 years the Australian Government and the seafood industry have been investing in research and development (R&D) to improve the sustainability and prosperity of the industry. For fishers there have been decades of change, with new marine management regimes and changes in technology.

The past five years in particular have brought recovery to fish stocks and improved the outlook of many previously threatened species. But the Australian public has largely failed to recognise the improvements, according to a community perceptions survey commissioned by the FRDC in April 2011.

The survey found only 37 per cent of people believed Australia's fishing industry was sustainable overall, with a similar number undecided, while 26 per cent believed it was unsustainable. The findings are similar to those of a 2003 community perceptions survey.

FRDC chairman Harry Woods says the survey findings are disappointing, particularly given recent improvements in the industry, and in the health of fisheries resources. The findings have reinforced the concerns of the seafood industry that media reports are not accurately representing the current state of Australian fisheries.

In November 2011 the FRDC launched a new strategy, developed in conjunction with stakeholders, to address the community's poor perceptions of fishing sustainability. Specifically, it aims 'to promote the science and best practice that underpins the Australian seafood and angling industry'. The strategy contains four key areas: Industry unity, Media relations, Community relations, Stakeholder advocacy influences.

It is important to note that the FRDC is only one of the stakeholders required to make the strategy a success. Industry, government and researchers all have a role to play. For example, it is logical to have fisheries managers respond on management questions; likewise industry on fishing issues.

The primary role FRDC will undertake is media relations, with a focus on extension of research findings. The FRDC will also develop, based on research and factual information, answers to key questions or summaries on topics from stakeholders and the community.

To actively involve itself in the public arena is a new direction for the FRDC. There has been a lot of misinformation about Australian fisheries in the media and to combat this the FRDC aims to ensure that correct science is portrayed. It will also develop stories based on best available scientific evidence and credible information about our fisheries for the public.

The FRDC survey also highlighted that much of the public's view is not based on factual information. This has brought home the need to 'get the story out there' about the sustainability of our industry and the best practices than underpin it.

Key in the development of the strategy has been industry stakeholders, including the National Seafood Industry Alliance, Recfish Australia, the National Aquaculture Council and the Commonwealth Fisheries Association.

WORK UNDERWAY TO GET THE RIGHT STORIES OUT THERE

Helping the media

In the six months since commencing the strategy the FRDC has responded to, and assisted key media agencies prepare more than a dozen feature articles on the seafood industry. This has helped ensure coverage remains factual and representative of current practices. In addition, where media stories have been false or misleading—by giving overseas examples as the norm for Australia, or by using incorrect data—the FRDC has responded, providing correct information.

Where it has not been appropriate for the FRDC to comment on an issue, for example management issues, details have been passed to the relevant organisations to provide a response.

National Fisheries Stock Status Report

There has long been a need for a consolidated national report on the status of key wild catch Australian fish stocks. At their November 2011 meeting, the FRDC Board approved funding to develop the first of the National Fisheries Stock Status Reports. The reports are being compiled by the Australian Bureau of Agricultural and Rural Economics and Sciences, with input from the Commonwealth, and the states and Northern Territory governments. All fisheries agencies have been working for the past eight months compiling data.

The National Fishery Status Reports are aimed at being a scientifically robust, simple tool for fishers, seafood consumers, members of the public, policy makers and managers to make comparisons between the status of the key wild capture fish stocks around Australia.

The first report will provide short summaries, as well as scientific assessments at the individual fish stock level, for 50 wild caught species, based primarily on their contribution to the value of Australian fisheries. It is anticipated the scope of future reports will include more species and broader socio-economic and environmental information.

SOME OF THE PROJECTS SUPPORTING THE STRATEGY

Project number	Project title
2012/301	Let's Talk Fish: Assisting industry to influence conversations about the sustainability of wild catch fishing
2011/520	Sustainability of the Australian aquaculture industry
2011/513	National Fishery Stock Status Reports
2011/410	People development program: Healthy industry associations and succession
2011/400	Empowering Industry: Improving two-way membership communication in peak industry bodies of the fishing and seafood industry
2011/409	People development program: Strategic media training for the Australian seafood industry
2011/222	Development of a cohesive industry-wide policy on eco certification for Australian commercial fisheries
2010/403	People development program: Linking Australian schools with Australia's primary industry
2010/219	Tactical Research Fund: Establishing regional indicators of social sustainability in the Tasmanian aquaculture industry—a pilot study
2010/040	Developing and testing social objectives for fisheries management
2010/061	Development of a national harvest strategy framework

COULD BE AN UPSIDE

THERE ARE TWO

COULD BE A DOWNSIDE

FACT OR FALLACY?

		Fact	Fallacy
1.	There will still be fish left in the future	☐	☐
2.	I should never buy an 'overfished' species of fish	☐	☐
3.	Australia has one of the most sustainable fishing industries in the world	☐	☐
4.	Australia has more than 4500 species of finfish	☐	☐
5.	Australians eat an average of 24 kg of seafood a year	☐	☐
6.	Nothing is being done to reduce bycatch in Australian fisheries	☐	☐
7.	Aquaculture practices are regulated by sustainability standards	☐	☐
8.	In 2007–08 the gross value of production of Australian aquaculture increased to 40% of the total value of fisheries production	☐	☐
9.	Shark finning is legal in Australia	☐	☐
10.	Australia was the first country to embrace the Marine Stewardship Council	☐	☐
11.	Trawling in Australian waters will destroy the marine ecosystem	☐	☐
12.	FRDC is now on Facebook, LinkedIN and Twitter	☐	☐

See page 170 for answers and references.

QUICK GUIDE TO THE ANNUAL REPORT

If you do not have time to read this report in detail, look first in the following sections:

1. For an outline of the FRDC's investments and income, read pages vi–ix and the financial statements starting on page 97.
2. For an overview of operations during the past year, read 'The Directors' review of operations and future prospects' starting on page 5.

More detailed coverage is in these sections:

- The key strategic imperatives that drive the FRDC's activities are shown on pages 2–3 and 5–10.
- Outcomes by recent and current projects are in the R&D programs reporting starting on page 26 (Environment), page 38 (Industry), page 50 (Communities), page 54 (People development) and page 64 (Extension and adoption).
- Performance reporting for the Management and accountability program is described starting on page 74.
- Financial contributions by industry and governments are listed on pages vi and 120.
- Coverage of corporate governance information is in the section starting on page 83.
- The financial statements start on page 97.

Front cover photo: Peter Horvat. Chapter title photos and related theme images used throughout this report: Randy Larcombe.

FISHERIES RESEARCH AND DEVELOPMENT CORPORATION

FRDC ANNUAL REPORT 2011–12

2010–11 ACHIEVEMENTS THROUGH INVESTMENT

Five years at a glance

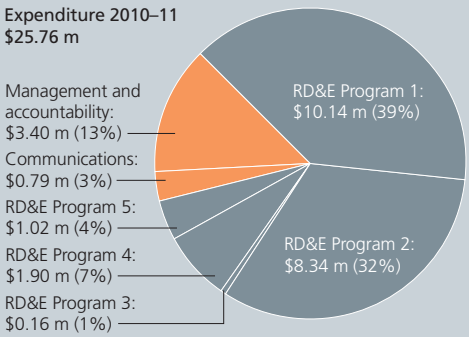
TABLE 1: FINANCIAL INDICATORS OF R&D INVESTMENT

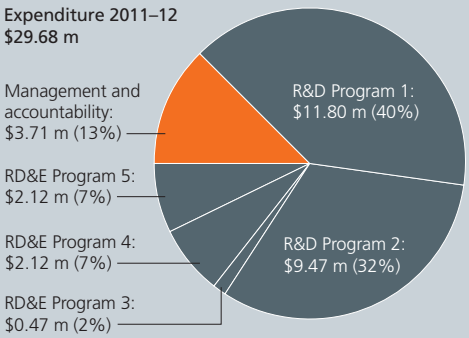
Expenditure	2007–08	2008–09	2009–10	2010–11	2011–12
	$m	$m	$m	$m	$m
Total expenditure	21.09	27.75	28.93	25.76	29.68
Total of R&D projects*	17.35*	23.62	24.45	21.56	25.98
R&D Program 1 (Environment)#	8.70	11.97	13.75	10.14	11.80
R&D Program 2 (Industry)#	7.55	9.77	8.68	8.34	9.47
R&D Program 3 (Communities)#	Did not exist in previous RD&E Plan			0.16	0.47
R&D Program 4 (People development)#	1.10	1.88	2.02	1.90	2.12
R&D Program 5 (Extension and adoption)#	Did not exist in previous RD&E Plan			1.02	2.12
Management and accountability	3.00	3.36	3.67	3.40	3.71

Figures in this table have been rounded, hence totals may not agree with component figures. For exact figures see the financial statements beginning on page 97.

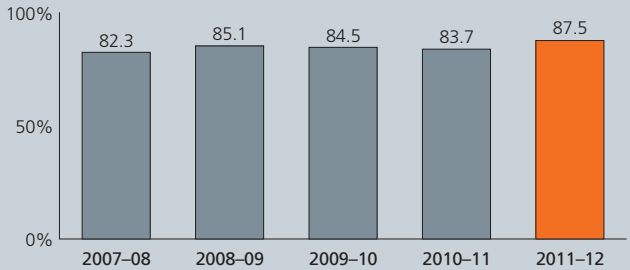
* In 2007–08 the Board approved projects containing milestones valued at over $33.50 million; however project slippage was such that actual expenditure in the year only reached $17.35 million.

\# In 2010–11 the research and development programs changed to be in line with the FRDC's Research, Development and Extension Plan 2010–2015, as such direct comparisons with the previous year is not possible. This table provides only a historic snapshot of expenditure.





Expenditure on R&D projects as a percentage of total expenditure



	2007–08	2008–09	2009–10	2010–11	2011–12
Number of approved new projects	118	158	147	176	200
Total number of active projects under management	430	436	384	412	483
Number of final reports completed	76	125	150	111	129

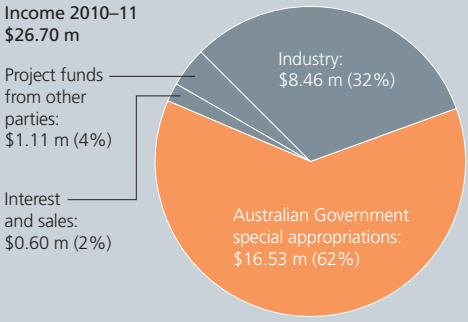
TABLE 2: INDUSTRY CONTRIBUTIONS TO FRDC AS A PERCENTAGE OF MATCHABLE GOVERNMENT CONTRIBUTIONS

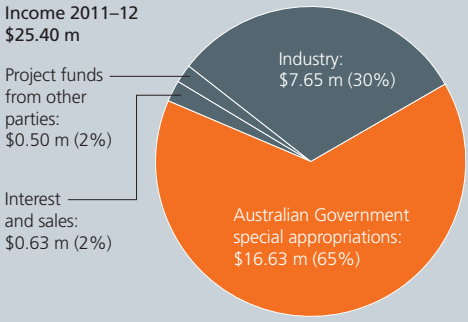
	2007–08	2008–09	2009–10	2010–11	2011–12
Commonwealth	195	322	202	206	104
New South Wales	134	74	119	105	113
Northern Territory	476	517	439	923	287
Queensland	94	90	99	121	83
South Australia	145	199	139	178	208
Tasmania	105	104	98	108	109
Victoria	108	110	205	365	292
Western Australia	89	164	110	133	125
Total all fisheries	**130**	**169**	**138**	**159**	**135**

TABLE 3: INCOME TO THE FRDC

	2007–08	2008–09	2009–10	2010–11	2011–12
	$m	$m	$m	$m	$m
Industry contributions	7.47	9.52	8.37	8.46	7.65
Maximum matchable (government) contribution	5.45	5.50	5.50	5.50	5.56
Actual government matched [1]	5.38	5.30	5.36	5.50	5.51
Government unmatched [2]	10.90	11.00	10.97	11.03	11.12
Total government contributions	16.28	16.30	16.34	16.53	16.63
Project funds from other parties [3]	2.11	2.41	5.91	1.12	0.50

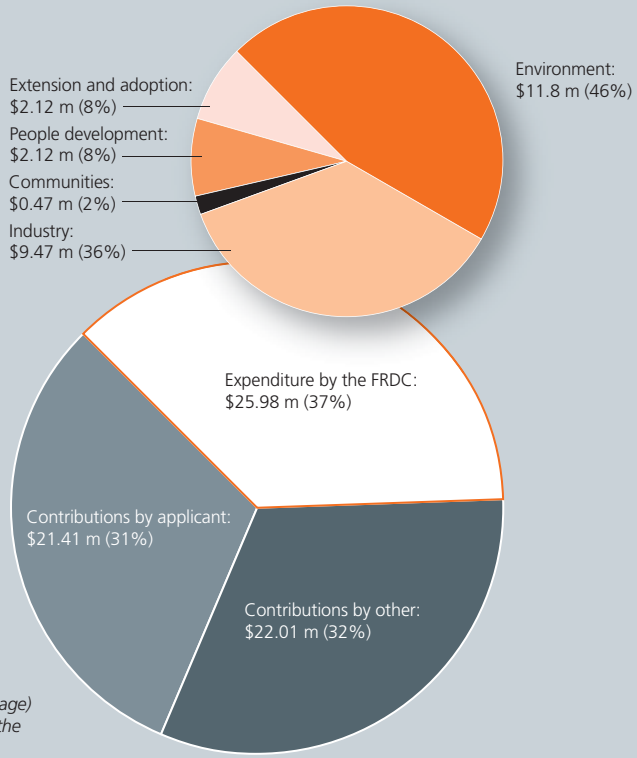
1. 'Maximum matchable contribution' is the maximum amount to which the Australian Government will match industry contributions in accordance with the criteria detailed on page 144 (including when industry contributions exceed 0.25% of average gross value of production (GVP)).
2. 'Government unmatched' is an Australian Government contribution set at 0.50% of average GVP, in accordance with the criteria detailed on page 144.
3. Included in project funds from other parties are grants and contributions from Australian Government agencies.





FRDC project funds under management

TOTAL FRDC PROJECT FUNDS
UNDER MANAGEMENT
Total: $71.82 m



Contributions from other sources (leverage) was 1 : 1.58 times the FRDC investment

NOTES FOR TABLE 4 (INDUSTRY CONTRIBUTIONS) ON THE OPPOSITE PAGE

[1] Individual fisheries are included just as an example for where there is an Australian Government levy or an Industry Partnership Agreement. As such not all contributions are shown and hence total may not agree with component figures.

[2] 'Maximum matchable contribution' is the maximum amount to which the Australian Government will match industry contributions in accordance with the criteria detailed on page 144.

[3] The industry contribution figures are accrual based.

[4] Distribution of FRDC RD&E investments is based on the estimated flow of RD&E benefits to the respective fisheries.

[5] Ratios in column F are derived from the distribution of FRDC investments (column D) for 2011–12 and the previous four years. The figures for these five years are relevant to the 1995 Ministerial direction, summarised on page 94, concerning spending of industry contributions.

[6] There are timing issues in some jurisdictions:
- ¬ matching may not occur in the year in which the invoice is raised because:
  - – jurisdictions ask for invoices late in the financial year
  - – matching is triggered by cash received
  - – Department of Agriculture, Fisheries and Forestry (DAFF) closes its processing prior to financial year end.

SUMMARY OF INDUSTRY CONTRIBUTIONS

TABLE 4: INDUSTRY CONTRIBUTIONS, MAXIMUM MATCHABLE CONTRIBUTIONS BY THE AUSTRALIAN GOVERNMENT AND RETURN ON INVESTMENT, 2011–12

Fisheries [see note 1]	A	B	C	D	E	F
	Maximum matchable contribution (0.25% of AGVP) ($) [see note 2]	Actual industry contribution 2011–12 ($) [see note 3]	B÷A as per cent	Distribution of FRDC R&D investments 2011–12 ($) [see note 4]	Return on contribution (D : B) [see note 5]	
					2011–12	5 years
Commonwealth total [6]	948,228	983,052	104	4,416,145	4.49	2.63
Commonwealth—prawn aquaculture [7]	159,858	165,606	104			
Commonwealth other	788,370	817,446	104			
New South Wales total	321,160	361,608	113	1,770,181	4.90	4.00
NSW oyster aquaculture	102,280	88,652	87			
NSW other	218,880	272,956	125			
Northern Territory total	142,003	408,234	287	815,671	2.00	1.39
NT pearls and other aquaculture	48,678	266,234	547			
NT other	93,325	142,000	152			
Queensland total	593,100	492,773	83	2,733,389	4.06	4.06
QLD other	593,100	492,773	83			
South Australia total	950,530	1,979,103	208	4,989,366	2.52	2.32
SA Southern Bluefin Tuna	300,908	589,268	196			
SA Southern Rocklobster [6]	210,600	365,928	174			
SA other	439,023	1,023,907	233			
Tasmania total	1,456,963	1,584,539	109	4,117,998	2.60	2.28
TAS salmon aquaculture [6]	950,406	756,673	80			
TAS Southern Rocklobster	163,565	326,706	200			
TAS wild harvest abalone [6]	234,024	220,697	94			
TAS other	108,968	280,463	257			
Victoria total	166,325	485,034	292	1,598,971	3.30	2.97
VIC Southern Rocklobster [6]	12,023	33,868	282			
VIC wild harvest abalone	59,145	78,400	133			
VIC other	95,157	372,766	392			
Western Australia total	982,475	1,230,049	125	4,387,869	3.57	3.53
WA pearls	233,417	241,914	104			
WA other	749,058	988,135	132			

SEE NOTES ON THE PREVIOUS PAGE.

x

THE AUSTRALIAN FISHING INDUSTRY

The fishing and aquaculture industry is one of the most complex of Australia's primary industries in terms of both its structure and the natural resources on which it depends. Most of the industry's business environments are made more complex by their dependence on access to natural resources that are publicly managed in the interests of present and future generations. The Australian fishing industry comprises three main sectors:

- commercial sector; comprising of wild catch fishing, aquaculture and through-chain activities undertaken by seafood importers, processors, manufacturers, handlers and retailers;
- recreational fishing, which includes the tackle, tour guides and charter sectors; and
- indigenous customary fishers.

The 'fishing industry' is further defined in the FRDC Regulations 1991 under the *Primary Industries and Energy Research and Development Act 1989* (PIERD Act) such that it includes any industry or activity carried on in or from Australia concerned with:

- taking; or
- culturing; or
- processing; or
- preserving; or
- of fish or fish products.
- storing; or
- transporting; or
- marketing; or
- selling fish or fish products.

The commercial sector comprises approximately 120 wild catch fisheries and 70 aquaculture species. Commercial seafood and products (e.g. pearls) were valued at $2.2 billion in 2010–11. The recreational sector has 3.4 million participants, who were estimated in a 2001 survey to spend $1.9 billion on their fishing. Aboriginal and Torres Strait Islander people participate in commercial and recreational fishing, as well as customary fishing. The legal rights around indigenous fishing are being refined over time and some aspects are now part of existing legislation and court decisions.

Employment statistics (Australian Bureau of Statistics) for the fishing industry indicate that in 2010–11, there were 11,699 people employed in the commercial fishing, hunting and trapping industry, with 7326 employed in the fishing, hunting and trapping sector, and 4373 in aquaculture enterprises. Compared with 2009–10, total employment in the commercial fishing, hunting and trapping industry increased by 2.3 per cent (268 people); full-time employment increased by 3.8 per cent (319 people); while in 2010–11 people engaged in part-time employment fell by 1.7 per cent (51 people).

Demand for seafood is rising in Australia because of increasing affluence and awareness of seafood's prominent role in a healthy diet. In Asian markets consumption is also increasing with the growth of the middle class, especially in China and India. While demand is strong, consumers are concerned with environmental sustainability. This has led to a focus on industry demonstrating their commitment to best practice and in some cases pursuing third party accreditation. The focus has also meant governments have pursued policies to protect and restrict access to some areas through developing marine reserves and protected areas.

Currently Australia's commercial seafood production only provides about 28 per cent of domestic demand. Combined with the strength of the Australian dollar the commercial sector is now looking to re-orient its market portfolio towards better serving the Australian market. Increasingly, value chains will encompass both domestic and imported product. Other factors, such as further improvements in fisheries management and better utilisation of catch, will also be important in meeting domestic demand. But it is not only seafood for consumption that Australia produces. Pearls are a high value consumer item that is produced at the highest level of quality through leading edge technology and environmental credentials, making it one of Australia's most valuable and sustainable fisheries.

The FRDC has a significant responsibility in ensuring, on behalf of the Australian Government, that research is undertaken to assist in the management of the fisheries resource for ongoing sustainability. This means a significant proportion of funding is directed at research that has a public good benefit.

TABLE 5: FISHING INDUSTRY RESULTS 2010–11*

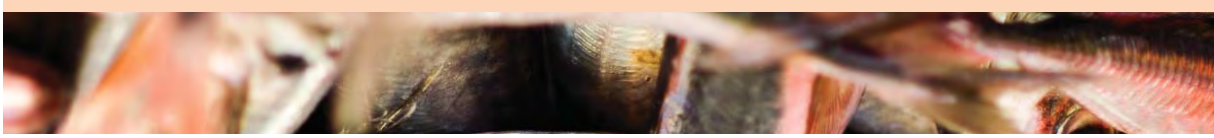
Australian Fisheries Statistics*	2006–07	2007–08	2008–09	2009–10	2010–11	Change
The wild catch sector earned the same and caught slightly less	$1.45 b for 188,488 t	$1.38 b for 181,601 t	$1.40 b for 173,142 t	$1.30 b for 171,512 t	$1.30 b for 162,376 t	$: 0% t: –0.5%
The aquaculture sector earned and produced more	$806 m for 60,142 t	$869 m for 64,032 t	$867 m for 70,092 t	$870 m for 73,542 t	$948 m for 75,188 t	$: +1.1% t: +1.0%
Overall production was less but the value was greater	$2.21 b for 248,481 t	$2.21 b for 240,479 t	$2.21 b for 237,508 t	$2.18 b 241,123 t	$2.24 b 233,778 t	$: +1.0% t: –1.0%

* The figures quoted from *Australian Fisheries Statistics* are for 2010–11, and are from the latest edition that can be downloaded from the FRDC website—**www.frdc.com.au**

TABLE 6: TRADE FIGURES 2010–11

Top five, by volume in 2010–11		Top five, by value in 2010–11	
Australian Sardines	38,136 tonnes	Salmonids	$409 million
Salmonids	35,377 tonnes	Rocklobster	$390 million
Prawns	26,866 tonnes	Prawns	$305 million
Oysters	13,951 tonnes	Abalone	$178 million
Tuna	9,133 tonnes	Tuna	$150 million
Top five exports, by value in 2010–11		**Top five export destinations in 2010–11**	
Rocklobster	$369 million	Hong Kong, China	$394 million
Pearls	$241 million	Japan	$226 million
Abalone	$212 million	China	$143 million
Tuna	$130 million	Singapore	$41 million
Prawns	$77 million	United States	$35 million
Top five imports, by value in 2010–11		**Top five import sources in 2010–11**	
Prepared and preserved fish	$287 million	Thailand	$344 million
Frozen fish fillets	$230 million	New Zealand	$216 million
Prepared and preserved crustaceans and molluscs	$190 million	China	$186 million
Pearls	$167 million	Vietnam	$162 million
Fresh, chilled or frozen prawns	$149 million	Malaysia	$72 million

The figures quoted are from *Australian Fisheries Statistics* 2010–11.



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FIGURES

TABLES

ABOUT THE FRDC

The Fisheries Research and Development Corporation (FRDC) is a co-funded partnership between its two stakeholders, the Australian Government and the fishing industry. It was formed as a statutory corporation on 2 July 1991, under the provisions of the *Primary Industries and Energy Research and Development Act 1989* (PIERD Act) and is responsible to the Minister for Agriculture, Fisheries and Forestry. More information on the history of the FRDC is available in the *Evolution of the FRDC (historic review)*.

The FRDC's role is to plan and invest in fisheries research, development and extension (RD&E) activities in Australia. This includes providing leadership and coordination of the monitoring, evaluating and reporting on RD&E activities, facilitating dissemination, extension and commercialisation. The FRDC achieves this through coordinating government and industry investment, including stakeholders to establish and address RD&E priorities. In addition the FRDC monitors and evaluates the adoption of RD&E to inform future decisions.

The FRDC's strategic investments in RD&E activities benefit the three sectors of the fishing industry: commercial (wild catch and aquaculture), recreational and indigenous.

The FRDC has a significant responsibility in ensuring, on behalf of the Australian Government, that research is undertaken to assist in the management of the fisheries and aquaculture resource for ongoing sustainability. This means that a significant proportion of funding is directed at research that has a public good benefit. Therefore the FRDC has an important role to ensure that all stakeholders are informed of the results.

FRDC Board

A Chair and a Board of Directors govern the FRDC, while an Executive Director leads the Corporation's business activities on a day to day basis. The Board oversees corporate governance, sets strategic direction and monitors the ongoing performance of the FRDC and the Executive Director. The FRDC Board and the Executive Director are responsible for managing and evaluating the organisation and its investments, and for reporting to government and the fishing industry. During 2012–13 the focus for the FRDC Board will be on:

- implementing the National Framework for Primary Industries Research, Development and Extension;
- developing strategic investment options to ensure delivery of outcomes against the FRDC RD&E Plan;
- responding to findings of the Productivity Commission inquiry into the research and development corporations (RDCs) and the Rural Research and Development Council's National Strategic Investment Plan; and
- developing a plan to improve the perception of the fishing industry through making research results more publicly available and addressing factually incorrect media (and similar) reports.

Fisheries Research Advisory Bodies (FRABs)

The FRDC supports a network of FRABs covering Commonwealth fisheries and the fisheries and aquaculture of each state and the Northern Territory. The FRABs have an extremely important role in optimising the efficiency of the FRDC's planning and investment processes. The FRDC works to ensure a majority of open call and Tactical Research Fund applications are submitted through, or reviewed by, the FRABs.

The FRABs represent sectors of the fishing industry, fisheries managers and researchers; and most also have environmental and other community interest representation.

Stakeholder consultation

The FRDC works with its primary partners the Australian Government and the fishing industry to prioritise, implement and review progress of strategic RD&E directions; disseminate the results; and when appropriate assist commercialisation.

In addition the FRDC partners with many other organisations in both the research funding and service provision areas. In particular, the FRDC has a strong linkage with the Seafood Cooperative Research Centre (Seafood CRC).

Investment strategy

The FRDC invests in RD&E across the whole value-chain of the commercial fishing and aquaculture industry, and for the benefit of both indigenous and recreational fishers. The FRDC seeks to achieve maximum leverage from its investment by providing research administration and services using a value adding model. Research projects are tailored to deliver a specific outcome, and are actively managed and monitored.

There are significantly better returns using a value adding model, compared to a simple 'granting' model for research and development funding. While the granting model can be carried out at minimal cost, it offers little scope to improve the design; whereas more time is spent ensuring the design and implementation of each project is correct and aligns with desired outcomes of the stakeholders using the value adding model. The FRDC manages the implementation of the value adding model through its ongoing investment in systems that deliver best practice in project development and assessment (see page 2 on Fisheries Research Advisory Bodies), integrated project, financial and human resource management.

The FRDC commissions RD&E through a variety of flexible investment approaches. These include: an open call for project applications; formal partnership agreements with industry sectors; subprograms and coordination programs that are tailored to specific industry sectors or activity; short-term tactical research investment; and specifically targeted commissioned RD&E; especially where there is market failure by private investment.

The focus for FRDC investment aligns with the 14 themes (below) outlined in its 2010–2015 Strategic RD&E Plan. In any given year the investment balance between themes may vary depending on strategic needs—see page vi for the percentage of investment spent on each of the programs.

Programs	Themes
Environment	1. Biosecurity and aquatic animal health
	2. Habitat and ecosystem protection
	3. Climate change
	4. Ecologically sustainable development
Industry	5. Governance and regulatory systems
	6. Resource access and allocation
	7. Production, growth and profitability
	8. Consumers, products and markets
	9. Value from aquatic resources
Communities	10. Resilient and supportive communities
People development	11. Leadership development
	12. Workforce development
	13. Innovation skills
Extension and adoption	14. Extension and adoption

REPORT OF OPERATIONS PART 1

THE DIRECTORS' REVIEW OF OPERATIONS AND FUTURE PROSPECTS

THE CORPORATION'S OPERATING ENVIRONMENT

The fishing and aquaculture industry is at a crossroads with parts of its future uncertain.

This is not due to the industry's demonstrated performance, but rather with the public perception of the global industry's overall sustainability. Concerns have been raised by the public on issues such as catching methods, the use of fishmeal for fish feed, the effect on marine environments from climate change, and interactions with marine mammals and sharks.

Yet, the industry has had its own concerns with effects of changes to climate, changes to access and fishing grounds and conflict between sectors. These issues, among others, will need to be addressed by all stakeholders as they are implemented over the coming year.

Aquaculture has had a mixed year with some sectors reporting solid growth while others have stalled. Despite Australia leading the world in prawn farming environmental performance, growth of the sector has not occurred with production rates only marginally above those of five years ago.

Recreational fishing is increasingly under public scrutiny for its practices. This includes interactions with shark species and catch and release methods for large pelagic fish, such as marlin.

Two FRDC reports in 2011 highlighted some issues for consideration at the consumer end of the supply chain. The first looked at seafood supply in Australia and found that 72 per cent of seafood consumed in Australia is now sourced from overseas. The second identified that, at present, public perception of the fishing industry was not very good.

In recognition of increasing public awareness about fishing and aquaculture sustainability, the FRDC Board announced a new strategy to promote factual, science based information. Previously FRDC has primarily focused its extension and communication efforts on industry, managers and scientists. Notwithstanding international recognition of the excellence in Australia's fishing and aquaculture science, and the performance of Australian fisheries management, only 27 per cent of the public considers wild catch fishing sustainable. Addressing this perception of the industry is being approached through four linked strategies:

- Industry unity—developing consensus on fishing and aquaculture through unified messages on key science issues.
- Media relations—providing the FRDC's science outputs in a format better suited for media use. Developing a whole of industry media science strategy and training science ambassadors to ensure a professional approach to presenting this information.
- Community relations—engaging with regional and urban communities to showcase positive science stories.
- Stakeholder advocacy 'influencers'—to work with both allies and detractors to develop an agreed 'common language' on issues where there are differences of opinion on the scientific evidence.

PEOPLE DEVELOPMENT

In February 2008, the Board approved a five year people development program, which will be reviewed in its final year. The review will assess the benefits of the FRDC's investment in the program, and how this has translated into outcomes that benefit people in the fishing and aquaculture industry. To improve future programs, the management processes will also be assessed. In addition, the FRDC has engaged Agtrans Research to undertake a benefit cost assessment of the program.

CLIMATE CHANGE

South east of Australia has been identified as one of the world's hot spots for marine climate change. A project led by the University of Tasmania on 'risk assessment of impacts of climate change for key species in South Eastern Australia to climate change' has continued with a new study to develop adaptation options for industry and managers for key case studies. The FRDC's investment in climate related research over the last three years now exceeds $9 million achieved through co-investment from the Department of Agriculture, Fisheries and Forestry (DAFF), and the Department of Climate Change and Energy Efficiency (DCCEE). A conference in May hosted by Queensland Seafood Industry Association provided the forum for over 50 industry leaders to be informed on the latest state of climate change science. In particular it discussed how this related to the new Gillard Government's price on carbon, including opportunities for possible blue carbon sequestration.

PRIMARY INDUSTRIES STANDING COMMITTEE RD&E FRAMEWORK

Working Together: the National Fishing and Aquaculture RD&E Strategy was endorsed by ministers at Primary Industries Ministerial Council (PIMC) on 23 April 2010. The implementation of the strategy is being led by the National Priorities Forum (NPF), and supported through an Extension Working Group and Research Providers' Network. The FRDC is playing a major role in all of these activities.

The commitment to the strategy by the FRDC is clear. The FRDC's RD&E Plan 2010–2015 was developed to mirror both the strategy framework as well the 14 themes it contained. This has resulted in improved efficiencies in planning through less fragmented advice; and improved efficiencies in research collaboration as a result of the formation of the Research Providers' Network with excellent indications researchers are working collegially. It is anticipated the FRDC will derive further benefits from a more consolidated approach to planning, consultation and investment.

However, there is a risk for the FRDC to be seen as the 'sole driver' of the strategy, and therefore be held responsible for the outcomes, and the costs. The FRDC will need to provide leadership in the short term to maintain momentum while the NPF 'operationalises' itself as the lead group responsible for achieving the goals of the strategy.

PRODUCTIVITY COMMISSION INQUIRY INTO RURAL RDCs

On 15 June 2011, the Australian Government released the final report of the Productivity Commission inquiry into the rural RDCs. On the same day the preliminary government response to the Productivity Commission's report was also released. Following the release of the report the FRDC participated and responded to questions from DAFF with regards to specific areas related to the FRDC's work.

HOUSE OF REPRESENTATIVES INQUIRY

In April 2011, the House of Representatives Agriculture, Resources, Fisheries and Forestry Committee announced an inquiry into the role of science for fisheries and aquaculture. The House of Representatives Fisheries Committee will inquire into, and report on:

- the relationship between scientific knowledge of fish species, ecosystems, biodiversity and fish stock sustainability;
- fishery management and biosecurity, including but not limited to:
  - the calculation and monitoring of stock size, sustainable yield and bycatch, as well as related data collection;
  - the effects of climate change, especially relating to species dispersion, stock levels and impacts on fishing communities;
  - pest and disease management and mitigation;
  - minimising risks to the natural environment and human health; and
  - cooperation among Australian governments on the above.
- research, development and applied science of aquaculture, including:
  - transitioning from wild fisheries to aquaculture in individual species;
  - improving sustainability and lifecycle management practices and outcomes; and
  - pest and disease management and mitigation.
- governance arrangements relating to fisheries and aquaculture, including the implications for sustainability and industry development;
- current initiatives and responses to the above matters by state, territory and Australian governments.

The FRDC has contributed a submission to the inquiry and met with the committee at a public hearing. The FRDC's submission (http://www.aph.gov.au/parliamentary_business/committees/house_of_representatives_committees?url=arff/fisheries/subs/sub19.pdf) focused on the quality of Australian fishing and aquaculture science, the positive impact it has had and the future research and development opportunities currently being researched.

REPRESENTATIVE ORGANISATIONS

The FRDC is accountable under the PIERD Act to representative bodies nominated by the responsible Minister. On 12 September 2011, the Parliamentary Secretary Dr Mike Kelly approved and gazetted the National Seafood Industry Alliance (NSIA) as the fourth representative organisation for the FRDC. NSIA is an alliance of all state and territory peak commercial seafood bodies, the Commonwealth Fisheries Association, National Aquaculture Council and the Sydney Fish Market. It joins FRDC's three other representative bodies: Recfish Australia, Commonwealth Fisheries Association and the National Aquaculture Council. All four bodies have nominated improved community perception as one of their top priorities for RD&E.

SEAFOOD COOPERATIVE RESEARCH CENTRE

The end of the 2011–12 financial year marked the fifth year of the Seafood CRC. Some of the key achievements to date include:

- Forty three PhD students have been appointed, with 10 having graduated; eight masters by research and 16 honours students; including mentoring program for all students.
- Translocation of Southern Rocklobster in Tasmania has been used for the first time as a tradeoff to changes in quota.
- Australian wild catch abalone has been developed as the new brand for Australia's export to Asia. This brand development research has identified opportunities for improving the positive differentiation of Australian product from its competitors.
- A serendipitous outcome from holding new genetic breeding family lines of Pacific Oysters in the Georges River in Sydney has been that some family lines showed promising resistance to the new exotic disease which results in Pacific Oyster Mortality Syndrome. These family lines are now being incorporated into the genetic research program.
- Sea cucumber trials of ranching technology that includes hatchery produced juveniles being seeded back onto the seabed in areas identified as being suitable habitat for sea cucumber.
- The SafeFish research project has provided technical support and input to the Seafood Market Access Forum to enable the development of robust and defensible trade and market access negotiation positions.

During the year, participants in the Seafood CRC unanimously agreed to seek a one year extension from the responsible Commonwealth Department of Industry, Innovation, Science, Research and Tertiary Education. This extension was sought to improve the impact of proposed legacy projects.

THANK YOU

Continued support from the Australian Government and industry stakeholders across the three diverse sectors has been welcomed by the Board over the last 12 months. Government and industry have high regard for the FRDC, and this has been critical in ensuring high quality research outcomes.

The Board thanks its four representative organisations for their continued strong support. The FRDC is dependent on the support of numerous bodies and agencies for its success, these include:

- industry councils (including recreational)
- Commonwealth, state and territory fisheries management and research agencies
- Fisheries Research Advisory Bodies
- FRDC Subprogram and Coordination program leaders and their committees
- Seafood CRC
- Seafood Services Australia.

The dedication and passion of FRDC staff is critical to the Corporation's success, and the Board is very thankful for this.

The Board would welcome your feedback and invites you to contact any director after reading this annual report.

ANNUAL OPERATIONAL PLAN 2012–13 BUDGET

REVENUE	**$**		**$**
Total revenues from the Australian Government			**16,374,953**
Australian Government 0.5% Australian Gross Value of Production (AGVP)	*10,916,636*		
Australian Government matching of industry contributions	*5,458,318*		
Industry contributions passed on by state/territory jurisdictions			7,554,579
Projects revenue from other parties			1,650,000
Other revenue			445,000
TOTAL REVENUE			**26,024,532**
EXPENDITURE	**$**		**$**
Projects expenditure			**22,025,000**
Made up of:			
Environment	9,470,750	*43%*	
Industry	8,810,000	*40%*	
Communities	440,500	*2%*	
People development	1,982,250	*9%*	
Extension and adoption	1,321,500	*6%*	
Total	22,025,000	*100%*	
Management and accountability			3,992,855
TOTAL EXPENDITURE			**26,017,856**
NET RESULT FOR THE YEAR			**6,677**

PRIORITIES AND OUTPUTS FOR 2012–13

Development of a National Fisheries Management Standard—Fisheries management in Australia is run across multiple jurisdictions. The development of a standard seeks to provide a national minimum requirement for management across these jurisdictions, reducing duplication and improving efficiency.

Harmonisation of Commonwealth and state/territory fisheries management systems—Fisheries management in Australia is run across multiple jurisdictions. The development of harmonised harvest and bycatch strategies and stock status reporting would provide the first steps toward a national minimum requirement for management across these jurisdictions, reducing duplication and improving efficiency. This extends to work in support of the review of the Commonwealth Fisheries Harvest Strategy Policy and the development of harvest strategy policies by other jurisdictions.

Improving the profitability and understanding value—FRDC's investment will aim to optimise the use of wild catch fisheries resources, and increase capacity in the aquaculture sector. Research will look to define the values the Australian community place, or associate with seafood and the fishing industry. Results will be incorporated into two areas of research being carried out by the Seafood CRC for the FRDC which aim to improve seafood consumption and retail supply chains. The FRDC will fund Seafood Services Australia on a project by project basis to work on trade and market access issues in a number of international markets, including China and the European Union.

Bycatch—Incidental catch of threatened, endangered or protected (TEP) species will continue to be an area where investments are made. A key area of research is to reduce the interaction between certain gear types and TEP species, including sharks, cetaceans, pinnipeds and seabirds. FRDC will also provide input and advice into the DAFF review of the Commonwealth Policy on Fisheries Bycatch.

Climate change—The FRDC has created a coordinated funding program to enhance the fishing industry's capacity to adapt, mitigate against, and take advantage of further climate change. Half way through the program, results from the funded research will start to become available. At this point more focus will be placed on dissemination of the findings and results. The program partners are DCCEE, DAFF and participating state government agencies.

People development—During the course of the year a range of opportunities to develop skills and share knowledge will be provided through programs including a visiting experts program, travel awards and conferences. FRDC will enhance the opportunities for young industry members and government participants to build their leadership.

Resource access and allocation—Over the coming year methods will be explored for incorporating spatial management into fishery management arrangements, including harvest strategies, and developing improved data collection techniques for recreational fishers relevant to resource-sharing. In addition to techniques for collecting fine-scale recreational catch data, this will extend to studies placing a value on commercial and recreational fishing activities.

Enhance the value from customary fishing—Work with an Indigenous Fisheries Reference Group, will be undertaken to gain input into management, planning and project assessment with indigenous Australians on fishing and seafood related issues. The FRDC has funded a number of projects to identify approaches that will result in improved consultative processes between representatives of the indigenous community and other fishers.

Extension and adoption—The FRDC will assist in the development of a national Fisheries Extension and Adoption Plan that will aim to improve the uptake of research and transfer of knowledge to stakeholders. This may include the development of an extension network and a range of information resources for industry. It will also look to fund research to better target extension activities.

JOINT RURAL RDC AND GOVERNMENT INITIATIVES

National Fishing and Aquaculture RD&E Strategy—The FRDC will continue to take a lead role in implementing the strategy. It will work in partnership with the Australian Fisheries Management Forum and FRDC's representative bodies to help advance arrangements within a regional and national approach.

National Strategic Rural R&D Investment Plan—The FRDC will work with the Council of Rural RDCs (CRRDC) to ensure the proposed national plan developed by the Rural Research and Development Council delivers desirable outcomes to government, industry and other stakeholders. Integral to this will be the implementation of strategies under the National RD&E Framework for all rural sectors, particularly the fishing and aquaculture sectors.

Shared services—In partnership with the Canberra based RDCs, FRDC is working to share services to reduce administrative costs and ensure efficient delivery of RD&E investment. Some of these shared services will have efficiency benefits for non-Canberra based RDCs.

Productivity Commission—The FRDC will work with the Australian Government to implement the recommendations of the Productivity Commission inquiry into the RDCs.

FRDC's PEOPLE

PORTFOLIO MINISTER

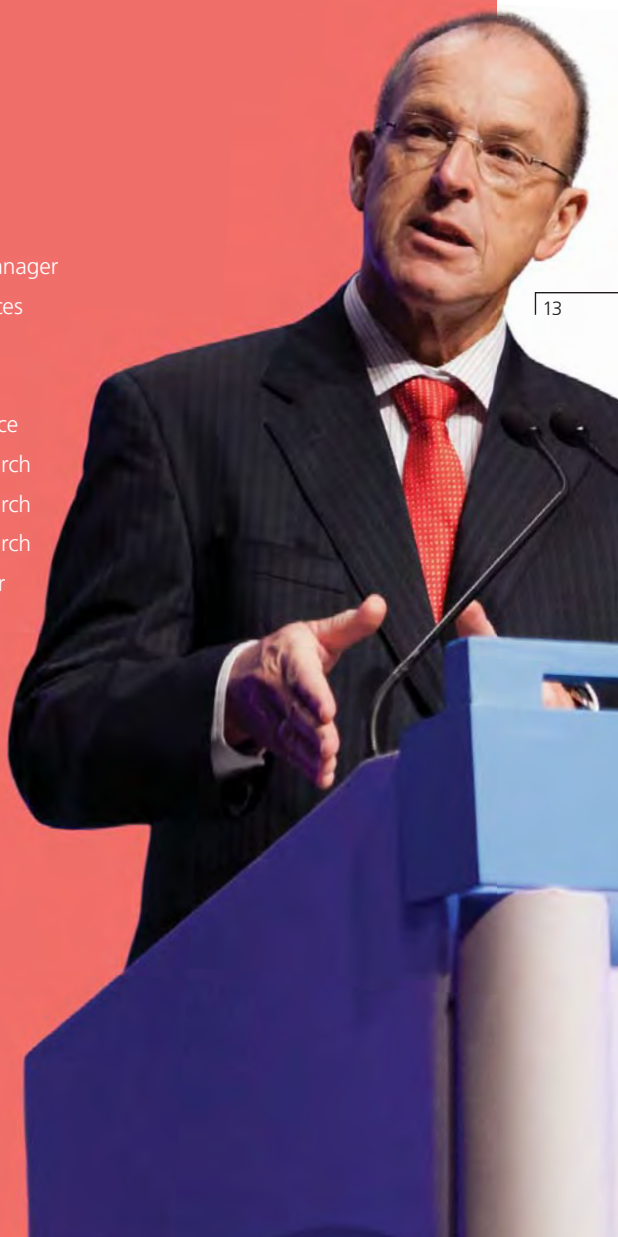
The portfolio Minister for Agriculture, Fisheries and Forestry is Senator the Hon. Joe Ludwig (pictured below).

FRDC BOARD MEMBERS DURING THE YEAR

The Hon. Harry Woods	Chair
Mr Stuart Richey AM	Deputy Chair
Dr Patrick Hone	Executive Director
Ms Heather Brayford	Director
Ms Renata Brooks	Director
Mr Brett McCallum	Director
Dr Daryl McPhee	Director
Dr Keith Sainsbury	Director
Mr Richard Stevens OAM	Director

FRDC STAFF

Dr Patrick Hone	Executive Director
Mr John Wilson	Business Development Manager
Ms Cheryl Cole	Manager Corporate Services
Mr Timothy Yap	Office Administrator
Mr Crispian Ashby	Programs Manager
Ms Annette Lyons	Projects Manager—Finance
Ms Kylie Giles	Projects Manager—Research
Dr Carolyn Stewardson	Projects Manager—Research
Ms Jo-Anne Ruscoe	Projects Manager—Research
Mr Peter Horvat	Communications Manager
Ms Julie Haldane	Communications Officer
Ms Ilaria Catizone	Communications Science Writer
Ms Rachelle Etienne Breidenbach	Digital Communications



SURVEYING THE CURRENTS OF FRDC STAKEHOLDERS

In 2011 the FRDC sought feedback from stakeholders to identify emerging issues and improve engagement efforts.

Public perception of the fishing and seafood industries emerged as a major concern for both commercial and recreational sectors in a series of FRDC stakeholder surveys held last year. There was also growing support for marketing activities, particularly among commercial stakeholders.

Results concluded that 87 per cent of commercial fishers and 79 per cent of recreational fishers surveyed were concerned by the public perception of the fishing industry, including a lack of awareness of tight and far-reaching government controls and of the industry's efforts to achieve sustainability. There was also concern about the industry's lack of a unified 'voice' to address some of the misinformation shaping those perceptions.

The views of grassroots operators combined with the community survey results are a major issue and one of the drivers behind the new FRDC direction and approach to communication.

There were four elements to stakeholder consultation and surveys conducted by independent company Intuitive Solutions in 2011. These included face-to-face interviews with 30 key stakeholders including government fisheries managers, commercial fishers, industry associations and research organisations.

Telephone surveys were conducted with 145 grassroots operators in fishing and aquaculture. An omnibus survey captured the views of 300 recreational fishers who fish more than six times a year and there was also an online survey of 150 *FISH* magazine readers. Questions focused on industry challenges, awareness of the FRDC and its role, adoption of research, industry information, and the future of marketing.

The FRDC deliberately looked to grassroots commercial fishers, across all commercial sectors, and all states, to get a better understanding of their issues and concerns.

COMMERCIAL FISHERS

Of the 145 commercial fishers surveyed by telephone there was strong support for a national organisation to coordinate RD&E (7.8/10), but while 88 per cent of respondents were aware of the FRDC, they were not all familiar with what the organisation does.

Those who were familiar with the FRDC strongly supported the organisation (7.8/10), and were also more satisfied with industry RD&E investments (6.1/10) than those unfamiliar with the FRDC (5.4/10).

Those with more knowledge of the FRDC were more likely to have taken advantage of new research, and were also more satisfied with investments being made in RD&E.

In the past 12 months, 30 per cent of survey participants said they had used information or findings from research to make changes in their business; among those with knowledge of the FRDC, this was 46 per cent.

When identifying directions for the FRDC's future industry engagement, commercial fishers voted for a greater level of investment in industry promotion and stronger links between research and business profitability. Half the respondents agreed that marketing and promotion was a good fit with the FRDC, while 12 per cent were unsure; 23 per cent supported the FRDC's involvement in marketing and 22 per cent said they would consider it.

RECREATIONAL FISHERS

Of the 304 recreational fishers who participated in an omnibus survey, almost 60 per cent were positive about the future for recreational fishing. However, 79 per cent were concerned with public perception of fishing. Challenges identified included over-fishing, species conservation, ensuring sufficient supply to meet growing demand for fish, safety issues, over-regulation and legal compliance.

Just over half (51 per cent) were aware of the FRDC but only 6 per cent could identify the FRDC's role; 11 per cent had visited the FRDC website and 4 per cent received FISH magazine. Only 6 per cent of respondents were familiar with recent RD&E in the industry, including:

- success in managing fish stocks—restocking and breeding programs, bag limits, fish farming and aquaculture development;
- creation of marine parks (this was mentioned by a number of recreational fishers as a significant long-term benefit for the industry); and
- identification and commercialisation of new technology, including GPS and fish finders.

FISH READERS

FISH magazine was seen as important in providing information about the breadth of industry RD&E, and in supporting the extension of RD&E findings. The survey of *FISH* magazine readers indicated that:

- 90 per cent strongly supported the continued production of FISH;
- 67 per cent had followed up information in the magazine to obtain more details;
- 77 per cent had learnt more as a result of following up information; and
- about 11 per cent had implemented changes directly as a result of this information.

RELATIONSHIPS WITH STAKEHOLDERS

In developing the projects that address the FRDC's five programs, directions are established in association with the FRDC's partners—government, industry stakeholders and research organisations.

The FRDC works with its partners to not only undertake program management in an effective manner, but also to disseminate the results and assist with their adoption and, when appropriate, commercialisation. To ensure a balanced portfolio, and to align with industry research priorities, the large majority of project applications are reviewed by the FRABs; and, where possible, industry and management is directly engaged and integrated into the project delivery.

STAKEHOLDER RESEARCH PRIORITIES

One of the primary challenges for the FRDC is to gain a solid understanding of the needs and priorities of its industry stakeholders—many of whom come from a diverse range of sectors and operations. FRDC in developing the National RD&E Strategy and its RD&E Plan has consulted widely with a majority of these groups. In addition the FRDC has undertaken industry research to build on this knowledge. While there are common, national issues, each sector faces unique challenges and has specific research, development and extension needs, and these vary around Australia.

THE AUSTRALIAN GOVERNMENT

The Minister for Agriculture, Fisheries and Forestry is important to the FRDC. The Minister and his Department outline the RD&E priorities that need to be addressed. The Department acts as the day to day policy intermediary between the Minister's office and the FRDC. The Australian Management Fisheries Authority and the Department of Sustainability, Environment, Water, Population and Communities also play an important role in contributing to research priorities and the ComFRAB process.

NATIONAL PRIORITIES FORUM

The FRDC has worked closely with key stakeholders to develop, and now implement, the National Fishing and Aquaculture RD&E Strategy. A key component is the development of the National Priorities Forum, Research Providers' Network and Extension and Adoption Working Group. Over the coming year the three groups under the direction of the National Priorities Forum will meet and focus on developing the major-support-link framework and governance arrangements to improve RD&E for the fishing and aquaculture industries.

AUSTRALIAN FISHERIES MANAGEMENT FORUM

The Australian Fisheries Management Forum (AFMF) comprises the heads/CEOs of the Australian and state and territory government agencies responsible for the management of fisheries. The AFMF discusses issues relating to fisheries and aquaculture management.

The FRDC will continue to work with AFMF, and is an invited attendee at their meetings, providing advice and ensuring their priorities are incorporated into RD&E planning processes.

CONSULTATION WITH REPRESENTATIVE ORGANISATIONS

The FRDC has four representative organisations with which it consults. In 2011 the National Seafood Industry Association was gazetted as a representative body to the FRDC. The organisations are:

- Australian Recreational and Sport Fishing Industry Confederation Inc. (trading as Recfish Australia)
- National Aquaculture Council Inc.
- Commonwealth Fisheries Association Inc.
- National Seafood Industry Alliance.

CONSULTATION WITH LEVY ORGANISATIONS—AUSTRALIAN PRAWN FARMERS ASSOCIATION

The FRDC administers a research and development levy on behalf of the Australian Prawn Farmers Association (APFA). The levy is collected by the Levies Revenue Service (LRS) of DAFF. An administration cost is charged by the LRS to manage the levy. In the coming year it is not expected that any overpayments will occur.

The FRDC's investments in prawn farming research and development is driven by the APFA's RD&E Plan. FRDC and the APFA enjoy a very close working relationship. The APFA has nominated that the majority of its investment is to be through co-investment with the Seafood CRC. The APFA has a lead role with FRDC in ensuring its priorities are met. The table below outlines the financial record of the relationship.

Year	2007–08 Actual	2008–09 Actual	2009–10 Actual	2010–11 Actual	2011–12 Actual	2012–13 Budget	2013–14 Budget
APFA contribution	$115,319	$111,931	$144,155	$176,932	$165,606	$180,000	$190,000
FRDC and Seafood CRC expenditure on projects	$486,761	$415,999	$247,197	$214,000	$328,161	$247,924	$248,600

SECTOR INDUSTRY BODIES

The seafood industry is made up of over 100 industry sectors and sub categories. Where possible the FRDC consults with those individual industry sectors.

The FRDC also directly invests in, and partners with major sector representative bodies such as Southern Rocklobster Ltd, Australian Southern Bluefin Tuna Industry Association, Tasmanian Salmonid Growers' Association, Australian Pearl Producers and both the Prawn and Barramundi Farmers Associations. In a number of cases the FRDC has established a direct industry partnership agreement to ensure its investment is well targeted to key issues.

INDIGENOUS STAKEHOLDERS

The FRDC has established an Indigenous Reference Group that helps engage and develop priorities for indigenous stakeholders in the RD&E process.

RURAL RESEARCH AND DEVELOPMENT CORPORATIONS

The FRDC will continue to partner with other RDCs on a range of activities to enhance strategic outcomes, in particular around cross jurisdictional areas. Areas being worked on collaboratively include climate change, evaluation of RD&E, work on education through the Primary Industries Education Foundation and the Primary Industries Centre for Science Education, Collaborative Partnership for Primary Industries Health and Safety and the "Appetite for Excellence" primary producer's tour—a chef, waiter and restaurateur competition.

Not only is the FRDC partnering other RDCs at the project level, it also works more broadly to collaborate in functional areas. The FRDC will continue to attend meetings of the Council of Rural Research and Development Corporations (CRRDC), as well as meetings of Executive Directors, Business Managers and Communications Managers. In conjunction with other RDCs, the FRDC will assist in coordinating sponsorship and participate in events such as the Outlook and producer conferences. Additionally, the FRDC will continue to provide advice and services in relation to project management and the FRDC project management software—OmniFish.

SEAFOOD SERVICES AUSTRALIA

The FRDC will continue to work with, and invest in Seafood Services Australia (SSA) on a project by project basis. A key focus of this partnership is to develop industry's ability to engage on a number of standards related issues—for example the Australian Fish Names Standard. It will also facilitate responses to key trade and market access issues.

SEAFOOD COOPERATIVE RESEARCH CENTRE

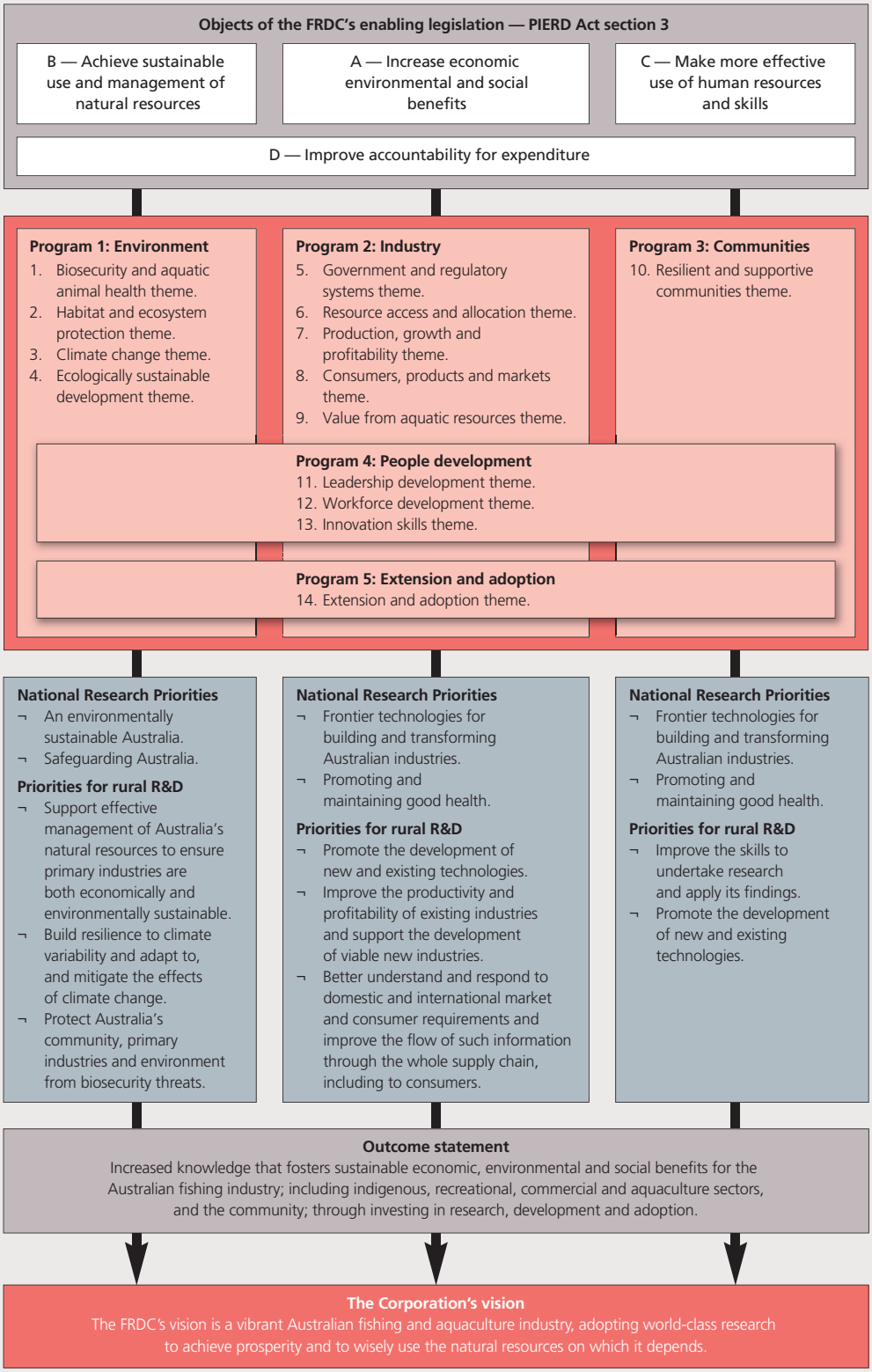
The FRDC is a core participant of the Seafood CRC whose research program aims to increase the profitability and value of the Australian seafood industry, increase access to premium markets and increase demand for Australian seafood. These priorities are aligned with the FRDC's RD&E programs, in particular Program 2: Industry. This partnership provides a mechanism for the FRDC to extend RD&E along the value chain and enhance the focus on development activities.

RESEARCH PARTNERS

Investment in research is the FRDC's core business. As a result, it is vital to the FRDC's success that good relationships are built and maintained with its research partners. In any given year, FRDC will have more than 350 active projects under management. The key research partners are:

- the Department of Agriculture, Fisheries and Forestry
- the Australian Fisheries Management Authority
- state fisheries research centres
- the Commonwealth Scientific and Industrial Research Organisation (CSIRO)
- universities
- cooperative research centres
- Seafood Services Australia
- other rural RDCs and companies
- industry groups
- co-investors from the private sector.

FIGURE 1: FRDC'S FRAMEWORK FOR INTEGRATING LEGISLATIVE, GOVERNMENT AND INDUSTRY PRIORITIES



THE PLANNED OUTCOME FOR THE CORPORATION

Increased knowledge that fosters sustainable economic, environmental and social benefits for the Australian fishing industry, including indigenous, recreational, commercial and aquaculture sectors, and the community, through investing in research, development and adoption.

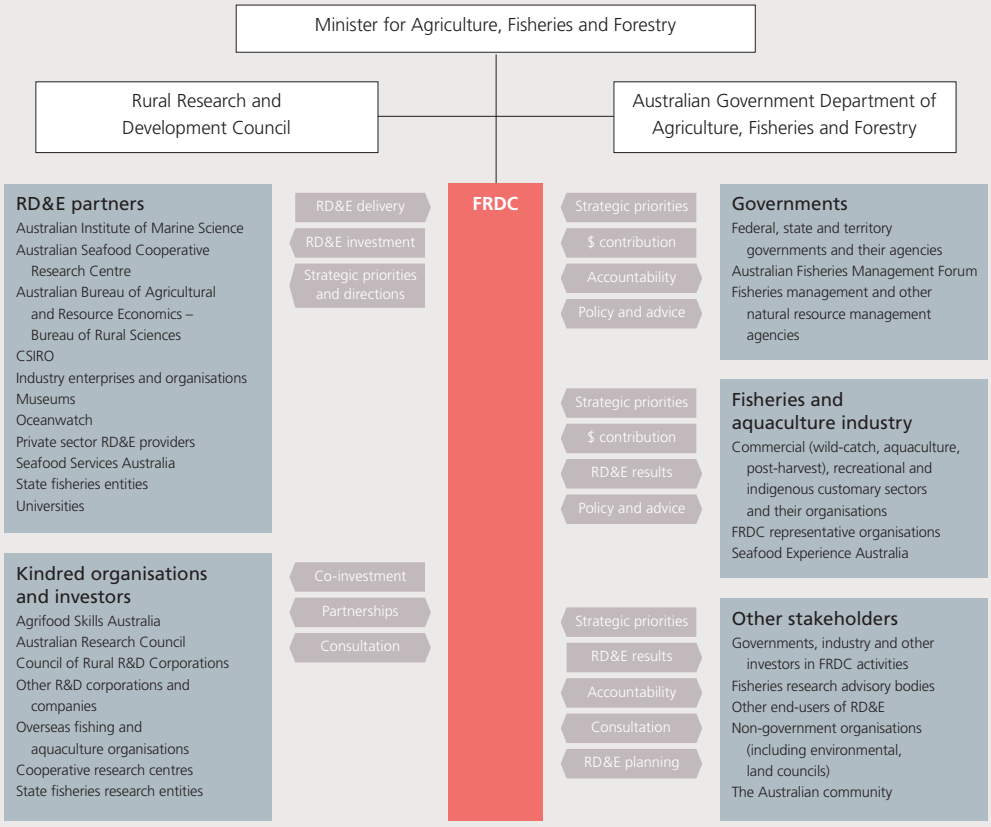
The Corporation's vision

The vision of the FRDC is a vibrant Australian fishing and aquaculture industry, supporting and adopting world-class research to achieve prosperity; and wisely using the natural resources on which it depends.

Stakeholders

Stakeholders in the FRDC are the fishing industry and the Australian Government. There are many other partners, collaborators, beneficiaries and interest groups who influence the FRDC in its priority setting processes, and assist in the conduct of its business and the adoption of its RD&E. These arrangements are addressed in this report. In addition the legislation recognises that the people of Australia ultimately are the principal beneficiaries of much of the work of the FRDC.

FIGURE 2: THE FRDC'S STAKEHOLDER FRAMEWORK



Not all entities involved with the FRDC are shown. For simplicity, only the relationships between the FRDC and other entities are shown—not relationships between those entities. Many of the entities have multiple relationships with the FRDC, for example, CSIRO is a co-investor and a research provider.

PRIMARY INDUSTRIES STANDING COMMITTEE RESEARCH, DEVELOPMENT AND EXTENSION FRAMEWORK

OVERVIEW

The R&D subcommittee of the Primary Industries Standing Committee (PISC) is working cooperatively with the rural RDCs and companies to develop 14 sector strategies and eight cross-sector strategies to progress the National Primary Industries Research, Development and Extension Framework (see http://www.npirdef.org/). The Framework—Statement of Intent is the document signed by all PISC agencies, RDCs and the Australian Council of Deans of Agriculture to guide efforts to enhance the collaboration, coordination, efficiency and effectiveness of RD&E efforts nationally.

Working Together: the National Fishing and Aquaculture RD&E Strategy was endorsed by ministers at the Primary Industries Ministerial Council (PIMC) on 23 April 2010.

Implementation of the strategy is being led by the National Priorities Forum, and supported through an Extension Working Group and Research Providers' Network. General background and the Strategy document can be found at http://www.frdc.com.au/research/national-framework

Fishing and Aquaculture RD&E Strategy update

NATIONAL PRIORITIES FORUM

The National Priorities Forum (NPF) is charged with setting and reviewing national priorities. As the NPF establishes credibility with its stakeholders it is likely to develop as the forum to obtain national synthesis of strategic issues. In setting its RD&E priorities, the FRDC synthesises information from various sources. With membership of the NPF including the FRDC, industry and government, this body can develop as a key group to advise the FRDC in its investment planning to address cross jurisdictional issues and assist the setting of priorities.

RESEARCHERS NETWORK

The Research Providers' Network is actively overseeing and facilitating the development of a national-regional hub model to deliver R&D that is consistent to major-support-link arrangements and responds to the strategy's RD&E plan. The hubs are currently seeking to 'formalise' their intent to work collectively and collaboratively to implement the strategy.

The relationship between FRDC's FRABs and their relevant hub(s) needs to be strengthened to ensure there is timely dialogue so applications are developed that address regional priorities as well as jurisdictional ones. Hubs are advised of the FRDC call for expressions of interest via the FRABs, and then teams will work with the relevant FRAB or subprograms/coordination programs to shape the application.

EXTENSION WORKING GROUP

The purpose of the Working Group was to develop a 'Fisheries and Aquaculture Extension and Adoption (E&A) Strategy' that would underpin and guide extension and adoption activities for stakeholders investing in fishing and aquaculture sector R&D.

Some 18 months, five meetings and numerous drafts, the final draft of the E&A strategy was signed off by the Working Group and sent to the NPF. The objective of the E&A strategy is to improve the capacity for extension and achieve improved adoption rates in the Australian fishing and aquaculture sector to maximise RD&E outcomes for all.

The strategy describes the framework for E&A based on research and experience, highlighting the key factors that can help enable effective E&A. It is important to note the strategy does not assign responsibility to any particular organisation for the provision of an activity or service; it merely highlights the area and opportunity. The National Priority Forum will meet early in 2012–13 and will look to sign off on the strategy and move to the next phase of developing a work program and implementing the framework.

FRDC ENGAGEMENT IN NATIONAL CROSS-SECTORIAL STRATEGIES

ANIMAL BIOSECURITY RD&E STRATEGY—PRIORITY: MEDIUM

The development of the animal biosecurity strategy is being led by Animal Health Australia. The strategy has a strong focus on terrestrial biosecurity, for example, ship ballast water is not within its scope. FRDC has participated in the meetings for development of this strategy. Biosecurity is a high priority for the fishing and aquaculture industry, and is addressed by theme one in the fishing and aquaculture RD&E Strategy. By participating in this strategy development our sector can ensure that RD&E areas in common can be identified and jointly addressed.

ANIMAL WELFARE RD&E STRATEGY—PRIORITY: MEDIUM

FRDC participates in the welfare strategy forums to ensure fish welfare issues are included in the strategy's implementation. The reason for FRDC's medium participation is because the major emphasis of this strategy is on terrestrial farming welfare issues. The main theme industry has nominated to be of interest is theme five 'public attitudes, social science and community'. FRDC has provided support for both commercial and recreational industry experts to attend forum meetings. In partnership with DAFF, the FRDC is ensuring its RD&E investment is consistent both with this strategy and the Australian Animal Welfare Strategy.

CLIMATE CHANGE RESEARCH STRATEGY FOR PRIMARY INDUSTRIES—PRIORITY: SUPPORT VIA CCRSPI

The Climate Change Research Strategy for Primary Industries (CCRSPI) has been reviewed over the last 12 months. This was the first strategy that was approved. A revised strategy has been developed with input from all the RDCs. FRDC takes a medium support role in this strategy as its primary focus is on terrestrial industries, in particular soil carbon and methane. FRDC has requested that blue carbon sequestration be included in the new strategy.

FOOD AND NUTRITION RD&E STRATEGY—PRIORITY: HIGH

CSIRO is taking the lead on the development of this new strategy. FRDC has participated in the planning meetings for this new strategy. The strategy is being developed to align with the proposed new National Food Plan. FRDC has provided a submission to the National Food Plan development process.

BIOFUELS AND BIOENERGY STRATEGY—PRIORITY: MEDIUM

FRDC has carriage on investment in microalgae RD&E for feed and human consumption. The Rural Industries Research and Development Corporation is taking the lead for this strategy. There are cross-over opportunities in technology between energy and food developments.

PLANT BIOSECURITY RD&E FRAMEWORK—PRIORITY: LOW RELEVANCE

This strategy has little cross-over to the priorities of the fisheries and aquaculture sector.

SOILS RD&E STRATEGY—PRIORITY: LOW RELEVANCE

This strategy has little cross-over to the priorities of the fisheries and aquaculture sector.

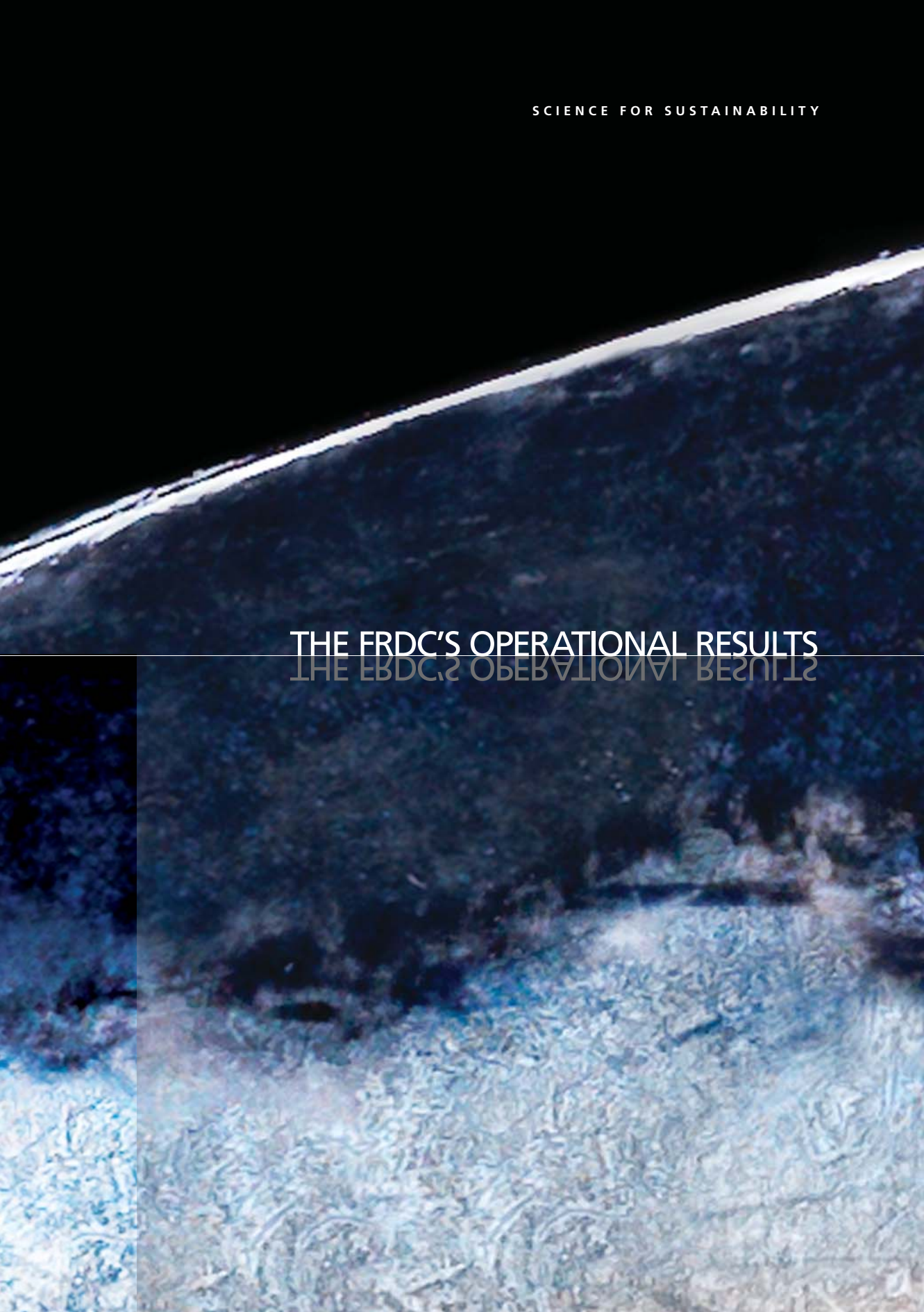
WATER USE IN AGRICULTURE RD&E STRATEGY—PRIORITY: LOW RELEVANCE

This strategy has little cross-over to the priorities of the fisheries and aquaculture sector.

REPORT OF OPERATIONS PART 2

SCIENCE FOR SUSTAINABILITY

THE FRDC'S OPERATIONAL RESULTS



PROGRAM 1

NATURAL RESOURCES SUSTAINABILITY

Australia has a broad range of freshwater and marine habitats that support a diverse range of aquatic species. Australia's maritime zone is one of the largest in the world covering about 13.6 million square kilometres: about twice the area of Australia's land mass. This zone contains about 4500 known species of finfish (and perhaps tens of thousands of invertebrate species)—most in relatively small numbers.

Federal, state and territory government agencies have legislative responsibility for managing the fisheries and aquaculture activities within their jurisdictions. Large components of the R&D undertaken by the FRDC focus on providing information that will assist these agencies improve the sustainable use of Australia's aquatic resources. The projects outlined on the following pages highlight the diversity and excellence of the FRDC's current research portfolio. For a full listing of projects funded visit the FRDC website—**www.frdc.com.au**

Principal inputs

During 2011–12, there was $11.80 million (about 45.4 per cent of the total R&D investment) invested in R&D activities within this program.

Summary of performance indicators for Program 1

Strategic challenges	Performance indicators	Targets	Achievements
Biosecurity and aquatic animal health	Development and dissemination of protocols, techniques and technologies to mitigate and minimise the impact of disease outbreaks. Development of knowledge to assist industry to register vaccines and veterinary chemicals.	Development of diagnostic tests.	Multiple projects are underway developing diagnostic tests, including: ¬ Investigation of an emerging bacterial disease in wild Queensland gropers, marine fish and stingrays with the production of diagnostic tools to reduce the spread of disease to other states of Australia. ¬ Development of improved molecular diagnostic tests for *Perkinsus olseni* in Australian molluscs.
Habitat and ecosystem protection	Demonstrated improved sustainability performance from the use of RD&E outputs. Development of innovative technologies to reduce fishery take and interaction with bycatch and with threatened, endangered and protected species.	Two reports on improving management of bycatch and in particular Threatened, Endangered and Protected species (TEP).	Multiple reports were completed on bycatch and TEP species. These include: ¬ Ecological risk assessment for effects of fishing on habitats and communities. ¬ Mapping the distribution and movement of gulper sharks, and developing a non-extractive monitoring technique, to mitigate the risk to the species within a multi-sector fishery region off southern and eastern Australia. ¬ Tactical Research Fund: South East Trawl Fishing Industry Association Accreditation of Commonwealth Trawl Sector skippers towards improved environmental operation in the fishery.
Climate change	Improvement in understanding of the impacts of climate change that leads to adaptation by fisheries management and industry. Development of mitigation methods to reduce greenhouse gas emissions of industry.	Two reports outline adaption measures are used by industry.	Multiple reports were completed on climate change and adaptation strategies. These include: ¬ El-Nemo South East: Understanding the biophysical implications of climate change. ¬ El-Nemo South East: Risk assessment of impacts of climate change for key species in south eastern Australia. ¬ Opportunities and constraints on Australian wild fishing and aquaculture under a carbon economy.

Strategic challenges	Performance indicators	Targets	Achievements
Ecologically sustainable development	Development of mechanisms and technologies to collect economic, environmental and social data to inform management processes. Improvement in knowledge of the relationship between environmental processes and known biological processes. Development of techniques for incorporation of ecosystem-based fisheries management in fisheries. Development of knowledge to help the industry to meet environmental standards.	One fishery incorporating oceanographic processes in fisheries management Assessment methods for data poor fisheries extended to relevant stakeholders	The Western Rocklobster fishery following a recruitment failure has looked for answers through oceanographic process. Projects included: ¬ The biological oceanography of Western Rocklobster larvae. ¬ Identifying factors affecting the low Western Rocklobster puerulus settlement in recent years. FRDC has invested in a number of projects examining novel techniques, including: ¬ Tactical Research Fund: Using innovative techniques to analyse trends in abundance for non-target species. ¬ Development of a national harvest strategy framework.

Climate shift to push recreational species south

Preparing fisheries for climate change: Identifying adaptation options for four key fisheries in south eastern Australia (FRDC–DCCEE project 2011/039)

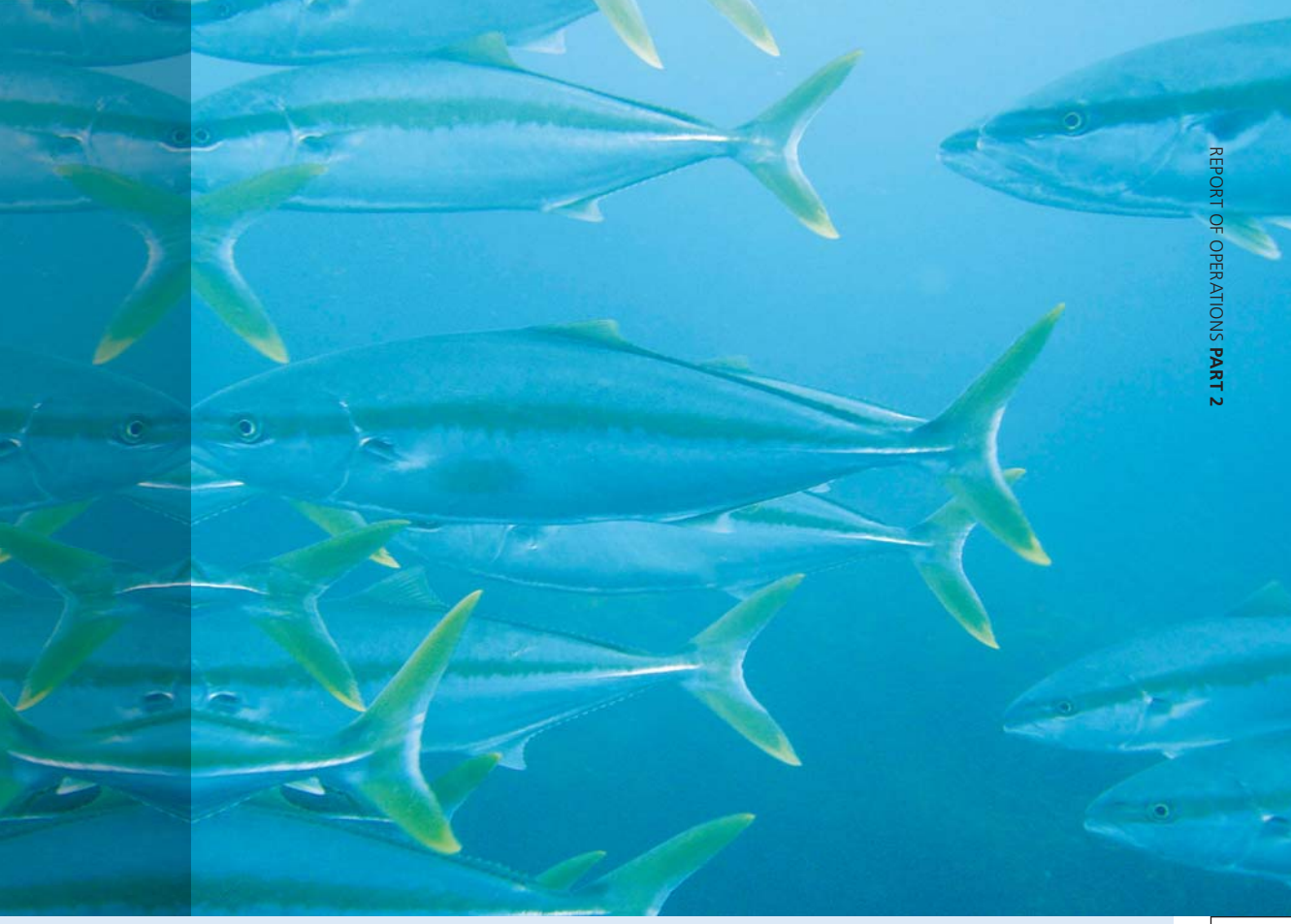
Marine waters in Australia's south east have been branded a climate change 'hot spot', and while global warming will present challenges for the recreational fishing industry, scientists have also forecast better offshore fishing opportunities.

Australia's south east is expected to lure increasing numbers of recreational fishing enthusiasts, with research indicating warming currents will extend the distribution of several species further south.

In March 2012 at the South East Climate Change Recreational Fishing Workshop in Queenscliff, on Victoria's Bellarine Peninsula, researchers predicted the wider range of species would improve offshore fishing opportunities. But they also warned the shift would simultaneously require adequate planning to ensure sustainable management of fish stock levels, particularly for vulnerable recreational species including Black Bream, King George Whiting and snapper.

The forum was convened by the Victorian Department of Primary Industries (DPI), which coordinates the South East Australian Climate Change Program in collaboration with neighbouring states and the Commonwealth. Researchers, fisheries managers and recreational fishing industry leaders discussed the latest climate change and fisheries science specific to Victoria, Tasmania, South Australia and southern New South Wales.

The workshop was an important part of FRDC-funded research to examine options for recreational fisher engagement and stakeholder management to address the impacts of climate change on south eastern fisheries.



The FRDC project, 'Implications of climate change for recreational fishers and the recreational fishing industry', is preparing case studies to inform regional fisher-driven adaptation strategies and to identify carbon-mitigation opportunities for the recreational fishing sector.

As part of the national project, concurrent studies in Western Australia and tropical Queensland are addressing the impacts of climate change on different fish species. A final report will be prepared for recreational fishers in south eastern Australia and regional nodes in Western Australia and Queensland to clarify potential fish stock changes to 2030 and suggest how these changes can be tackled.

Adaptation is about taking advantage of opportunities and reducing vulnerability; and it is about effectively managing the risks through habitat improvement, environmental flows and adjustments to management controls.

Marine waters in Australia's south east have been identified as a climate change 'hot spot', with observations of increased ocean temperature, salinity, sea levels and currents; decreased pH and rainfall; and more frequent extreme weather events.

The forum heard the East Australian Current (EAC) has strengthened by 20 per cent over the past 50 years and is likely to strengthen by another 20 per cent by 2100, resulting in more warm water subtropical species in parts of Victoria and improved prospects for offshore recreational fishing.

PHYSICAL CHANGES

Ocean warming has been observed around the world, with an average global increase of 0.6°C. However, Institute for Marine and Antarctic Studies research discussed at the forum indicated the rate of warming in south eastern Australia was 2.3°C higher.

The EAC's increased southward extension was linked to intensifying westerly winds south of Australia that 'spin up' the South Pacific subtropical gyre. This is due to a combination of enhanced greenhouse warming (anthropogenic) and ozone depletion. With sea surface temperature also expected to rise, scientists have predicted that by 2070 the EAC will become a permanent, rather than seasonal, feature of the Tasmanian east coast.

ON THE MOVE

Warming waters in south eastern Australia will trigger biological responses, including an overall change in pelagic species distribution. The strengthening EAC is also pushing new 'range extension' species including Yellowtail Kingfish, Cobia, Mahi Mahi, Skipjack Tuna, Wahoo and Spanish Mackerel into southern waters. This will provide opportunities for the recreational and charter fishing sectors, but it will need to be monitored and managed.

CSIRO's Marine Climate Impacts and Adaptation Stream, used predictive modelling to indicate the likely future occurrences of 14 species throughout each month of the year. In 95 per cent of the 25 scenarios studied, most species moved south, pointing to a poleward shift.

The scientific evidence is backed by recent sightings of Blue Marlin and Striped Marlin off Tasmania and Gippsland, and marlin, Cobia, Wahoo and Spanish Mackerel in southern New South Wales.

Conversely, scientists told the Queenscliff forum that important coastal and estuarine fish species valued by recreational anglers, such as Black Bream, King George Whiting and snapper, are susceptible to population decreases as a result of a changing climate.

VULNERABLE SPECIES

Researchers from the Victorian DPI Fisheries Research Branch told the forum that interdependencies between King George Whiting populations in South Australia and Victoria would need to be clarified to ensure successful adaptation to climate change.

Fisheries Victoria researchers indicated freshwater flows which influence plankton production prior to the snapper spawning season would also be impacted by climate change, potentially affecting larval food supplies and recruitment success. Researchers told participants that models were being developed to study climate change implications for the snapper fishery and they could expect to see greater larval dispersal further south, more recruitment in Tasmanian waters (possibly at the expense of New South Wales) and highly variable stock populations in western Victoria and South Australia.

ADAPTATION PRINCIPLES

The workshop concluded that management strategies must ensure fishing does not exacerbate the impact of climate change on fish stocks.

Industry experts recommended that recreational fishers:

- become 'citizen scientists' by reporting unusual catches and sightings to fishery managers—for example, the Redmap web-based interactive facility to be launched nationally in October 2012 (www.redmap.org.au);
- participate in angler diary programs to inform cost-effective and participative monitoring—for example, the Victorian Angler Diary Program (www.dpi.vic.gov.au/fisheries/science-and-research/angler-diary-program);
- develop future opinion leaders to help communicate climate change and recreational fishing information to the sector; and
- lead recreational sector climate change mitigation measures.

Industry experts recommended that fishery managers:

- ensure legislation and policy is flexible, adaptive and capable of responding to emerging issues;
- collect information on key species using cost-effective monitoring programs that allow early detection of climate change impacts on fish populations;
- review recreational catch limits and other management controls to ensure sustainable fisheries management;
- disseminate information and engage the recreational fishing community through forums, workshops and seminars;
- work with relevant land, habitat and water managers to ensure fisher and fishery needs are understood and accommodated; and
- assist relevant land managers to improve fisher access in areas currently restricted due to limited infrastructure.

Further information: Dallas D'Silva, Climate Change Policy Manager,
Fisheries Victoria, 03 9658 4363, dallas.d'silva@dpi.vic.gov.au

Technology advances BRUV love

The use of BRUVs as a tool for assessing marine fisheries and ecosystems: A review of the hurdles and potential (project 2010/002)

Audio-visual systems that aid studies of marine biodiversity and populations are garnering a wider following thanks to technological advances.

For the past eight years, baited remote underwater stereo-video systems, or 'stereo BRUVs', have been used to monitor fish populations in the waters off the Houtman Abrolhos Islands, near Geraldton, Western Australia. Similar monitoring is also being carried out near Cape Leeuwin and Cape Naturaliste, off Western Australia's south west coast, and in the waters around Perth.

The data gathered from this video monitoring is providing valuable information about changes in the composition of fish populations to fisheries and natural resource managers and the fishing industry.

BRUVs were initially restricted to shallow-water habitats such as coastal reefs, but with advances in technology they can now be used at considerable depth. For example, CSIRO has used BRUVs to sample Gulper Shark populations to depths of 600 metres along Australia's south east coast as part of an assessment for listing as a threatened species.

In July 2011, leading users of BRUVs were brought together at an FRDC-funded national workshop in Perth to assess future directions and research requirements.

Following the workshop, researchers now believes the technology has 'come of age' with increasing recognition of its value among fisheries managers. This has taken more than a decade to achieve.

Despite its potential there is often still a preference or need for traditional sampling techniques like trapping and trawling, which provide actual fish for more detailed evaluation. Every sampling technique has its strengths and weaknesses; a major advantage of BRUVs is the ability to monitor biodiversity at a given underwater site, particularly given the move towards ecosystem-based marine management.

Research has also identified how length measurements alone can be used to effectively evaluate fish populations, without the requirement for age data, which cannot be accurately determined from stereo-video measurements.

In Western Australia, BRUVs are being used in place of divers to collect data for environmental impact statements, required as part of offshore oil and gas developments. They have been used in the waters around Barrow Island, where Chevron Australia has oil and natural gas plants, and in pre-dredging assessments at the Port of Dampier.

Participants were buoyed by the support for BRUV technology at the Perth workshop, where those taking part included scientists, fisheries managers, mining industry representatives and fishers.

Chief concerns have moved beyond validation of the BRUV technology and data, to developing a national data management system. "A lot of the research using BRUVs is done with public funding, so we need to find a way to manage the data, to make it more accessible." Suggestions for further development from the workshop included development of a national BRUV facility or 'BRUVHub' to house a pool of stereo BRUV systems for hire, dedicated specialist image analysis teams and a software development research centre to work on technological advances and automation. There are also plans to increase the use of BRUVs in community education and to involve community groups in BRUV surveys.

Further information: Euan Harvey, euan.harvey@uwa.edu.au

New threat to Pacific Oysters

Aquatic Animal Health Subprogram: Understanding and planning for the potential impacts of OsHV-1 on the Australian Pacific Oyster industry (project 2011/043)

Fast action by fisheries managers and collaborative efforts to tap into international expertise are helping New South Wales oyster producers respond to Pacific Oyster Mortality Syndrome.

An oyster disease new to Australia—Pacific Oyster Mortality Syndrome (POMS)—has emerged in New South Wales and is now the focus of a concerted RD&E program that encompasses animal health (virology), management and people development. The latest project is being conducted by the University of Sydney.

The disease emerged in early 2011 in Woolooware Bay, Georges River and Botany Bay. Initial testing, carried out by the New South Wales Department of Primary Industries (DPI) researchers at the Elizabeth Macarthur Agricultural Institute and at the Australian Animal Health Laboratory, identified a viral disease, ostreid herpes virus 1 (OsHV-1), as the cause.

The disease has a history worldwide and has already heavily impacted regions of oyster production in France and other countries, and there was an outbreak in New Zealand in late 2010. Some evidence suggests the disease may spread through boat movements and it appears to be associated with increases in water temperature in summer. However, little objective information is available about the major factors responsible for the outbreaks. In France, the cause seems to be multi-factorial, with interactions between the physiological status of the oysters, the environment and other pathogens.

New South Wales DPI took immediate action to prevent the spread of the disease. Closures were put in place to restrict the movement of any oysters and equipment from the affected locations to other estuaries. They worked closely with local oyster growers to communicate the issue and manage any closure that restricted industry activities. A total ban on recreational fishers taking oysters was already in place in the Georges River and Botany Bay estuary.

New South Wales DPI was keen to address food safety concerns in the lead-up to the busy Christmas seafood sales period. Information on POMS was posted on the internet, with a clear food safety message confirming that consumers could be confident about the quality of oysters in the marketplace.

Consumers were advised the Pacific Oyster Mortality Syndrome only affected oysters and posed no risk to human health and that farmed oysters destined for sale were harvested under the stringent safeguards of the New South Wales Shellfish Program administered by the New South Wales Food Authority.

The FRDC's Aquatic Animal Health Subprogram brought together international, government and industry experts from France, the United Kingdom, New Zealand and Taiwan in July 2011. Together with a strong contingent from Australia they held a workshop on POMS at the 2011 Australasian Scientific Conference on Aquatic Animal Health.

The objectives of the workshop were to:

- review current knowledge about the virus, particularly in relation to its detection, epidemiology and current global distribution;
- assess current practices for surveillance, prevention and control of the associated disease;
- provide recommendations to national, regional and global authorities for their improvement;
- identify priorities for further research; and
- plan and coordinate research activities between international partners.

The Aquatic Animal Health Subprogram and testing laboratories are working to better understand the virus and its lifecycle and pathways for transmission.

The latest POMS-related project involves intensive field monitoring in the Georges River to identify major risk factors responsible for disease emergence and spread.

This project involves a trial of new husbandry practices and high-frequency monitoring of environmental parameters. The Hawkesbury River, which is free of the virus, is being monitored as a control site. Environmental and husbandry factors will be studied in the hope of developing techniques to grow Pacific Oysters despite the POMS virus.

The ultimate goal is to devise management strategies to enable Australian oyster farmers to remain profitably in business.

The project is supported through funding from the FRDC, the University of Sydney and the Sydney Metropolitan Catchment Management Authority's Botany Bay Water Quality Improvement Program. Other supporters include oyster growers from the Georges and the Hawkesbury rivers, Siminis Oyster Splitting Systems, Hornsby Shire Council and the New South Wales DPI.

Further information: Ika Paul-Pont, 02 9351 1606, 0478 403 423;
Richard Whittington, 02 9351 1619, 0438 983 195

POMS FAQs, www.dpi.nsw.gov.au/fisheries/aquaculture/info/poms

Pacific Oyster culture in New South Wales, www.dpi.nsw.gov.au/fisheries/aquaculture/publications/oysters/industry/pacific-oyster-culture-in-nsw

Man-made reefs the hub of new marine communities

Tactical Research Fund: Artificial Reefs—Design and monitoring standards workshops (project 2010/400)

Building a successful artificial reef is not simply a matter of scuttling a ship or throwing a load of old tyres into the sea.

Recreational fishers know that some of the best fishing spots can be found where artificial reefs have been created by either chance or design. Drop something hard onto the ocean floor and within weeks, if not days, fish and other marine organisms begin to appropriate the new structures for themselves.

Creating artificial reefs has also proven one of the most popular ways of spending money raised through recreational fishing licence fees, introduced in several Australian states during the past decade.

However, there are no consistent guidelines from state to state about the design, construction and deployment of artificial reefs. This is an issue that an FRDC-funded project is working to address.

The aim is to establish networks that will improve access to international research and best practice in the use of artificial reefs and develop national guidelines to streamline the development of new reefs. This includes highlighting designs that will minimise any potentially negative impacts, maximising the effectiveness in terms of increasing marine populations, and negotiating planning requirements.

One of the ongoing questions concerning artificial reefs is whether they simply aggregate existing fish populations and make them more easily fished out or they help increase fish populations.

In countries such as Japan, South Korea and China the answer is unquestionably 'yes' to increased fish populations. These countries have extensive scientific literature on the subject and have been developing their reef design expertise for more than 40 years to increase their commercial fisheries catch.

Monitoring on some large artificial reefs in Asia has shown a six- or seven-fold increase in commercial catches. Researchers believe that by focusing on fish the wider biodiversity benefits are often overlooked. Reefs provide oases for settlement of all kinds of marine life, not just fish. By purpose-building reefs we can concentrate more of the environmental attributes targeted species prefer—such as caves or crevices—to things that might actually be in short supply in natural reefs. South Korea, for example, has specific designs for valuable species such as abalone, sea snails, edible seaweeds and snapper.

Some reefs are multi-species designs, others target individual commercial species. Some of these species, such as snapper and kingfish, are also common to Australian waters.

CONSTRUCTION MATERIALS

South Korea's annual spend on new reefs is $80 million. The country also has some of the most stringent design and construction standards for artificial reefs. This includes use of new materials —generally steel and concrete with some designs incorporating advanced ceramics.

Materials of opportunity—most commonly tyres and scuttled ships—are banned in South Korea and are increasingly being rejected by other countries for use in reefs because of potential environmental hazards and because they are not as effective in enhancing fish production.

Australian recreational fishing projects have already begun to tap into this international expertise. Artificial reefs are being deployed in the Moreton Bay Marine Park this year to offset fishing areas reclassified as no-take zones.

The reefs have been designed and constructed by a new Australian company, Haejoo Pty Ltd with Haejoo's parent company being one of the biggest artificial reef firms in South Korea.

Purpose-built structures are also planned for the expansion of reefs in New South Wales and Western Australia. New South Wales has developed five new reefs in estuarine locations since 2005—Lake Macquarie, St George's Basin, Merimbula Lake, Botany Bay and Lake Conjola—using concrete balls as the main structural element. Large steel reefs will be deployed in ocean waters late in 2012 off Sydney. A new concrete reef has also been proposed for Pittwater, north of Sydney.

Victoria has a new artificial reef in Port Phillip Bay, with plans to extend into ocean waters. Results from this research will continue to assist fisheries managers design better reefs into the future.

Further information: John Diplock, Hamata Pty Ltd, 02 9799 5371, john.diplock@hamata.com.au

Evaluation finds healthy marine ecosystems in Western Australia

Development of an ecosystem approach to the monitoring and management of Western Australian fisheries (project 2005/063)

Fishing activity does not appear to be having any major impact on the aquatic food chain within Western Australia's four marine bioregions, according to a recent research report.

The Western Australian Department of Fisheries and Murdoch University prepared the report as part of a five-year, FRDC-funded evaluation of the state's fisheries and management practices.

The report highlights that although the species composition of commercial catches has changed, there has been no detectable change in the food chains that underpin healthy ecosystems. On the contrary, the report found that, overall, food chains were stable in each of those bioregions, which suggests that, at least at the bioregion level in Western Australia, reports about 'fishing down the food web' are highly exaggerated. 'Fishing down the food web' is a theory which suggests that larger, higher-order fish are fished out first, and effort then moves progressively to smaller fish.

In recent years the department has adopted a range of initiatives culminating in an ecosystem-based fisheries management approach. This takes into account not only the direct effects of fishing on the target species, but also the indirect effects of fishing on other species within the ecosystem.

One of the major drivers for this new approach was a concern that a number of prominent demersal (bottom-dwelling) scalefish species, such as Western Australian Dhufish and snapper, were being overfished in the west coast bioregion.

The department responded to these concerns by introducing more formal management for recreational and commercial open-access line fishing, designed to halve catches of these demersal species. Simulations undertaken in the research study found stock numbers should have increased as a result of this approach and should continue to rise over the next few years.

Further information: Norm Hall, Associate Professor, Murdoch University, School of Biological & Environmental Sciences, 08 9360 7215, N.Hall@murdoch.edu.au

Key species sustainability fact sheets

Utilising existing R&D to develop and document sustainability fact sheets on key species (project 2009/071)

A series of scientifically based fact sheets has been produced for key species sold through Sydney Fish Market, reviewing the historical and current status and management of stocks. Using available scientific data, the fact sheets provide a comprehensive guide to the sustainability of the species. They outline historical fishing practices and management and the current management and conservation strategies to address instances of historical overfishing and sustainably manage the species. Areas that remain of concern are identified.

The fact sheets were designed to represent a coherent and consistent review and evaluation. They provide a well-researched presentation of strategies in place to ensure selected species are being harvested sustainably or are on the road to recovery to balance public perceptions of overexploitation and misrepresentation of the true sustainability of Australian fisheries. Preliminary presentation of results to the industry has indicated considerable support and acknowledgement of the value of these fact sheets.

Further information: Sydney Fish Market, 02 9004 1100

SCIENCE INFORMING BEST PRACTICE

PROGRAM 2

INDUSTRY

Demand for high-quality seafood is predicted to outstrip supply in both domestic and export markets. Similarly in the recreational and customary sectors the demand for high-quality fishing experiences will outstrip supply. There is a need to increase both the production and the value of the catch, and to take advantage of future opportunities. For the commercial sector, business profitability and international competitiveness is an overriding concern. This program aims to assist all sectors improve their overall performance. The following pages provide examples of the R&D currently underway. For a full listing of projects visit the FRDC website—**www.frdc.com.au**

Principal inputs

During 2011–12, there was $9.47 million (about 36.5 per cent of the total R&D investment) invested in R&D activities within this program.

Summary of performance indicators for Program 2

Strategic challenges	Performance indicators	Targets	Achievements
Governance and regulatory systems	Development of processes and technologies to improve the efficiency of governance and regulatory systems for fishing and aquaculture. Development of methods to incorporate economic knowledge into fisheries management.	One project to improve real time data collection and storage.	The FRDC has funded research into new methods for real time data collection, such as: ¬ Southern Rock Lobster Industry Partnership Agreement: Assessing functionality and suitability of the iPhone application 'Deckhand' for on-board electronic data capture in Southern Australian Rock Lobster (*Jasus edwardsii*) fisheries.
Resource access and allocation	Development of processes for efficient, transparent allocation of shares and associated property rights for all aquatic resource users.	One workshop undertaken to progress resource access and allocation in Queensland.	The difficult issue of resources access and allocation has been broached with a workshop undertaken as part of the following project: ¬ Tactical Research Fund: Defining a way forward for the Queensland Reef Line Fishery through evaluating resource sharing research and development options with stakeholders.
Production, growth and profitability	Development of knowledge, processes and technologies to improve productivity and profitability of the commercial sectors. Development of knowledge and technologies in the areas of domestication and breeding genetics to support growth of the aquaculture sector.	Bio-active potential of three new species explored.	The FRDC commenced a project 'Adding value to seafood processing waste through the recovery of bio-active molecules to assess bio-active potential of multiple species'.
Consumers, products and markets	Development of knowledge and technologies to support the industry's development of new products. Development of knowledge and technologies to improve seafood value chains and support trade and market access.	Market research undertaken on the domestic prawn market (aquaculture and wild capture).	Market research has been undertaken as part of project the Seafood CRC project 'National prawn market category planning'.

Strategic challenges	Performance indicators	Targets	Achievements
Value from aquatic resources	Development of knowledge, processes and technologies to understand and enhance the societal and personal values obtained from recreational and indigenous customary fishing. Development of knowledge regarding indigenous customary fishing practices, and processes to incorporate this knowledge into fisheries management.	One project to examine the potential enhancement of iconic recreational species.	FRDC recently funded a project 'Developing Jungle Perch fingerling production to improve fishing opportunities with the view of re-establishing this iconic Queensland species'.

Translocation: Rocklobsters come in from the deep

Tactical Research Fund: Managing inshore stocks of Southern Rocklobster for a sustainable fishery (project 2009/058) and Seafood CRC: Spatial management of Southern Rocklobster fisheries to improve yield, value and sustainability (project 2006/220)

A 'sea change' to shallow waters is helping improve colour, size and fertility for Southern Rocklobsters in the program.

Many rocklobsters living in deepwater pockets of the Southern Rocklobster fishery never reach a harvestable size before coming to the end of their natural lifespan. But relocate those same rocklobsters to more biologically favourable, shallow-water locations and they will grow at six times the rate of their deepwater counterparts within a few years.

This is among the findings of a study conducted by the Institute of Marine and Antarctic Studies at the University of Tasmania into the translocation of rocklobsters to improve the yield, value and sustainability of the Southern Rocklobster resource.

The research was initiated by industry and funded through the Seafood CRC's Future Harvest Program to improve the productivity of the fishery. The Tasmanian sector of the industry is now considering a commercial-scale trial.

Researchers say that shallow-water rocklobsters develop a larger body size and a vibrant red colour, which is highly valued in the Asian markets where most of the catch is sold. They also grow faster and lay more eggs.

In deeper waters, the rocklobsters are pale and much smaller, often growing less than one millimetre per year. Their paler colour, long spindly legs and narrow tail also make them less marketable. Market discounts due to colour alone are estimated at more than $6 million a year. Related research in South Australia has also shown a higher mortality during live transport of the paler rocklobsters.

The research team translocated about 30,000 lobsters from a small (about 800 square metres) deep-water site on the southern tip of Tasmania to eight shallow-water sites along the eastern coast of Tasmania. The industry was involved throughout the project, helping with data collection and tag returns and providing boats.

Rocklobsters were moved in groups of 2000 and the source and relocation sites were monitored for environmental changes in algae, invertebrates, resident rocklobster populations, disease and fish stocks. No complications were identified at the pilot scale.

More than 95 per cent of the rocklobsters tracked for one month after the move stayed in the relocation areas. The mortality rates of translocated rocklobsters were almost identical to resident shallow water rocklobsters, so being relocated did not have any measurable effect on lifespan.

There were also no issues with integration into the resident population area. Thirty per cent of females put a hiatus on egg production for the first year after translocation but all other findings completely exceeded expectations. All the females returned to reproduction after a hiatus and the net egg production for populations increased significantly. Growth rates of translocated females increased at their first moult and even exceeded local shallow-water females in their first year after release. Translocated rocklobsters increased in weight by about 30 per cent, while those left at the source location increased by only about 5 per cent.

Colouration and shape of the translocated rocklobsters also began to change. Although their legs stayed quite long, there were partial changes to abdomen morphology. All the rocklobsters changed from the pale colour to a vibrant red after their first moult following relocation.

Smaller trials in Victoria and South Australia also supported these findings. The potential of this project, if successful on a commercial scale, may reduce fishery costs and increase both quality of catch and population numbers. Modelling of the entire fishery suggests that several hundred thousand rocklobsters could be translocated each year from deep-water stocks. Gains to the fishery could occur not only through higher yearly catch, but also through the lower costs of fishing in shallower waters. Bridget Green—one of the researchers—says the context of the rocklobster study has more in common with sea ranching than traditional concepts of translocation, which involves taking a species from its native habitat into a new one, often with detrimental environmental consequences (think carp, rabbits and foxes).

"In sea ranching, you put an animal into a controlled environment—a 'paddock—to improve growth," she says. "In this case we've moved the animal from a poor native habitat into a better native habitat where they have better grazing land, so to speak."

This may sound good from a conservation perspective but these pockets only exist because other areas are being forced to absorb more catch than is ideal. It is far better to have all areas fished at a moderate level. Economic and population modelling of a commercial-scale translocation in Tasmanian waters as part of the study indicated catch rates could increase by 36 per cent over six years, with comparable cuts in harvest costs. Modelling also showed a potential catch increase of 20 per cent in the three main recreational fishing areas.

Translocation is also of interest because it promotes stock rebuilding and restores lobster populations to more natural levels. However, translocation needs to be used in combination with management of the harvest quota or total allowable catch.

The effect on biomass of large lobsters is of special interest because they also have a role in reef ecosystems. This is through predation of sea urchins (*Centrostephanus*), which are becoming an increasingly destructive force along Tasmania's west coast.

Further information: Caleb Gardner, Program Leader—Fisheries, Institute of Marine and Antarctic Studies, University of Tasmania, 03 6227 7233, Caleb.Gardner@utas.edu.au

Lobster-stalking robots recruited to habitat research

Development of an industry-based habitat mapping/monitoring system (project 2011/021)

What do you get when you cross a CSIRO computer modeller with a marine biologist from the Department of Fisheries Western Australia? A 'eureka' moment.

At that moment they realised robotics could provide a low cost but effective way to map the sea floor and marine habitats, by tapping into a network they were already familiar with—that of the state's rocklobster fishers.

Researchers had previously been working with 33 commercial vessels in the Western Australian rocklobster fishery when fishers were allocated an extra craypot to fish with, in exchange for logging information about when and where the pot was placed and what it contained.

The researchers got huge coverage using this protocol—over 1000 kilometres of coastline. They then began trying to work out how this approach could be built on, to learn more about the rocklobster habitat at each location visited by the fishers.

Four years later working on an FRDC research project the eureka moment occurred. From there the POTBot (Pictures Of The Bottom) was born. The FRDC has provided funding to build, deploy and validate the use of pot-based robotic sensors in monitoring marine habitats.

In addition to a camera, the robot also includes GPS, water temperature and depth gauges and a 16-gigabyte memory card to store the logged images and data. There are eight operational POTBots currently undertaking sea journeys with fishers as part of a proof-of-concept study.

"We told the fishers to make the tests as tough as possible, including dropping the units on deck or placing them in the pots upside down," Simon de Lestang says. "After a month we replace the unit, analyse the captured data and provide information back to the vessel." The POTBot is provided to the fishers in 'sleep' mode and is programmed to activate only when external pins sense the unit has been submerged in water. It then films the habitat during the descent and for several minutes after reaching the seabed. Time is provided for the unit to equilibrate with water temperature before taking a reading.

The POTBot also logs its geographical position via GPS and can be programmed to take additional footage and measurements as needed.

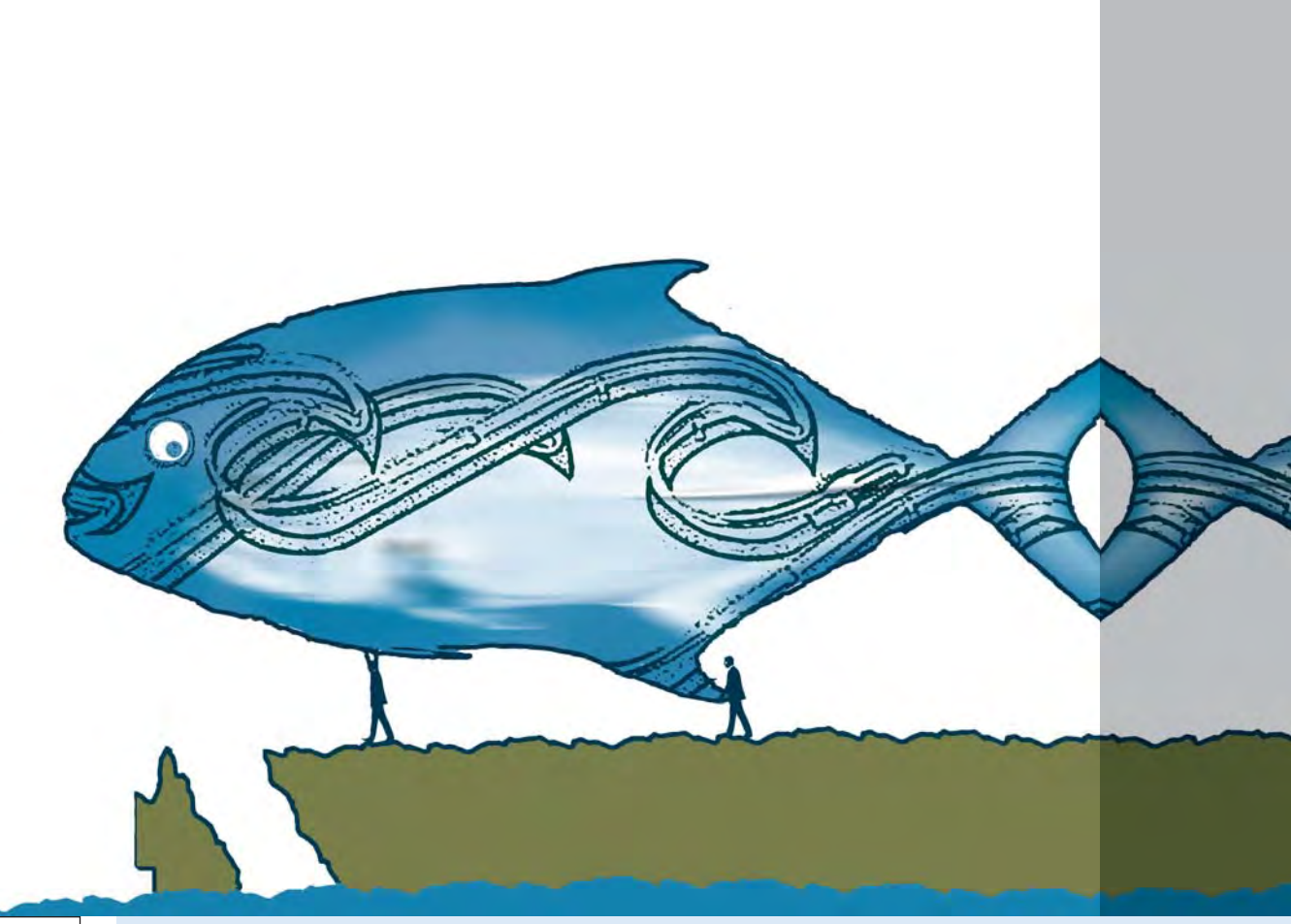
Given the researchers' previous experience with the rocklobster industry, they believe the approach has the scope to map the west coast's seafloor and expect there will also be applications in other fisheries and marine habitats. This could be achieved for a tiny fraction of the costs of more conventional mapping techniques that require a specialised vessel, side-scan sonar, video tows and drop camera work. Each POTBot costs less than $150.

The resulting map would have the potential to aid fishers by finding links between various rocklobster habitats and stock numbers or size composition. Then there are applications in management, for example, in providing more informed discussions surrounding marine parks. But there are also scientific benefits, such as monitoring climate change impacts to marine habitats, including the far northern and southern reaches of Western Australia. The project was developed in consultation with the Western Rock Lobster Council and is capable of constantly updating the geo-referenced environmental data, including information on the composition of benthic (seafloor) habitats.

However, the entire approach is inconceivable without the direct participation of the state's rocklobster fishers who already hold a substantial sustainability record.

In 2000, the Western Rock Lobster Fishery was the first in the world to receive Marine Stewardship Council certification, and was recertified in 2010. It is currently fished with about 30,000 pots.

Further information: Matthew Pember, Department of Fisheries Western Australia, 08 9203 0245, matthew.pember@fish.wa.gov.au



Co-management presents challenges in Queensland inshore fisheries

Whose fish is it anyway?—Investigation of co-management and self-governance solutions to local issues in Queensland's inshore fisheries (projects 2009/211, 2007/025, 2006/068 and 2005/026)

A co-management framework based on partnership and delegation has been hailed as the 'ideal' approach to manage Australia's fisheries, but a Queensland study has exposed some difficulties in applying the model to complex multi-sectoral fisheries.

Under an FRDC-funded project, a co-management pilot program was implemented in Queensland's east coast inshore fisheries, which are among the most complex and diverse in Australia.

The project represented the first time co-management approaches had been applied across different Australian fishing sectors following successful commercial sector investigations in the Spencer Gulf and Northern Prawn Fishery.

The key objective was to 'operationalise' suggestions in a report prepared by the FRDC's National Working Group for the Fisheries Co-Management Initiative and extend its findings to various sectors.

The report, *Co-management: Managing Australia's fisheries through partnership and delegation* (2006/068), defined co-management as "an arrangement in which responsibilities and obligations for sustainable fisheries management are negotiated, shared and delegated between government, fishers and other interest groups and stakeholders".

The definition reflects the need to reverse the top-down, 'them versus us' approach and advocates a partnership based on joint responsibility for 'total ecosystem' decision making and delegation of some functions to fishers.

In an ideal world, co-management supports more flexible responses to natural changes, allowing fishers to tie harvesting to annual variations, utilise fishing gear that is more appropriate for a local area and address stakeholder issues at a local level in a timely fashion. But realistically, there are some very real challenges and these challenges are magnified in fisheries with multiple sectors. The project aimed to determine what did, and did not work, in three northern Queensland fishery areas—Port Douglas, the Burdekin and Hinchinbrook.

Using the co-management pathway, researchers attempted to address issues at a local level including resource allocation, transient effort spill-over, managing the challenges and aspirations of indigenous communities and interactions with non-fishing stakeholders.

The project was not easy; in many instances it is very difficult to get people from different backgrounds talking, to identify tangible outcomes for their efforts and define a region's boundaries.

Optimising the commercial fishery area to reduce potential for conflict and interactions with protected species; delivering tangible benefits to recreational fishers; improving tourist education; and placing greater emphasis on fisheries enforcement capability were the key needs identified in the Burdekin region.

A co-management approach absorbs a lot of individual time and responsibility. Decisions will always be unpopular with someone and at the local level a distant bureaucracy can no longer be blamed, so even if the decisions are right there are significant personal challenges for those involved.

Further information: Daryl McPhee, 0410 335 867, dmcphee@bond.edu.au

Innovation ends spectre of ghost traps

Study of ghost fishing in the New South Wales rocklobster fishery (project 2007/038)

Lost and stolen traps will be a thing of the past for New South Wales rocklobster fishers who are taking up new acoustic release devices that bring their traps to the surface, on demand.

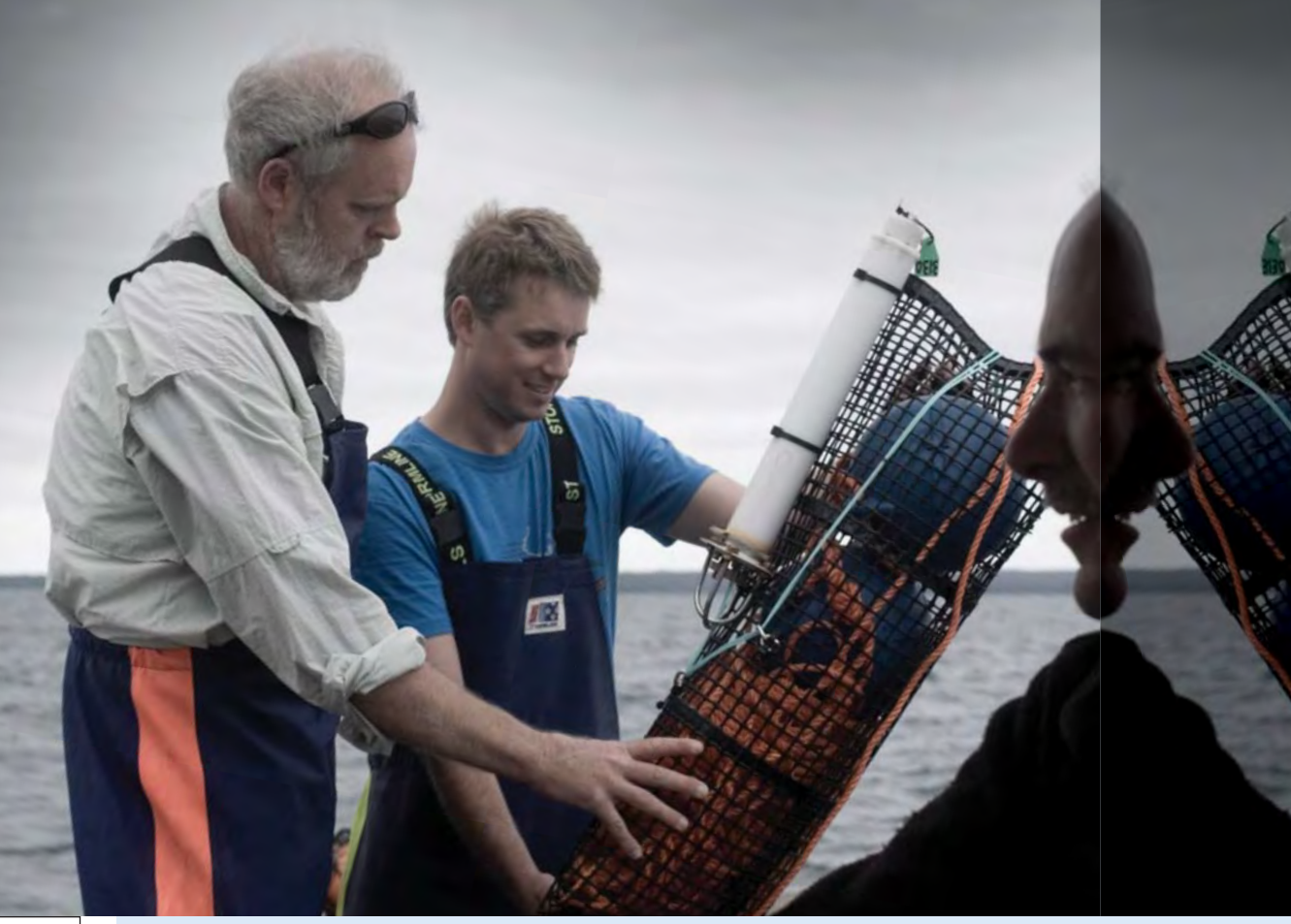
New South Wales rocklobster fishers have become the first in the world to use rocklobster traps equipped with novel acoustic releases to prevent them being lost or stolen. The traps are also a breakthrough against ghost fishing, which has significant environmental and economic implications.

New South Wales Department of Primary Industries fisheries researchers say that, to their knowledge, the rocklobster fishers involved in the project would be the first in the world to use acoustic releases as part of routine commercial fishing operations.

By preventing trap loss, the technology both combats the detrimental environmental effects of 'ghost traps' that continue to fish after they break from their floats and maximises the fishers' returns. But the advance almost didn't happen.

In the final stages of the three-part FRDC-funded project to combat lost traps and ghost fishing in the New South Wales rocklobster fishery researchers faced a major problem. Their traps, set with acoustic-release technology 120 metres deep in the water column, could not be retrieved from the sea floor.

The experimental traps were fixed with a short rope attached to a sealed bag containing the electronic acoustic-release unit, a much longer rope and depth floats—designed to release when summonsed by a control unit from the water's surface.



This 'at-call release' system using submerged headgear is a departure from the traditional way traps are set, with headgear floating on the surface or set underwater to release after a predetermined time. This submerging of headgear deep underwater until specifically released is designed to eliminate the major cause of lost traps—the accidental or deliberate severing of floats and ropes by vessels or poachers. But in the final stages of the project, when the researchers signalled for the headgear to release, the floats failed to surface. This perplexed the team who had exhaustively pre-tested the acoustic release unit's elements for potential problems including leakage, battery life, detection range, electronic and mechanical integrity and biofouling.

Eventually, after grappling for the traps manually, the researchers found their culprit: faulty heavy-duty depth floats that had imploded. It would have been a very negative result if it had been a failure of the release unit's electronics or of our rigging. The faulty depth floats have set the research back, because some parts of the project will have to be repeated to satisfy the rigours the research process demands.

The New South Wales rocklobster industry was key in designing the objectives and the content of the project as well as assisting with the three different sets of experiments undertaken.

The first experiment—a proof-of-concept study simulating lost traps in northern New South Wales—replicated findings from an earlier Jervis Bay pilot study that found rocklobster traps continued to fish even when they were not baited and there were very low escape rates from large deepwater traps.

These consistent results from two different locations in two different years, combined with fisher survey data determined that about 20 per cent of traps go missing each season, and confirmed the issue was one worth exploring further.

A following study tested sacrificial doors on traps designed to wear away in time to allow rocklobsters to escape should the trap be lost. An optimal model was determined and has good potential for practical application in the fishery.

But it was the third part of the project, the acoustic-release technology, that is the most ground breaking part of the research and offers the most potential for long-term significant change.

Further research is planned to repeat the experimental trial that was affected by the faulty depth floats. Combined with the experiences of fishers using the devices, data will be collected to develop manuals and information on using the gear. Future tests using the technology at lesser depths where biofouling has been a problem is also slated.

Further information: Geoff Liggins, Cronulla Fisheries Research Centre of Excellence, 02 9527 8533, geoff.liggins@industry.nsw.gov.au

New technology speeds gene research

Genetic technologies to support a transformation to profitability and competitiveness in *F. merguiensis* and *P. monodon* (project 2009/724)

New-generation sequencing is a rapidly expanding field of technology and scientific analysis that allows massive numbers of genes to be sequenced at the same time. Analysis that once took years, now takes only months, and the cost of sequencing genes continues to fall, making the technology more affordable every year. However, the new technology requires a new way of thinking: a bioinformatics approach that focuses on extracting and analysing the relevant information from the billions of bits of data that emerge from the simultaneous sequencing of hundreds or thousands of genetic samples.

Researchers using this technology can, in just a few months, develop sets of genetic markers for pedigree analysis and searching for genes which are associated with traits that are selected for in breeding programs. Among these traits is colour in farmed prawns. It was recently shown that colour was a heritable trait in prawns, and a Seafood CRC project for Crystal Bay prawns, grown by Seafarm in Queensland, is using sequencing to identify genetic markers for brighter colour. The group at the University of the Sunshine Coast has also developed tools to determine the pedigree of Crystal Bay prawns, the aim of which is to maintain the genetic diversity in the company's broodstock.

Genetic diversity is one of the blessings, and also one of the traps in working with a highly fecund species such as prawns or fish, because you can operate with limited broodstock. If you start with broodstock of 100 prawns and then select for a particular trait—it is common to select for size—you may not realise that most of the progeny selected for breeding come from only a few sets of parents. As a result, diversity can quickly fall from 100 to 10 to 5 sets of genes. Product consistency is a benefit of low genetic diversity, however, one of the problems is that it limits any further product improvements because the genetics are effectively set. If growing conditions change in any way, such as a slight increase in temperature or water salinity, then the low genetic diversity may mean there is limited capacity for adaptation. In the case of a new disease, all stock will either be resistant, or they won't.

Researchers note they have really just entered the doorway of what this technology can produce. However, the analysis process has its own quirks and you need to understand when you design a research project, the kind of data you want and the experiments needed.

Further information: Abigail Elizur, Associate Professor, Aquaculture Biotechnology, 07 3400 2055, AElizur@usc.edu.au

Cross-border shark evaluation

Description of the stock structure of Queensland's east coast shark populations (project 2007/035)

A study into the stock structure of four key target shark species in northern Australian net fisheries has helped to define appropriate management units for sustainable management, supporting a cross-jurisdiction approach and spatial monitoring strategies. The four shark species for this study were Milk Shark (*Rhizoprionodon acutus*), Scalloped Hammerhead (*Sphyrna lewini*), Australian Blacktip Shark (*Carcharhinus tilstoni*) and Common Blacktip Shark (*C. limbatus*).

The sampling regions covered the Queensland east coast but were extended into northern New South Wales, in collaboration with New South Wales Fisheries scientists, to give a more comprehensive study of stock structure for the east coast. Strong positive relationships with commercial fishers were crucial in the collection of samples throughout the study area and fisheries managers were part of the project team throughout the study period.

The project has determined that spatial management of Milk Sharks within Queensland, and Scalloped Hammerhead, Common Blacktip and Australian Blacktip sharks within Queensland and New South Wales is appropriate. It found that both Blacktip species are likely to require cooperative management arrangements. For Scalloped Hammerheads, separate stocks between the two jurisdictions were identified from the fisheries-dependent samples; however, genetic exchange across borders is likely to be facilitated by movement of adult females and perhaps larger males to a lesser extent.

This project has provided the crucial information for developing an appropriate monitoring design, as well as the necessary basis for making statements about stock status and confirms the effectiveness of using a holistic approach in stock structure studies.

Further information: David Welch, James Cook University, 0414 897 490

Sustainable shark fisheries

Tactical Research Fund: Sustainable shark fisheries—a National Research, Development and Extension Framework (project 2009/088)

The principal output from this project is a contemporary RD&E framework to target shark-associated fisheries research to management priorities, generate RD&E efficiencies, and improve the return on investment of FRDC funding.

Outcomes from the project should be high-value shark-related RD&E that is closely aligned with Australia's current management priorities for fisheries that take or otherwise interact with sharks. Ultimately, the framework is intended to promote RD&E activities that will underpin improved ecologically sustainable development (ESD) outcomes for these shark-associated fisheries.

The FRDC has recognised the critical importance of effective and efficient RD&E for shark-associated fisheries. Clearly defined RD&E, targeted to recognised shark management priorities, will not only improve the return on investment for public and fishing industry funds, it is likely to drive substantial improvements in ESD performance for shark-associated fisheries.

Further information: Andy Bodsworth, Cobalt Marine Resource Management, 02 6249 8698, andy.bodsworth@cobalt.net.au

SCIENCE TO ENGAGE COMMUNITIES

PROGRAM 3

COMMUNITIES

The fishing industry forms an integral part of many rural and regional communities. For the long-term sustainability of the fishing industry, it is important the interactions and co-dependence between the community and industry understood. For a full listing of projects visit—**www.frdc.com.au**

Principal inputs

During 2011–12, there was $0.47 million (about 1.8 per cent of the FRDC's R&D investment) invested in R&D activities within this program.

Summary of performance indicators for Program 3

Strategic challenges	Performance indicator	Target	Achievement
Resilient and supportive communities	Development of knowledge to better inform the community's perceptions of the industry and to increase support for the industry. Development of knowledge that can help the industry to adapt to change.	One project to investigate drivers of community perception of fishing industry.	The FRDC has funded the project 'Let's Talk Fish: Assisting industry to understand and inform conversations about the sustainability of wild-catch fishing'. This project aims to investigate the drivers and beliefs of community perception of the fishing industry.

A people-focused research program

Social Science Research Coordination Program (project 2009/041)

It's not just fish stocks that need to be considered in the development of fisheries research and management strategies.

At the centre of all research, business and society is people. How they react and interact can be the difference between a successful research project and, more importantly, successful and viable businesses and industries. Industry adoption of research outcomes is a priority for the association; the people factor is critical.

FRDC also recognises this and in an effort to better incorporate the 'people' into the research it funds, it initiated the Social Sciences Research Coordination Program (SSRCP) in 2009. The FRDC Board realised industry research could achieve better results if the social dimension of industry issues could be integrated into the development of research projects and their outcomes. The program has now been extended for a further three years.

Since 2009 the social research program has increased awareness in the industry about how social science can improve outcomes. It has developed a number of tools to help researchers and industry groups incorporate people considerations into their projects. In the past few years, more researchers are now actively proposing projects that examine the social impact of decision making on the fishing industry.

Among these projects is one that has attempted to identify and quantify the health and wellbeing benefits of recreational fishing, looking beyond the economic and environmental impacts of the industry. Another study has evaluated the social and economic contributions of the fishing industry to communities in the mid and north coast of New South Wales, and the findings have helped to inform negotiations on the development of marine reserves in the region.

Another project has evaluated the effectiveness of the financial adjustment program that followed changes to zoning within the Great Barrier Reef Marine Park. This evaluation is being used to develop compensation options to most effectively target those impacted by the expansion of marine reserves in other areas.

The explicit task for the FRDC's program over the next three years is to work with industry and government agencies to improve their ability to re-orientate daily approaches and incorporate social dimension in research issues.

The SSRCP aims to see industry and fisheries managers confident with the concepts of social research and able to engage with researchers to improve outcomes. The objective of the SSRCP Steering Committee is to elevate the industry's capacity to a point where the appropriate inclusion of social science research is routinely applied to fisheries issues.

While it might be easier to think we just manage the fish, in reality, it is people's behaviour and how they interact with, and think about, fish stocks and the marine environment, that is also necessary, if we are going to achieve optimal outcomes in fisheries management.

The SSRCP has been funded through to 2015 by which time the FRDC envisages social science research concepts will be well enough integrated into fisheries management approaches that a dedicated program will no longer be required.

SOCIAL RESEARCH TOOLS FOR FISHERIES MANAGEMENT

The success of the Social Sciences Research Coordination Program during the past three years has resulted in a range of tools for researchers, industry and fisheries managers which make it easier to incorporate the social dimensions of an issue or research project.

These include the *Research Audit of Social Sciences Fisheries Research*, which collated and summarised all social science research undertaken from 1995 until the present for the Australian fishing industry, available from the FRDC — http://www.frdc.com.au/research/final-reports/Pages/2009-317-DLD.aspx. It has proven useful to a number of researchers and managers to identify what has already been investigated in relation to a particular issue.

In collaboration with the Rural Industries Research and Development Corporation (RIRDC), the program also generated a handbook on social science methods. This details when and how particular methods are useful in investigating issues specifically in the context of managing fisheries and other natural resources. *Social Science Research for our Natural Resources* (pictured on page 50) can be downloaded or purchased from the RIRDC website (https://rirdc.infoservices.com.au/items/11-087).

Further information: FRDC Social Science Research Coordination Program Manager, Kate Brooks, 03 9917 2665, kate@kalanalysis.com.au, www.frdc.com.au/communitypeople/social-research

Coping with change in Queensland

Social Science Research Coordination Program: Identifying, communicating and integrating social considerations into future management concerns in inshore fisheries in coastal Queensland (project 2008/073)

This study interviewed fishers and their families in three regions in Queensland to assess the social impact of fisheries change in Moreton Bay, Hervey Bay and the Burdekin on the fishers, their partners and ancillary businesses. It found commercial fishers' livelihoods and lives have been subject to a range of largely negative social and economic impacts. The potential effects of changes have not been adequately communicated to fishers and the actual impacts have been poorly assessed and have not been managed with any kind of structured social planning. The social and economic impacts have been generated by changes to marine park zones, industry restructuring, fisheries reviews and other regulatory and policy changes, and by government agency interventions into fishing as an occupation. Findings suggest the current management focus on economic and ecological goals fails to sufficiently address the cumulative short- and longer-term social effects of fisheries changes, in particular the effect on the health, wellbeing and quality of life of fishers.

Further information: Sylvie Shaw, University of Queensland, 07 3365 6322

Impact of Northern Territory seafood labelling

Tactical Research Fund: Tracking the impacts on seafood consumption at dining venues arising from the Northern Territory's seafood labelling laws (project 2009/216)

This project has provided a better understanding of the trends, quantity and origin of seafood use in Darwin, the impacts of Northern Territory seafood labelling requirements on fish retailers and the impact of labelling on consumer choice. It has also increased public awareness of seafood labelling requirements as well as in the food service sector.

A targeted training program on labelling requirements has been developed as part of the seafood component of Charles Darwin University's commercial cookery course. Magnets outlining seafood labelling requirements have been distributed to fish retailers. Overall, the project has enhanced communication between industry, seafood wholesalers and fish retailers, and provided advice to the Northern Territory Department of Resources (DoR) on the impacts of the seafood labelling laws. The Northern Territory Seafood Council and DoR have been recognised as leaders, providing first-hand insight into the application of extended seafood labelling laws with regard to product origin.

Further information: Chris Calogeras, C-AID Consultants, 0401 692 601

Catch and cultural significance of Aboriginal fisheries

Aboriginal fisheries in New South Wales: determining catch, cultural significance of species and traditional fishing knowledge needs (project 2009/038)

A study of Aboriginal fisheries in New South Wales in the Tweed River Catchment has found that cultural fishing in the Tweed region occurs on a regular basis, is predominantly shore-based and is focused around the estuary and adjacent coastal waters. The main gear types used are rods and handlines, with nets, traps and spears used to catch some species. The top 10 most culturally important species, based on a ranking given by participants, comprised a mix of finfish and invertebrates. Pipis (*Plebidonax deltoides*) and mud crabs (*Scylla serrata*) were the top two, followed by Sea Mullet (*Mugil cephalus*), Tailor (*Pomatomus saltatrix*), Sand Whiting (*Sillago ciliata*), Dusky Flathead (*Platycephalus fuscus*), beach worms (*F. Onuphidae*), Sydney Rock Oysters (*Saccostrea glomerata*) and the bait yabby (*Callianassa australiensis*).

A key objective of the study was to address information gaps in relation to catch, cultural significance of species and traditional fishing knowledge needs. The project developed a culturally appropriate methodology to collect indigenous cultural fishing data, which it is hoped will form the basis of further research into cultural fishing across New South Wales.

Further information: Stephan Schnierer, Southern Cross University, 02 6620 3572, stephan.schnierer@scu.edu.au

INVESTING IN TOMORROW'S FISHERS

PROGRAM 4

PEOPLE DEVELOPMENT

People are the cornerstone of any industry. For the fishing industry, it is vital it continues to attract and develop people who will take the industry forward towards a sustainable and profitable future. The FRDC has taken a strong role in supporting people development, from employing and developing young researchers, through to facilitating access to leadership development for all levels of industry.

Projects funded under Program 4 primarily address the FRDC's People development program. However, this is also addressed, as a secondary but very important element, by projects within Programs 1 and 2. For a full listing of projects and expenditure for 2011–12 visit—**www.frdc.com.au**

Principal inputs

During 2011–12, there was $2.12 million (about 8.2 per cent of the FRDC's R&D investment) invested in R&D activities within this program.

Summary of performance indicators for Program 4

Strategic challenges	Performance indicators	Targets	Achievements
Leadership development	Provision of knowledge and opportunities to develop leadership skills and diversity across all sectors of the industry and across aligned stakeholder groups, including researchers and resource managers. Development of knowledge, skills and processes to support industry to engage in debate, adapt to change, and move toward co-management of fisheries.	Seventeen participants complete leadership courses.	¬ Nineteen seafood industry participants completed the National Seafood Industry Leadership Program, see story on page 56. ¬ Two participants complete the Australian Rural Leadership Program.
Workforce development	Development of knowledge and tools to meet future workforce and skill needs.	One health and safety project funded through the Collaborative Partnership for Farming and Fishing Health and Safety.	¬ The FRDC partnered with the Rural Industries Research and Development Corporation to undertake the project 'Collaborative partnership for farming and fishing health and safety'. This project was released in November 2011.
Innovation skills	Mechanisms and tools to attract and nurture RD&E capability in priority areas. Opportunities to acquire insights, knowledge and skills to create innovative, market-driven enterprises and organisations.	Fifteen participants complete the bursary program.	¬ Five international travel bursaries. ¬ Two visiting expert bursaries. ¬ Fourteen bursaries for young industry leaders to attend national conferences.

The FRDC is continuing to invest in the future of the Australian seafood industry by focusing on its most valuable resource—its people.

The FRDC People development program is investing in a range of research, development and extension activities that will help address the priorities outlined in the FRDC RD&E Plan and its current five year People development Plan.

The Corporation's investment is being delivered through a range of self-initiated activities, including personal and professional development opportunities, bursaries, conferences, awards, commissioned work and tenders. Projects are also regularly funded through the FRDC's annual open call for R&D applications and its Tactical Research Fund.

In 2011–12, the People development program has funded the following activities.

Development awards

The People development program offered a suite of programs, scholarships and bursaries to help build leadership, skills, networks and knowledge within the Australian seafood industry. During the year the FRDC announced a number of scholarships and bursaries, which included the following:

- Indigenous Development Scholarships: Robert Carne, Northern Territory Department of Resources (Fisheries) and Frank Loban, Port Kennedy Association.
- FRDC Governance Scholarship for Women: Katie Phillis, Odette Lennane and Katherine Sarneckis.
- FRDC Emerging Leader Governance Scholarship: Martin Exel and Paul Watson.
- FRDC Visiting Fellow Bursary: Kazue Tucker, who is an expert pearl technician and is researching increasing Akoya pearl production profitability in New South Wales through improving seeding technical skills.
- International Travel Bursaries: Abigail Elizure, Adam Main and Gretta Pecl.
- FRDC/Women Industry Network Seafood Community Professional Development Scholarship: Emily Rowe.

Further information: Jo-Anne Ruscoe, 02 6285 0445, jo-anne.ruscoe@frdc.com.au, www.frdc.com.au/peopledevelopment

National Seafood Industry Leadership program

As part of the final component of the 2011 National Seafood Industry Leadership Program (NSILP) the graduating class met with Parliamentary Secretary Dr Mike Kelly, Senator Richard Colebeck, the Hon. John Cobb, and senior government representatives from the Department of Agriculture, Fisheries and Forestry and the Department of Sustainability, Environment, Water, Population and Communities in Canberra to discuss a range of issues impacting the Australian seafood industry.

Key issues were public perception of the seafood industry, marine reserves, environmental issues with aquaculture development and the overall direction of the seafood industry. The graduating class also launched the Sustainable Seafood Stories website (www.sustainableseafoodstories.com.au), which seeks to showcase the work and character of the people involved in the fishing industry.

The discussions have been arranged by industry stakeholders participating in the NSILP, an industry specific program funded by the FRDC. NSILP is the only national seafood industry specific program that equips individuals with skills, networks and a whole of industry perspective specifically to empower them in making a contribution to the industry at a national level.

The program is highly valued by the industry with the Sydney Fish Market being a major sponsor of the NSILP for nearly 10 years. It is additionally sponsored by the participants themselves, or participant employers.

Those who took part in the 2011 program were well focused outlining a vision of a sustainable seafood industry that recognises professionalism, innovation and integrity. Their mission was then to showcase the seafood industry and its champions—helping tell their story. To see how they approached this, visit their website http://sustainableseafoodstories.com.au/2011-2/nsilp-team-2011/

Graduates of the 2011 program were:

- Phil Bolton: Fisheries Manager, Industry & Investment NSW
- Jamie Damaso: Support Officer, Northern Territory Department of Resources (Fisheries)
- Ashley Oliver: Rock Lobster Liaison/Project Officer, Western Australian Fishing Industry Council
- Michelle Haase: Project Manager, Tide to Table, OceanWatch Australia
- Eric Perez: Manager, Queensland Seafood Industry Association
- Karen Collard: Queensland East Coast Trawl Operator
- Shane Geary: Seafood & Operations Manager, Coffs Harbour Fishermen's Co-Op
- Ewan McAsh: Manager/Director, McAsh Oysters
- Claire Webber: Research Assistant, Australian Southern Bluefin Tuna Industry Association
- Nigel Cocks: Marketing Executive, Sydney Fish Market Pty Ltd
- Fraser Perry: Recreational Fishing Alliance of New South Wales
- Dave Allen: Minor Species Fisher, Seafoods Tasmania
- Joshua Fielding: Senior Management Officer, Northern Prawn Fishery, Australian Fisheries Management Authority
- Zachary McGee: Production Manager, Spring Bay Seafoods, Tasmania
- Peter Sturman: Skipper/Engineer, Spencer Gulf Prawn Trawler
- Alistair Dick: General Manager, Pacific Reef Fisheries, Queensland
- Anthony Mezic: Fisher, Spencer Gulf and West Coast Prawn Fisherman's Association Inc.
- William Bowman: Hatchery Manager, Tasmanian Seafoods Pty Ltd, Darwin
- Duane Baker: Wet Processing Manager, Tassal

Further information: Jill Briggs, Rural Training Initiatives, 02 6035 7284, jill@ruraltraininginitiatives.com.au, www.ruraltraininginitiatives.com.au

Developing new leaders for the industry

Australian Rural Leadership Program (project 2008/038)

Shared experiences and peer support help strengthen skills and confidence for Australia's fishing community leaders.

From South Australia's abalone industry on the Eyre Peninsula and the Hobart offices of the Tasmanian Association for Recreational Fishing, Samara Miller and Mark Nikolai are honing their leadership skills to help provide a brighter future for the seafood and fishing industries.

Both are FRDC-sponsored participants in the 18th Australian Rural Leadership Program (ARLP), which aims to develop the skills, knowledge and networks needed to provide effective leadership in regional, state, national and international arenas. The course has 30 participants from a diverse range of industries, all committed to the development of rural and regional Australia. The pair began their ARLP in April 2011 and will graduate in September 2012.

The program is delivered in six sessions, which take place in different locations, including the Australian outback and one international session.

Samara Miller (pictured above) is Executive Officer of the Abalone Industry Association of South Australia. She is a member of a national people development advisory group for the seafood industry and is on the Eyre Peninsula Natural Resource Management Board.

Samara says she applied for the ARLP because she was frustrated with the way the seafood industry was being portrayed by the public and the policy decisions that were being made.

"I kept asking myself 'How can industry change this?' because my fundamental belief is that the industry will come up with the best solutions if given half a chance," she says. "The leadership program will help me develop my communication skills so I can increase my influence for the commercial fishing industry and the seafood industry more generally." A Port Lincoln local, Samara has a passion for coastal zone management and fisheries issues. After studying biology and psychology at Flinders University, she gained a Masters of Science at the University College of North Wales, becoming the first Australian to complete the university's prestigious Marine Environmental Protection course.

In the 16 years since graduating she held a variety of Victorian and South Australian government roles in fisheries policy and management before moving to Port Lincoln, where she has held positions as Executive Officer of the Spencer Gulf and West Coast Prawn Fisherman's Association as well as her current role.

She says so far the ARLP has been a great opportunity to learn and grow with a diverse group of people who are leaders at regional, national and international levels. "The highlight for me has really been getting to know the other participants and realising we're tackling the same sorts of issues. Much of what I'm learning is the result of sharing our stories and providing support to each other."

She says the program has taught her to look for the 'real agenda' when people's words don't match their body language. "You just can't make assumptions about others, you need to have the courage to ask the difficult questions. The other thing I have learnt is that if you show any imagination and courage to do something differently, you will attract criticism or raised eyebrows from someone. Advice from Christine Nixon [former Chief Commissioner of Victoria Police] at one program session was that to stay balanced and focused, we need to think carefully about who is making the criticism and why. This will keep us on track."

Mark Nikolai (pictured at left) is Chief Executive Officer of the Tasmanian Association for Recreational Fishing (TARFish), the peak body looking after the interests of recreational fishers in Tasmania. He sits on the Tasmanian Fisheries Research Advisory Board and the Australia Board and is actively involved in state and national fishing industries.

Mark grew up in Tasmania before moving to the mainland where he worked for 25 years in senior management roles in a wide range of industries, he then returned to his home state. He holds a Masters of Business Administration from the University of New South Wales.

"Part of my job with TARFish is to try to garner all the ideas and thoughts and comments of a very diverse group of stakeholders," he says. Across Australia up to 30 per cent of the population fish recreationally. However, he is the only employee at TARFish and opportunities to meet with peers in the recreational fishing industry are limited. Peer support was one of the major attractions of the ARLP program, he says.

Meeting indigenous leaders during a 12-day trip to the Kimberley region has been the highlight of the program for Mark so far. The experience gave him a new perspective on some of the issues indigenous leaders have had to contend with. "For me, meeting the elders was a life-changing experience," he says. "There's a whole range of ethics and social responsibilities that go with recreational fishing and it's very easy —particularly as a one-man band who lives and breathes recreational fishing—to think you know the answers.

"Realising there are other solutions and perceptions out there has been extremely enlightening. I could have sat under the trees the whole afternoon just listening to this gentleman talk. It blew me away." He says the other key area where the program has changed his perspective is in decision making. "You really need to make time to gather information, sit down and think about it—talk to other people about it—see what works in other areas and other industries and see if it's applicable within your sector." Mark will be using his new skills to meet key challenges in the recreational fishing industry.

"The recreational fishing sector is just a sub-section of the broader fishing industry and has many of the same issues. Like the commercial fishing industry, one of our major challenges is recognition by the Federal Government of the social and economic benefits associated with recreational fishing. Without recognition it is very much a displaced, disorganised sector with very few career options for young people. Another major challenge is access to recreational fishing areas as more and more marine protected areas ban recreational fishing. We are certainly not against marine protected areas, but they have to be based on science and have to provide the community with stated benefits."

Further information: Lesley Fitzpatrick, Australian Rural Leadership Foundation, 02 6281 0680, lesleyf@rural-leaders.com.au

Conference weighs up brand bottom line

Seafood Directions 2011—The Productivity Challenge (project 2010/311)

There was much debate at this year's Seafood Directions Conference about selling the message of sustainable fisheries to consumers. But do consumers care?

The 'productivity challenge' was the theme chewed over by almost 250 members of Australia's diverse seafood industry at the 7th Seafood Directions Conference held on the Gold Coast in October.

Much discussion during the two-day program—which featured speakers from Australia, New Zealand and North America—focused on the question of branding: to what extent should Australian seafood producers brand their products; and whether eco labelling, with the responsible fisheries management it represents, influence consumer choice. Parliamentary Secretary for Fisheries, Dr Mike Kelly, opened the conference with a speech illustrating the industry's important role in meeting international food security needs and supplying healthy protein. He described the industry as occupying the eco niche.

"Buy Australian and you will do the marine environment a favour—that's the message we really want to zero in on. Australian fisheries are the best-managed fisheries in the world, in my view. And the systems we have in place are tremendous and our stocks are being well managed," Dr Kelly said.

The tone of the branding debate—and the value of non-government organisation (NGO) eco labelling—was set by keynote speaker Randy Rice, fisheries scientist, commercial fisher and seafood technical program director of the Alaska Seafood Marketing Institute. He said there was too much discussion about logos and labelling and not enough about responsible fisheries management—the principle that contributes to a premium product.

"NGO eco labels are becoming brands, and they're becoming brands that compete on one attribute—sustainability. Whereas our logo and our brand has multiple attributes to it and I suggest that perhaps yours might as well," he said, drawing parallels with Australian seafood. To use the Alaska Seafood brand, fisheries and fishers are certified by a third party body according to the United Nations Food and Agriculture Organization (FAO) Code of Conduct for Responsible Fisheries and the FAO Guidelines for the Ecolabelling of Fish and Fishery Products from Marine Capture Fisheries. There is no conditional certification—applicants are either in or out.

For branding expert Tiffany Barnett White, from the University of Illinois College of Business, the question was not so much whether fisheries should be responsibly managed, but how the message of this management could be translated to buyers.

"You've got to educate consumers about what it means to them. Otherwise it's just another label that's out there. The other thing that could happen is that everybody will start to tell the sustainability story, and you're really going to try to differentiate your brand. Sustainability will be the cost of admission."

Further information: James Fogarty, Conference Manager, 07 4031 2345, james.fogarty@shearwaterconsulting.net

Two fisheries scholarships awarded for travel abroad

People development program: Nuffield Scholarship for an aquaculture and/or fish producer (project 2009/324)

Rhys Arangio from Willagee, Western Australia, and Ewan McAsh from Burill Lake, New South Wales, have been awarded 2012 Nuffield Scholarships, sponsored by the FRDC. Both are now preparing for travel, as part of 16 weeks of international study from March 2012, to research issues of relevance to the Australian fishing and seafood sector.

Rhys Arangio plans to use his scholarship, co-funded by Woolworths, to investigate ways to reduce marine mammal predation in longline fishing operations. He works as part of the management team for Austral Fisheries, a commercial fishing company with interests in Australia's Northern Prawn Fishery and in Patagonian Toothfish and mackerel icefish in the Southern Ocean.

"The main fishing method used to catch Patagonian Toothfish in Australian waters is demersal longlining, a method that can suffer significantly reduced catches from predation by the likes of sperm whales and killer whales," he says. When whales and seals 'steal' fish from fishing operations, there is an increased risk of injury or death to the mammal. It also reduces the fisher's catch.

EWAN McASH

RHYS ARANGIO

Rhys plans to investigate the effectiveness of available mitigation methods being used around the world including submarine harvest systems for longlines, the use of acoustic deterrents or different gear types such as pots to avoid interaction between these animals and the fishing operation. His travel plans include Norway, Alaska and France to meet with equipment manufacturers, government, industry and fishers.

Ewan McAsh will use his scholarship to investigate new business development and marketing strategies for the New South Wales oyster industry. He is managing director of McAsh Oysters, producing Sydney Rock Oysters on the Clyde River at Batemans Bay. The company produces 50,000 dozen oysters a year, but has plans to triple production to 150,000 dozen in the next two years.

The expansion is part of his vision to revive what he calls a 'sunset industry', to develop the New South Wales south coast as the 'oyster coast', with an oyster trail to attract tourists, much like in wine-growing regions.

As an industry, Ewan believes we need to review our strategic direction and communicate this vision to industry members, to assist and guide them with the aim of accelerating our turnaround from a declining industry to a profitable growth industry. Ewan intends to travel to Toronto and Quebec in Canada, Massachusetts and New York in North America, and in Europe, particularly France.

FRDC People development program manager Jo-Anne Ruscoe says the Nuffield Scholarship program allows the scholars to pursue their ideas and develop relationships across industries, value chains, regions and jurisdictions, and beyond Australia's borders, helping to develop individual and industry leadership skills.

Further information: Nuffield Australia, 03 5480 0755, enquiries@nuffield.com.au

Advancing aquaculture

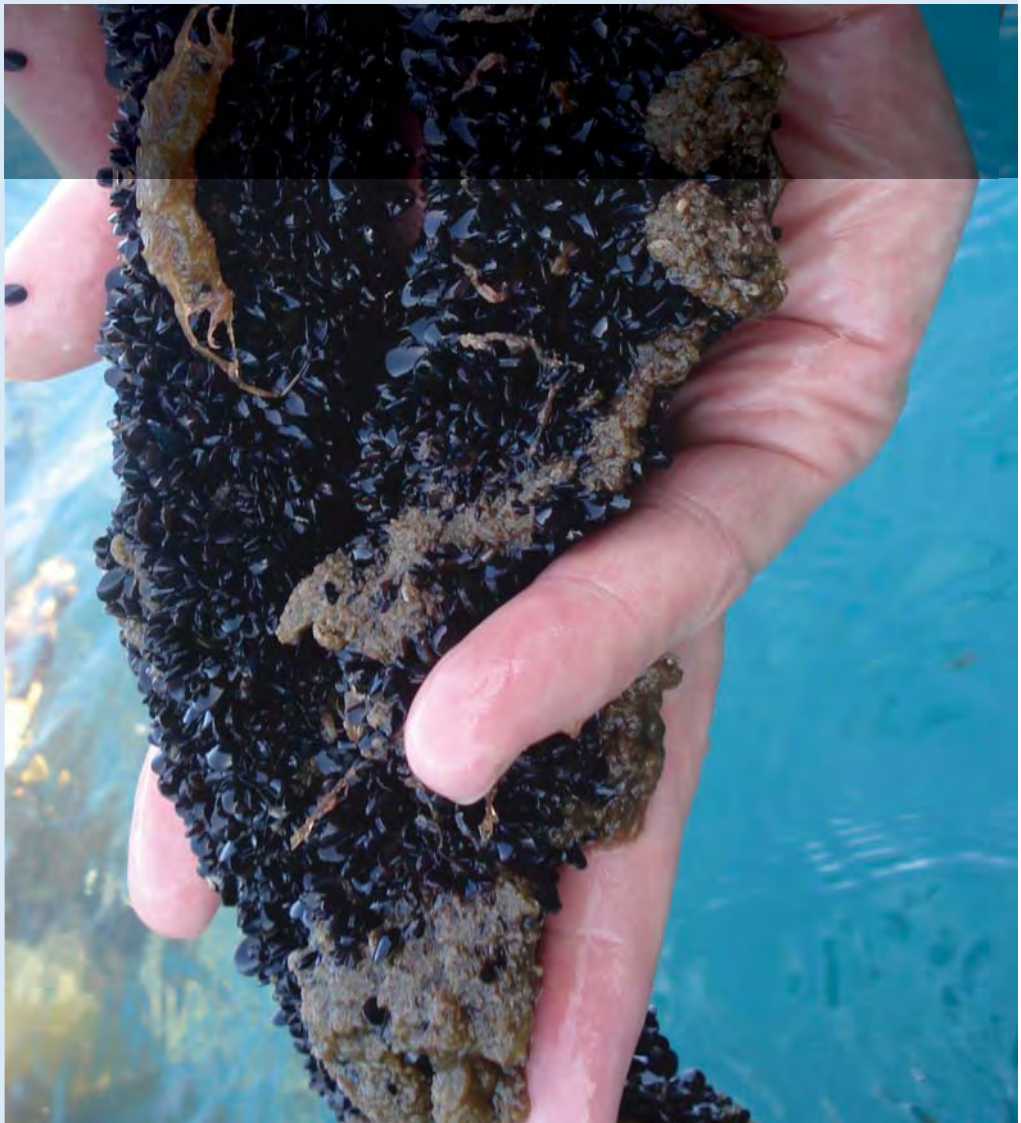
Australasian Aquaculture 2010 to 2014 (project 2009/303)

Research and development will be essential to improving the productivity and sustainability of the aquaculture sector, delegates at the 2012 Australasian Aquaculture Conference were told

The need for innovation and sustainable production processes to improve food security for the world's growing population was a dominant theme at the Australasian Aquaculture 2012 Conference and Trade Show at the Melbourne Convention and Exhibition Centre. Almost 1000 participants from 30 countries gathered at the four-day event in May to learn more about leading research and development advancing the industry.

The biennial conference was hosted by the National Aquaculture Council of Australia and the Asia Pacific Chapter of the World Aquaculture Society. Major sponsors included Skretting Australia, the FRDC, the Australian Seafood CRC, and the Melbourne Convention and Visitors Bureau. While some sessions featured specific research projects and new technology, others discussed the planning and investment processes in Australia and what is being done to provide a more supportive business development framework.

Further information: Sarah-Jane Day, Australasian Aquaculture Conference Coordinator, sarah-jane.day@aquaculture.org.au



SCIENCE FOR SOLUTIONS

PROGRAM 5

EXTENSION AND ADOPTION

Knowledge arising from R&D will be used and transformed into appropriate mediums to support stakeholder decision making, assist with achieving their objectives, and inform the broader community. For a full listing of projects and expenditure for 2011–12 visit the FRDC website—**www.frdc.com.au**

Principal inputs

During 2011–12, there was $2.12 million (about 8.2 per cent of the FRDC's R&D investment) invested in R&D activities within this program.

Summary of performance indicators for Program 5

Strategic challenge	Performance indicator	Target	Achievement
Extension and adoption	Increase in rates of adoption.	No target.	No specific target was set around increased rates of adoption. However a significant achievement was the development the drafting of the first National Extension and Adoption Strategy for the Fishing and Aquaculture. It is anticipated this Strategy will be endorsed by the National Priorities Forum and form part of the planning framework for all stakeholders into the future.

Program 5 achievements and activities

As part of the consultation in developing the FRDC's RD&E Plan 2010–2015 industry identified extension and adoption (E&A) as a high priority. As a result, the Corporation has focused on developing a new approach towards funding E&A activities and during 2011–12 will start building the framework to enable the best possible delivery of E&A activities for the fishing industry.

Focus on adoption shapes research partnerships

Understanding extension and adoption in the fishing industry (project 2011/505)

Begin with the end in mind for the best extension and adoption results. The adoption of fisheries research findings in Australia is highly variable between the commercial, aquaculture and recreational fishing sectors. But at their best, these adoption rates lead those of any primary industry in Australia.

This is the conclusion social and economic researchers, arrived at as part of the FRDC-funded project 'Understanding and extension and adoption in the fishing industry'. The project's aim was to identify the best-case example of extension and adoption and is part of the FRDC's efforts to ensure a return on research investment through the adoption of improved practices.

Extension activities for 41 different projects were evaluated and it was found many achieved an 80 per cent adoption of research findings in the first year, and up to 95 per cent adoption within five years. A figure like that would be difficult to find in any other primary industry.

The high level of adoption in the reviewed projects was particularly evident in the aquaculture sector, where business stakeholders identify issues, help to secure research funding and actively seek out results. There is also a considerable aggregation of interest within aquaculture sectors, geographically, in terms of the species produced and issues identified for investigation. The salmon industry in Tasmania was identified as one example of best practice extension and adoption. The five major players in the industry have combined to form the Tasmanian Salmonid Growers Association, which acts as the voice of industry.

This role includes identifying and prioritising R&D and pursuing research findings to improve practices. By and large the commercial sector is more dispersed in its interests—the fisheries, the species and fishing techniques are much more diverse, and the adoption of research is not as high as in the aquaculture sector. At the far opposite end of the scale is the recreational fishing community, which could not be more disparate—more than 3.5 million fishers across the whole country, fishing on a basis that ranges from almost every day to once every few years. This makes it increasingly difficult to deliver effective extension and evaluate adoption.

The study was not a comprehensive review of all FRDC projects, but focused on those incorporating extension and adoption activities, evaluating the methods used, their effectiveness and the characteristics of the most successful extension. The most common extension methods identified were:

- development of technology to solve problems, with the fishing community working with researchers;
- access to information without direct contact, including brochures, magazine articles, television and websites; and
- training or programmed learning through workshops and one-on-one extension, most commonly used in the aquaculture sector.

However, the researchers indicate that there are no single extension model that suits every occasion; good extension is choosing the right model and related tools for the job. The project's final report provides 10 case studies of best practice extension and adoption.

Further information: Jess Jennings, Rufus Jennings, 0423 224 750; j.jennings@uws.edu.au

Escaping with ET

Educating though *Escape with ET* (project 2011/516)

No phoning home this time. ET is back joining forces with the FRDC to continue to show Australia why Australia's fisheries are some of the best managed and most sustainable fisheries in the world.

Escape with ET shows first-hand the incredible effort made by researchers and fishers to improve what anglers know and do.

As the show's host and fisher Andrew Ettingshausen (ET) notes, "sustainability is an issue that faces all aspects of the Australian community. Whether you are a fisher or a consumer it's an important issue. It's important to know that both the commercial and recreation fishing sectors realise their long-term success depends on keeping our fisheries healthy and vibrant."

Andrew continued, "I have seen just about every aspect of the fishing industry both here and overseas. I think we are doing better on almost every front."

Why does he hold this view? Because the opportunity to work on the many research stories, funded by the FRDC and others, have shown him that researchers all over Australia are working hard to learn all they can about the fishing industry. Whether it is to reduce the impact on the environment, to ensure stocks are sustainably harvested or to ensure our recreational catch limits are balanced with commercial take. Bycatch reduction, biodegradable fishing line and better handling practices are just some of the ways researchers are helping us improve.

ET has also gained an appreciation for the management systems in this country. He notes that while people criticise them, they are necessary. We have to manage for long-term sustainability, with bag limits, quota limits, restricting the number of boats or licences, monitoring fish stocks and, where things are not perfect, managers are looking for ways to improve. But ET highlights that probably the most significant factor the Australian fishing industry has going for it is the people. "No matter what part of the fishing community I talk to, everyone has a strong sense of responsibility for our fisheries, and the environment." More recreational fishers now practice catch and release than ever before. Take Australia's most iconic species, the Barramundi; fishers now release back into the wild almost 90 per cent of fish caught.

Likewise, the people leading the commercial sector are more proactive these days. A number of our fisheries are already independently certified as sustainable and all commercial fisheries now have both environmental and fisheries management regulations applied throughout Australia.

Others, such as the Northern Prawn Fishery, are in the process of seeking certification from the Marine Stewardship Council—the gold standard around the world for sustainable fisheries practice. This is just to demonstrate their sustainability—the fisheries are already sustainable, but getting that message across to the broader public, in amongst the negative perceptions of fishing being promoted by some, is always a challenge.

Season 13 will build on the partnership between the FRDC and *Escape with ET*. It will mean more than 90 segments on Australian R&D undertaken across all aspects of the Australian fishing industry will have been filmed and aired. These stories will have been seen by an estimated audience of more than 30 million viewers. If you haven't seen any of the segments they are all available via the web and FRDC's YouTube channel—http://www.youtube.com/user/FisheriesResearchAU

Further information: Lisa Campbell, lisa@escapewithet.com

National grades agreed for mud crabs

Equipping the mud crab industry with innovative skills through extension of best practice handling (project 2010/302)

Mud crabs provide a valuable commercial fishery in Australia, generating somewhere in the order of $150 million in retail and restaurant sales every year. Many people are involved in the process of putting a mud crab on the consumer's plate, from catchers to transport operators to wholesalers, retailers and restaurant chefs.

Most mud crabs travel to their final point of sale alive. Grading is based on a range of subjective attributes including meat quality and quantity and level of 'liveliness', which determines the price at their final destination.

Historically, quality grading has been subject to vastly different interpretations along the supply chain across Australia. Just what makes a 'top quality' mud crab and, more importantly, what constitutes a 'poor quality' mud crab that buyers do not want? This has been highly emotive and has greatly impacted on revenue and relationships throughout the supply chain.

Recently it was decided that it was time to do something about this situation and industry players came together to agree on a national quality grading system for live mud crabs. The problems with varying mud crab gradings were highlighted through two research projects funded by the FRDC.

These projects aimed to first determine best handling practices for live mud crabs (project 2003/240) and second to inform those in the entire Australian supply chain about the best-handling practices (project 2010/302).

These two projects indicated that industry members in the various jurisdictions graded their live crabs in different ways; each had their own perceptions. To address this, a national system was proposed to ensure catchers, buyers and marketers had a consistent, workable grading system for the entire industry—from trap to plate.

The FRDC supported an independently facilitated national forum through a Tactical Research Fund project (2011/225), 'Using industry expertise to build a national system for grading of live mud crabs'. It brought together people from throughout the supply chain and from across Australia, to develop an industry-driven, objective and mutually agreed Australian grading system for live mud crabs.

Twenty two participants from the major state and territory key industry groups, some regional centres and key supply chain participants—catchers, distributors and buyers—attended the forum at the Sydney Fish Market in January 2012. Through a process of consensus, a national grading system was developed.

This easy-to-use grading system is currently being distributed throughout the supply chain. An industry focused, instructional video, booklet and ready reckoner pamphlet are almost complete.

A YouTube video is also in production so recreational fishers can make sure they only take home nice full mud crabs. Many people do not know that crabs continue to grow to fill their shells and 'empty crabs', if returned to the water, will be full of juicy, firm meat within a couple of weeks.

Further information: John Mayze, Queensland Department of Agriculture, Fisheries and Forestry, 07 3276 6023, john.mayze@daff.qld.gov.au

From Eyre with Love: A users guide

Tactical Research Fund: Development of the Eyre Peninsula retail and food service seafood user guide (project 2009/220)

A new guide is helping to link seafood producers and the food services and retail sectors.

Restaurateurs and seafood wholesalers (and retailers) have played an important role in the development of new seafood users guide launched in November 2011 that showcases the supply chain for seafood of the Eyre Peninsula.

The Seafood of the Eyre Peninsula is an initiative of Regional Development Australia Eyre Peninsula following feedback from chefs and wholesalers who have taken part in its annual Seafood Mission—a three-day event showcasing the path of the region's seafood from the water to the plate.

More than 160 chefs and wholesalers have participated in the Seafood Mission since 2006. The program aims to educate those taking part about the processes involved in bringing our seafood to them—the production, selection and handling practices. The Seafood of the Eyre Peninsula user guide was developed to meet this need with the support of Regional Development Australia Eyre Peninsula, the FRDC and Food South Australia.

The guide highlights the distinctive environment the Eyre Peninsula offers for seafood production and outlines the worldleading fishery management practices that are in place to minimise environmental impacts and ensure the sustainability of the region's resources.

Thirteen species—a mix of wild-caught and farmed seafood—from the Eyre Peninsula are featured: Southern Bluefin Tuna, Blue Mussels, Pacific and Angasi oysters, King Prawns, Australian Sardines, Hiramasa Kingfish, King George Whiting, snapper, Southern Calamari, Blacklip and Greenlip Abalone and Southern Rocklobster.

The Seafood of the Eyre Peninsula includes handling, storage and cutting guides; preparation and cooking guides; presentation and display guides; key or unique selling aspects by species; international interpretations of cuts/forms and their uses. Vignettes of the Eyre Peninsula's leading fishers also feature in the guide, along with their catch.

In the lead up to the 2011 Christmas season, a small number of the guides were released to meet industry demand. The chefs knew the guide was being put together because they had participated in the consultation process, and they were keen to have it for their staff. The guide caters for front-of-house staff in restaurants and sales staff in retail outlets.

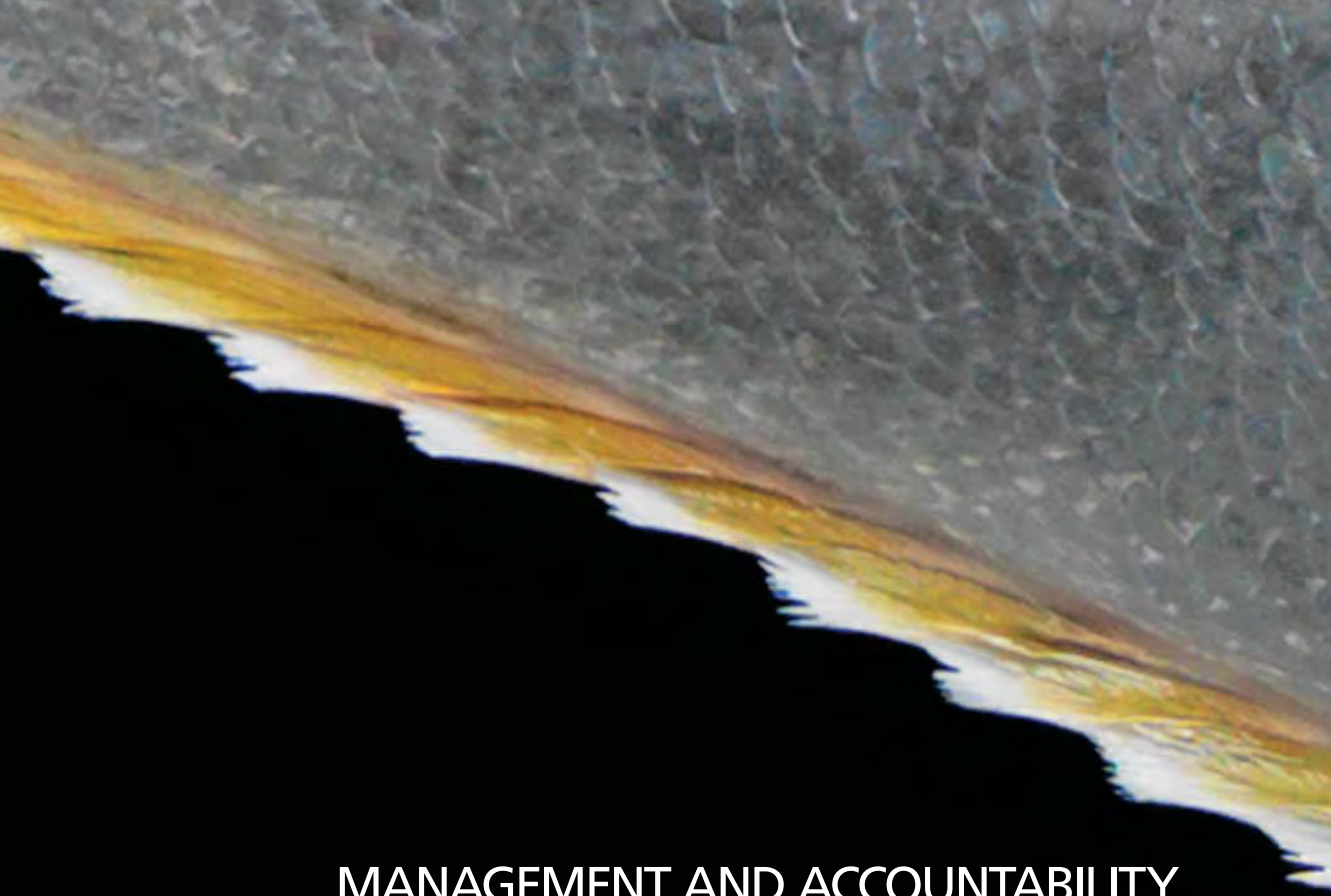
Overall, the focus is on delivering consistent messages about the provenance, quality and history of the Eyre Peninsula and its seafood. The purpose of this material is to empower the industry to have a greater and more thorough understanding of seafood from the Eyre Peninsula, in all aspects of the value chain, from water to plate.

This guide gives the supply chain an understanding of what is done here. Each industry sector and species has an individual approach to doing things—harvesting methods, quality assurance, sustainability and environmental programs.

The Seafood of the Eyre Peninsula is available from Regional Development Australia Eyre Peninsula and strong demand is expected. The guide is also available online from the Eyre Peninsula—Australia's Seafood Frontier website (www.seafoodfrontier.com.au) and future updates will be made to the web-based version.

Further information: Stacey Fallon, Regional Development Australia Eyre Peninsula, stacey@erdb.org.au

REPORT OF OPERATIONS PART 3



MANAGEMENT AND ACCOUNTABILITY AND CORPORATE GOVERNANCE

SCIENCE FOR SUSTAINABILITY

MANAGEMENT AND ACCOUNTABILITY AND CORPORATE GOVERNANCE

Planned outputs for this program are focused on continually improving the FRDC management and accountability activities. Each year, information on explicit planned outputs is provided in the annual operational plan. Since these outputs contribute to the planned outcomes of the five RD&E programs, they are crucial to the FRDC's effectiveness and efficiency. The FRDC's ISO-certified quality management system encompasses all these activities.

Principal inputs

During 2011–12, there was $3.71 million (around 12.5 per cent) invested in activities within management and accountability.

Performance indicators

Since the management and accountability outputs contribute to the planned outcome of the FRDC's RD&E programs, they are crucial to the FRDC's effectiveness and efficiency. These outputs are outlined on the following pages under the headings:

- Business strategy and planning
- Information management systems
- Corporate communications
- Risk management
- Quality system
- Human resources management
- Finance and administration
- Corporate governance

Performance indicators	Target	Achievement
Projects focus on the FRDC Board's assessment of priority research and development issues.	95%	All projects aligned to the priorities of the FRDC Board, government and industry stakeholders.
Projects are assessed as meeting high standards/ peer review requirements for improvements in performance and likely adoption.	95%	All projects met a high standard. Each project, where applicable, had an extension and development plan developed.
Maintain ISO 9001:2008 accreditation.	100%	FRDC maintained ISO 9001 accreditation following an external audit.
Submit planning and reporting documents in accordance with legislative and Australian Government requirements and timeframes.	100%	Achieved: All corporate documents were submitted according to required timeframes.
Implement best practice governance arrangements to promote transparency, good business performance, and unqualified audits.	100%	Achieved: FRDC received an unqualified audit report for 2011–12 financial statements.
Demonstrate the benefits of RD&E investments by positive benefit cost analysis results.	100%	Achieved: FRDC is part of the CRRDC evaluation process. Agtrans Research and Consulting evaluates FRDC projects.

MANAGEMENT AND ACCOUNTABILITY

Business strategy and planning

FRDC strategic planning and reporting documents (comprising RD&E Plan, annual operating plan and annual report) were completed and presented within their duly legislated timeframes to the Minister for Agriculture, Fisheries and Forestry.

Over the course of the year FRDC directors and staff worked together on both planning and risk management strategies documents for the Corporation. The documents aim to identify the key issues that face the FRDC, and outline strategies to take advantage of opportunities and to minimise or mitigate against negative risks.

To increase the effectiveness and ensure the views of stakeholders are heard, the FRDC Board and staff use a range of mechanisms. These include consulting with representative organisations, FRABs, sector industry bodies, government and other RDCs through the Council of Rural Research and Development Corporations' Chairs.

Fisheries Research Advisory Bodies

The FRDC supports a network of FRABs covering Commonwealth fisheries and the fisheries of each state and the Northern Territory. The FRABs have an extremely important role in maximising the efficiency of the FRDC's planning and investment processes. In the 2011–12 annual competitive funding round all open call applications were submitted through, or reviewed by, the FRABs. The FRABs also played a role providing advice on Tactical Research Fund projects that related to their jurisdiction.

The FRABs represent all sectors of the fishing industry, fisheries managers and researchers, and almost all include environmental and other community interests. Their Chairs in 2011–12 were as follows.

Commonwealth	Mr John Glaister
New South Wales	Mr Peter Dundas-Smith
Northern Territory	Mr Ian Curnow
Queensland	Mr James Fogarty
South Australia	Ms Catherine Cooper
Tasmania	Mr Ian Cartwright
Victoria	Nil
Western Australia	Mr Guy Leyland

For further information on the FRABs—**www.frdc.com.au**

Sector industry bodies

The FRDC has continued to build partnerships with individual industry sectors as these partnerships offer both parties a number of advantages. For industry they provide more involvement in determining and undertaking RD&E. For the FRDC they provide a more certain flow of funds and a greater understanding of the fishing industry.

Other consultation structures

On 29 April 2011, the FRDC ran its annual stakeholder workshop in Canberra to discuss a number of issues including the National RD&E Fisheries and Aquaculture Strategy, as well review the expression of interest approach to the annual competitive funding round and outlined the development of a new extension and adoption strategy.

In addition to the Corporation's fundamental operating philosophy of openness and accountability to its stakeholders, a number of other structures reinforce effective and ethical performance by the FRDC. They include steering committees at project and subprogram level, conferences, workshops and meetings.

Information management systems

OmniFish and FRDC's online application program FishNet are at the heart of FRDC processes and constitute a fully integrated online funding application system, and project and financial management system. Work to improve the systems has continued throughout the year.

During 2011–12 the FRDC upgraded some key components of its IT infrastructure— hardware and software. These upgrades aim to ensure the FRDC remains abreast of the latest technology.

Key upgrades were the development of a Microsoft XRM platform to host the FRDC Customer Relationship Management system. In addition, the FRDC's website platform was moved to an internal server running SharePoint 2010. The FRDC document management system, which uses SharePoint 2007, will be upgraded to the same SharePoint platform in early 2012–13. This will synchronise the currency of the internal and external sites and the document management system.

Energy efficiency

The Commonwealth Government's Energy Efficiency in Government Operations Policy seeks to improve energy efficiency in relation to vehicles, equipment and building design.

The FRDC adheres to the policy. The Corporation is a minority tenant occupying part of an office building and does not own motor vehicles or large equipment. Prudent management of power consumption is followed within the FRDC office. For example, timer switches have been placed in offices to reduce the time lights are left on.

Quality system

The FRDC is a certified AS/NZS ISO 9001:2008 organisation and undertakes both internal and external audits annually with a recertification audit of its quality system triennially. The FRDC carried out three internal staff audits and underwent its annual external audit on 11 October 2011.

The FRDC aims to meet, or exceed, the expectations of its stakeholders and organisations with whom it does business and operates on a continual improvement philosophy. The FRDC's quality management system encompasses the features of a service charter.

Corporate communications

Communication became a major focus for the FRDC in 2011–12 following the Board's decision to be more proactive in a number of areas. Interacting with the media was seen to be particularly important —see page 7.

The main drivers for this evolution came from FRDC stakeholder surveys conducted in 2011. Results highlighted several areas the FRDC needed to focus on. These include continuing face to face contact, use of new media and synthesis of reports to produce simple answers to common questions.

FRDC staff have worked hard in maintaining industry contacts and relationships that underpin the FRDC's partnership approach to RD&E. Staff used their time and opportunities by networking with researchers, industry and government colleagues at many meetings over the course of the year.

FISH magazine is now recognised as one of the leading fisheries research magazines in Australia. Survey results highlight a high level of recognition and approval. Over the course of the year, readership increased slightly. The magazine reported, and extended information, on RD&E projects that are underway or have been finalised. In the future FRDC will look to enhance hard copy editions and respond to reader requests for an electronic version designed for tablets.

The FRDC website grew in terms of the number of visitors and reports accessed. During the first part of 2012, FRDC began building a new web infrastructure and plan that will, in early 2012–13, see a redeveloped website launched. One of the main reasons for this change was the need to meet government accessibility requirements and improve useability. The number of final reports also grew with more than 1100 reports now available for free download. FRDC will continue, wherever possible, to make all final reports available from the website—**www.frdc.com.au**

Communication capacity was increased with a science writer and digital media writer joining the FRDC. This will enable the FRDC to dedicate resources at converting scientific reports into answers for industry and consumers alike. FRDC will also launch into social media early in 2012–13 utilising this medium to extend the reach of the answers, as well promote RD&E investment.

Risk management

There was no incidence of fraud during 2011–12.

The Board reviewed and approved the FRDC risk management framework at its February 2012 meeting. All staff participated in an internal risk workshop on 13 December 2011 which was used to update the Corporation's risk register. Additionally, the Board reviews the highest ranked risks at every meeting.

In 2010, the FRDC participated in Comcover's Risk Management and Benchmarking Survey which is conducted annually and provides an independent review of the FRDC's existing risk framework, involving a survey and a review of the documentation.

FRDC achieved a rating of 7.4 against the 10 elements of the Comcover benchmarking model. The average for individual peer group agencies (as defined by Comcover) was 6.4 compared to the average for the total 119 agencies evaluated which was 6.6 out of 10.

Risk management is incorporated into FRDC activities in accordance with its risk management policy, which is integrated into the Corporation's quality management system and internal audit program. The risk management policy also incorporates a fraud control framework in accordance with the Fraud Control Guidelines produced by the Attorney-General's Department which seeks to minimise the likelihood and impact of fraud. The FRDC also participated in an Australian Institute of Criminology survey during the year.

Australian Government protective security policy

The FRDC have implemented a number of physical and system changes to meet the requirements of the Protective Security Manual. These include installing physical card lock systems on front and back doors. In addition e-mail protective markings, in line with the new Protective Security Policy Framework, have been implemented. The FRDC continues to work on improving its security policies and procedures with regards to security risk management.

Indemnities and insurance premiums for officers

The FRDC is required by the Australian Government's self-insurance provisions to use Comcover for its insurance needs. Comcover's confidentiality requirements prohibit the release of information on the nature and limits of liabilities covered and the amount of contribution paid.

When appropriate, the FRDC takes out insurance policies to mitigate insurable risk.

Finance and administration

The 2011–12 audit report by the Australian National Audit Office confirmed the FRDC's financial statements gave a true and fair view of the financial position of the Corporation and there were no findings associated with the audit.

The FRDC has continued to build partnerships with individual industry sectors. It currently directly invests with entities such as Southern Rocklobster Ltd, Australian Southern Bluefin Tuna Industry Association, Tasmanian Salmonid Growers Association, Australian Prawn Farmers Association and the Australian Barramundi Farmers Association. These partnerships offer both parties a number of advantages. For industry they provide more involvement in determining and undertaking RD&E. For the FRDC they provide a more certain flow of industry funds and ultimately a greater understanding of the fishing industry.

A sample of the sectors that have contributed significantly to the maximum matchable contribution is shown in table 2: Industry contributions, maximum matchable contributions by the Australian Government and returns on investment, 2011–12 (page vii).

FRDC also holds a share in Australian Seafood Co-products (ASCo) which is a company developed to look at alternate uses for fish processing waste. During the year ASCo has been finalising an agreement with Incitec Pivot to produce the organic fertiliser Biophos.

Agreements and contracts

Each year the FRDC engages companies, research institutions, and government agencies to undertake research. The process for applying for funding is clearly outlined on the Corporation's website. Each organisation selected is directly engaged under contract for that project. A list of all active projects, including projects approved by the FRDC Board is available on the website—**www.frdc.com.au**

CONSULTANCY SERVICES AND SELECTION OF SUPPLIERS

During the year, the FRDC engaged seven consultancies (as defined in the Department of Prime Minister and Cabinet document, *Requirements for Departmental Annual Reports*) to the value of $10,000 or more.

Name of consultant Nature and purpose of consultancy Cost (exclusive of GST)	Strategic Fitness Noosa Pty Ltd Information technology advice $99,788.90
Name of consultant Nature and purpose of consultancy Cost (exclusive of GST)	Clayton Utz Legal advice $63,299.38
Name of consultant Nature and purpose of consultancy Cost (exclusive of GST)	Blake Dawson Legal advice $32,305.11
Name of consultant Nature and purpose of consultancy Cost (exclusive of GST)	Gnarwarre Group Review services $13,627.12
Name of consultant Nature and purpose of consultancy Cost (exclusive of GST)	Oakton AA Services Pty Ltd Accounting Services $23,680.00
Name of consultant Nature and purpose of consultancy Cost (exclusive of GST)	Mercer Human Resources Consulting Pty Ltd Review services $15,450.00
Name of consultant Nature and purpose of consultancy Cost (exclusive of GST)	Forestier & Co Interiors Quality Management Consulting $19,868.75

When selecting suppliers of goods and services, the FRDC follows its procurement procedure—which seeks to achieve value for money and to deal fairly and impartially. Obtaining value for money does not necessarily require the cheapest supplier to be selected. Other factors considered are urgency, quality, ethical conduct of the supplier, and whole-of-life costs.

Human resources management

The FRDC sets strategic directions with key stakeholders, then directly engages partner organisations from all over Australia to undertake the RD&E activities. As a result, the Corporation has linkages to many research organisations across Australia. This approach to project management provides the FRDC with a great deal of flexibility, but at the same time gives it the capacity of an organisation many times its size.

To put this into perspective, the FRDC partners with over 100 organisations annually who employ on FRDC research projects around 200 principal investigators, and many more researchers, communicators and technicians—not to mention the hundreds of industry people who work on numerous projects.

Staff

In 2011–12, the FRDC operated with 11.1 full-time-equivalent staff members (on average). The FRDC staff are the Corporation's most important resource and a key factor in the ongoing success of the organisation. In April, Ilaria Catizone joined the FRDC as science writer. Ilaria previously worked at CSIRO where she gained substantial experience in communicating science to the general public.

The FRDC employs staff based upon their suitability for a position and organisational fit. It promotes a work environment that is free from discrimination on the basis of race, colour, sex, sexual preference, age, physical or mental disability, marital status, family responsibilities, pregnancy, religion, political opinion, national extraction or social origin, or on the basis that an individual either is, or is not, a member of a union of employees, or of a particular union of employees.

All staff are employed under terms and conditions determined by the FRDC. As part of ensuring staff activities align with the organisation, each staff member has in place a Performance Appraisal and Development plan. The agreement outlines the key areas each staff member will focus on, and the key activities to be undertaken, to assist the FRDC deliver its outcomes.

BEHAVIOUR

Corporate governance practices are evolving rapidly, both in Australia and overseas. The FRDC is proactive in integrating these practices, including those governing ethical behaviour, into its own processes. The Corporation has a code of conduct that is appropriate to the Corporation's structure and activities and complies with division 4 of the *Commonwealth Authorities and Companies Act 1997* (CAC Act), to which all directors and staff are required to adhere. New directors and staff are briefed on the code during induction training.

REMUNERATION POLICY

Remuneration of non-executive directors is determined by the Remuneration Tribunal.

Remuneration of the Executive Director and staff is determined by an FRDC policy set by the Board, and is administered through the Board's Remuneration Committee. The amount of individual remuneration of the Executive Director and staff is based on advice by Mercer Human Resources Consulting Pty Ltd. The amount is also influenced by performance measured against individual performance agreements and by the size of the program support component within the total FRDC budget, from which salaries are paid.

FRDC has, in line with government policy, commenced the process to develop a certified agreement for all staff that will cover a range of employment conditions.

LIABILITIES TO STAFF

The FRDC provides for liabilities to its staff by ensuring its financial assets (cash, receivables and investments) are always greater than its employee provisions. Compliance with this policy is evidenced in the Statement of Financial Position in the Corporation's monthly financial statements.

Occupational health and safety

No injuries occurred on FRDC premises during 2011–12.

The FRDC is committed to providing a safe and healthy environment for all staff, contractors and visitors to its workplace. The FRDC recognises that its people are its greatest asset and its most valuable resource. The FRDC's ultimate goal is that its workplace is free of injury, illness and disease. The FRDC complies with its legislative obligations under the *Occupational Health and Safety Act 1991* (OH&S Act) and the *Work Health and Safety Act 2011* and takes all reasonably practicable steps to ensure a safe working environment. The FRDC's working environment is reviewed periodically by occupational health and safety consultants, and training is provided in workplace health and prevention of injury.

The FRDC's Health and Safety Management Arrangements Policy, has been developed in accordance with the requirements under 16(2)(d) of the OH&S Act in consultation with FRDC's employees. The FRDC also recognises the continued reviewing and improvement of its health and safety management system makes good sense legally, morally and from a business perspective.

Comcare Australia is responsible for worker's compensation insurance coverage within the Corporation. The insurance premiums are levied each year based on the level of salaries and wages costs and experience in claims made by the employees. Comcare also assesses compliance with the OH&S Act, associated regulations and approved codes of practices.

SECTION 74 OF THE *OCCUPATIONAL HEALTH AND SAFETY ACT 1991*

Statistics of any accidents or dangerous occurrences during the year that arose out of the conduct of undertakings by FRDC that are required the giving of notice under Section 68.	¬ No injuries occurred on FRDC premises during 2011–12.
Details of occupational, health and safety (OH&S) management arrangements.	¬ Consultation of OH&S issues includes all staff. ¬ Agreed Health and Safety Management Arrangements policy and procedures.
Initiatives undertaken during the year to ensure the health, safety and welfare at work of employees and contractors.	¬ Health and safety awareness and incidents are brought to the attention of all staff at the weekly staff meetings. ¬ Occupational rehabilitation physiotherapist provides ergonomic assessments to all new staff in their immediate working environment, and when requested. ¬ Staff are provided with access to influenza vaccinations. ¬ Workplace safety training. ¬ Annual fire safety and warden training, and six monthly checks of fire safety equipment. ¬ Annual testing and tagging of electrical appliances. ¬ Qualified first aid officer and fire warden. ¬ Assessment of risks in line with the risk framework annual review.
Health and safety outcomes including the impact on injury rates of employees and contractors.	¬ Increased awareness of roles and responsibilities in OH&S including responsibilities of managers.
Any investigations conducted during the year that relate to undertakings carried on by the employer, including details of all notices given to the employer under sections 29, 46 or 47 during the year.	¬ No requests were received from staff and no undertakings were given by the Corporation. ¬ No directions or notices were given to the Corporation.

Notifiable incidents	2009–10	2010–11
Deaths	0	0
Dangerous occurrences	0	0
Serious personal injury	0	0
Incapacity	0	0
Total	**0**	**0**

Disabilities

The FRDC's employment policies and procedures align with the *Disability Discrimination Act 1992* in the broader context of the National Disability Strategy 2010–2020. The FRDC's recruitment and staff development practices seek to eliminate disadvantage that may be contributed by disabilities. Consultation with people with a disability and when required, with appropriate specialist organisations, is a component of the FRDC's policies and practices, recognising the effect of a disability differs widely between individuals and that often a little thought makes a big difference in meeting a person's needs.

Equal employment opportunity

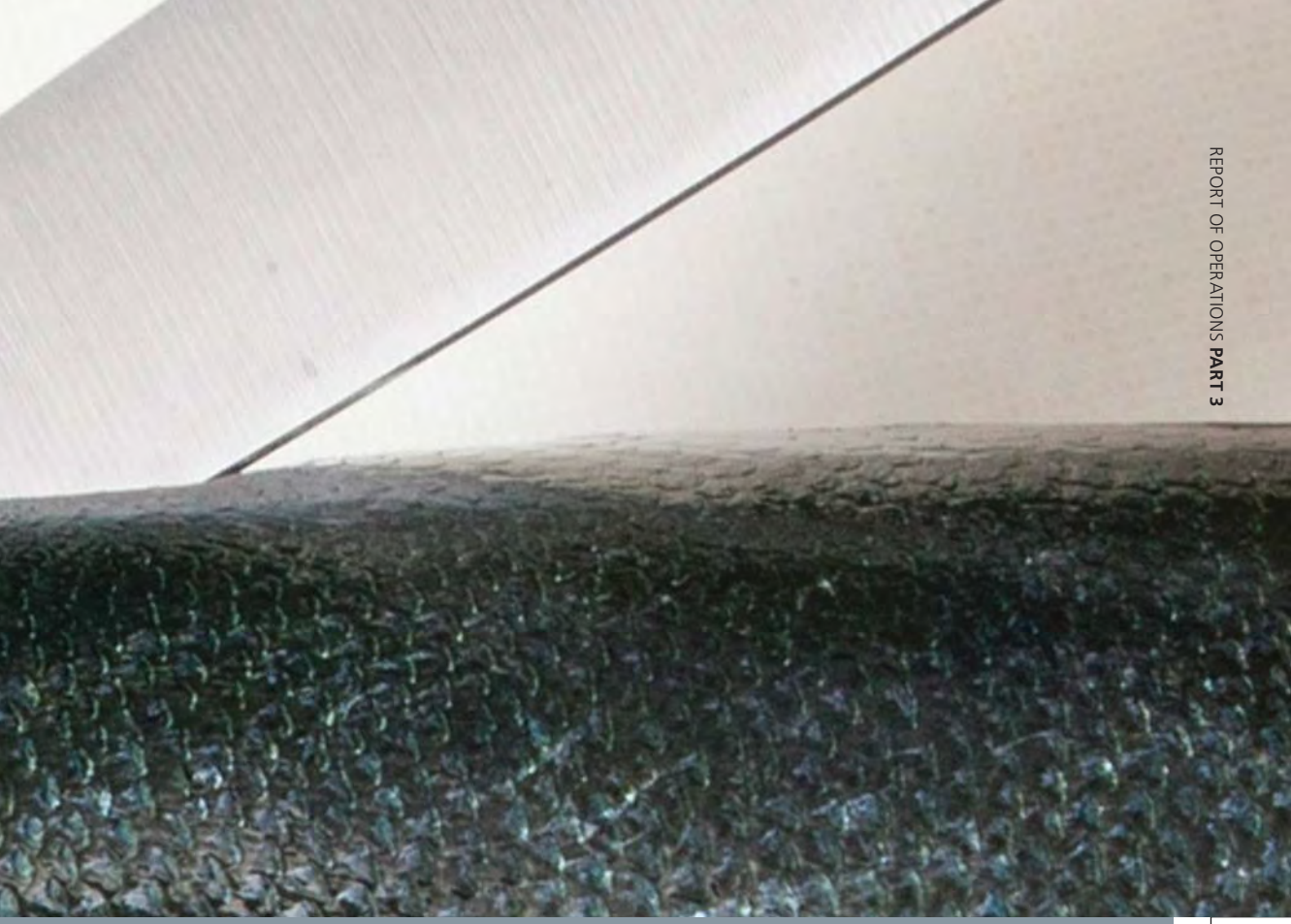
The FRDC has a policy of equal employment opportunity. Merit-based principles are applied in recruitment and promotion to ensure discrimination does not occur. Of the FRDC's staff of 12 as at 30 June 2012, seven are female.

Industrial democracy

The FRDC's staff members work as a team in which all contribute freely. This process is strongly reinforced by the FRDC's total quality management philosophy and the attendant emphasis on continual improvement. Staff are provided with the opportunity at staff meetings to raise issues and discuss options as to resolve how they are handled.

Judicial reviews

There were no judicial reviews in 2011–12.



CORPORATE GOVERNANCE

Governance refers to processes by which organisations are directed and controlled—including, characteristics such as authority, accountability, stewardship and leadership. Corporate governance is concerned with structures and processes for decision making, and with controls and behaviour within organisations that support effective accountability for performance outcomes.

The Corporation's general governance arrangements are largely established by legislation and government policies, procedures and reporting requirements. In addition to the requirements of the PIERD Act, which includes an annual operational plan, a research and development plan and an annual report, the Corporation also operates under the provisions of the CAC Act which applies high standards of accountability for statutory authorities.

The Board and staff are strongly committed to ensuring good corporate governance. In doing so, the focus is on structures, processes, controls, behaviour and transparency. To support the FRDC's high level of commitment to these principles, a full list of FRDC policies and copies of the financial statements are available from the FRDC website—**www.frdc.com.au**

Representative organisations

On 12 September 2011, the Parliamentary Secretary Dr Mike Kelly AM approved and had gazetted the National Seafood Industry Alliance as the fourth representative organisation for the FRDC.

The FRDC not only formally reports to the Minister and Parliament. It also reports to the annual meetings of its representative organisations: the Commonwealth Fisheries Association, the National Aquaculture Council, Recfish Australia and the National Seafood Industry Alliance.

Under section 15(2) of the PIERD Act and the *Guidelines on funding of consultation costs by primary industry and energy portfolio statutory authorities*, the FRDC may meet travel and other expenses incurred in connection with consultation between the Corporation and its representative organisations. During 2011–12 the FRDC incurred $13,756 (rounded to the nearest dollar) in such expenses. FRDC had budgeted for approximately $30,000 expenditure during 2011–12.

This support is governed by the *Guidelines on funding of consultation costs by primary industry and energy portfolio statutory authorities* which were issued by the Hon. John Anderson MP, Minister for Primary Industries and Energy in July 1998. These guidelines require the FRDC to provide details of all project related activities and costs in which the representative organisations have an interest. The list of project payments made to FRDC representative organisations is located at Appendix E (page 154).

Enabling legislation

The FRDC was formed as a statutory corporation on 2 July 1991 under the provisions of the PIERD Act. It also operates under the provisions of the CAC Act, which applies high standards of accountability while providing for the independence required by the Corporation's role as a statutory authority.

The FRDC's objects, deriving from section 3 of the PIERD Act and shown in Appendix C, are incorporated in the FRDC's vision and planned outcomes. As reflected in figure 1 on page 19, the Corporation's five RD&E programs mirror the industry development, natural resources sustainability and people development themes of, respectively, sub-sections 3(a), (b) and (c) of the Act. This alignment has brought simplicity and robustness to the FRDC's RD&E planning, implementation and reporting, and to many of the organisations with which it does business. Importantly, the alignment ensures the RD&E outputs resulting from the Corporation's investments fully address the legislative objects.

More information about the FRDC's legislative foundations can be found in Appendix C.

Responsible minister and exercise of ministerial powers

The portfolio Minister for Agriculture, Fisheries and Forestry is Senator the Hon. Joe Ludwig.

The Parliamentary Secretary to the Minister for Agriculture, Fisheries and Forestry during the part of the year was the Hon. Dr Mike Kelly AM, MP.

MINISTERIAL DIRECTIONS

The PIERD Act provides that the Minister may give direction to the Corporation with respect to the performance of its functions and the exercise of its powers. In addition, the Minister, under the CAC Act, may notify the Board of any general Australian Government policies that apply to the Corporation. At the date of this report, the following Ministerial Directions and Notifications have been received.

- In May 1995, the Minister issued a directive in accordance with the PIERD Act that spending of industry contributions is to be of direct relevance, within a five year period, to the fishery, industry sector, or state/territory in which funds were collected. The FRDC is to have regard to advice from management agencies and industry sectors, including FRABs.
- In July 1998, the Minister issued a directive in accordance with section 16(1)(b) of the CAC Act requiring the Corporation to comply with the reporting requirements of the *Guidelines on funding of consultation costs by primary industry and energy portfolio statutory authorities*.

- The Minister has notified the Corporation under section 28 of the CAC Act that the following policies apply to the Corporation.
  - On 21 August 2002, Commonwealth Fraud Control Guidelines 2002.
  - On 28 August 2002, Finance Circular No. 2002/01—Foreign Exchange (Forex) Risk Management.
  - On 14 April 2003, Finance Circular No. 2002/02—Cost Recovery by Government Agencies.
  - On 13 October 2003, National Code of Practice for the Construction Industry and the Commonwealth's Implementation Guidelines.
- On 23 September 2008 the Minister notified the Corporation under section 143 of the PIERD Act requiring the Corporation to comply with the Australian Government Bargaining Framework when exercising their power to engage employees.

MINISTERIAL PRIORITIES

Minister Ludwig wrote to the FRDC on 1 May 2012 outlining a range of key priority areas for all RDCs. These included implementation of the rural RD&E framework, carbon and water related research and development, along with collaboration between other organisations. Over the course of the year the FRDC has placed emphasis on these and incorporated them into planning and funding documents.

GOVERNMENT POLICY

The FRDC during 2011–12 complied with all relevant Australian Government policy requirements, including:

- Commonwealth Fraud Control Guidelines 2002.
- Cost recovery policy.
- Australian Government Property Ownership Policy 2005.
- Protective Security Manual 2005 as a general policy of government.

MINIMISATION OF ADMINISTRATION

To increase its production of outputs in the face of greatly increasing demand for fisheries RD&E, the FRDC continually strives to improve the way in which it goes about its business.

Productivity has been increased through improved management procedures, aided by the FRDC quality management system, and through the innovation, application and professional development of staff members. As part of this process, the FRDC aims to maximise the proportion of funds expended on RD&E programs by minimising the cost of administration.

Freedom of information

During 2010–11, the FRDC received its first inquiry pursuant to the *Freedom of Information Act 1982* (FOI Act).

The FRDC is required to comply with the FOI Act. In many cases it may not be necessary to request the information under the FOI Act—the FRDC may simply provide it to you when you ask for it. At all times, however, you have the option of applying under the FOI Act.

From 1 May 2011 agencies subject to the FOI Act are required to publish information to the public as part of the Information Publication Scheme (IPS). This requirement is in Part II of the FOI Act and has replaced the former requirement to publish a section 8 statement in an annual report. An agency plan showing what information is published in accordance with the IPS requirements is accessible from the FRDC website—www.frdc.com.au

More information on freedom of information see Appendix F on page 155.

The Board

The Board comprises up to nine directors who are appointed in accordance with sections 17 and 77 of the PIERD Act. Directors are selected on the basis of their expertise in a variety of fields derived from the PIERD Act. These include commodity production and processing, conservation, science, economics, and business and finance management.

Directors are appointed for a term not exceeding three years. All directors except the Executive Director are appointed on a part-time basis.

The Board ensures that FRDC staff are provided with strong leadership, and their qualifications, skills and experience are enhanced with formal, and on-the-job, training. This includes a formal induction process on the FRDC and a two-day workshop run by the Australian Institute of Company Directors. In addition, the FRDC Board meets outside Canberra three times a year in regions key to the fishing industry. This provides directors with the opportunity to liaise and discuss issues with relevant industry stakeholders, as well as see first-hand, fishing industry in action.

Details of the directors who held office during the year are shown on the following pages.

DIRECTORS' BIOGRAPHIES

The Hon. Harry Woods: Chair

Appointed as Chair 1 September 2010.

Harry Woods comes from a diverse background having been an auditor, bookmaker and publican before serving many years as a politician in both federal and state governments. He was the member for Page from 1990 to 1996. Following this, Harry was elected as the Member for Clarence in the New South Wales Legislative Assembly. During his time in New South Wales Parliament he was Minister for Regional Development and Minister for Rural Affairs from 1997–99 and Minister for Local Government, Minister for Regional Development and Minister for Rural Affairs from 1999 until his retirement in 2003.

Since then, Harry has spent time as a professional fisherman, undertaken policy review work for the New South Wales Government, worked as an accredited mediator and has been involved in the development and building of commercial property. Harry has a good understanding of, not only the fishing industry, but the broader primary industries arena. As the member for Page his responsibilities included a diverse range of issues—dairy cattle, pigs, maize, tropical fruit, sugar cane, fishing, prawning, oyster farming, butter and bacon factories, breweries, timber mills, and tourism.

Stuart Richey AM: Deputy Chair

Appointed as a director 28 September 2006 and re-appointed 1 September 2009.
Chair of the Finance, Audit and Risk Management Committee.

Stuart Richey is Managing Director, Richey Fishing Company Pty Ltd and Richey Services. Stuart has held a number of senior positions in the fishing industry on behalf of industry and government. He holds Master Class IV (trading) and Skipper Class II (fishing) qualifications. He chairs the Northern Prawn Management Advisory Committee and was a founding director of the Tasmanian Fishing Industry Council, a director for a number of years of the South East Trawl Fishing Industry Association, and a previous deputy chair of the Australian Fisheries Management Authority.

Dr Patrick Hone: Executive Director

Appointed Executive Director from 21 April 2005.

Patrick Hone is Executive Director of the FRDC, a director of the Seafood CRC and a member of the Ocean Policy Science Advisory Group. Patrick has extensive knowledge of all sectors of the fishing and aquaculture industries. Over the last 15 years working for FRDC he has played a key role in the planning, management and funding of fishing and aquaculture related research, development and extension in Australia. Patrick has a PhD from Adelaide University, and previously worked for the South Australian Research and Development Institute (SARDI) on a wide range of aquaculture research for Southern Bluefin Tuna, Pacific Oysters, mussels, Yellowtail Kingfish and abalone.

Heather Brayford: Director

Appointed 1 September 2009. Member of the Remuneration Committee.

Heather Brayford has extensive experience in fisheries and aquatic resource management including senior management and policy roles related to commercial fisheries, recreational fisheries, pearling and aquaculture and fish habitat protection. Heather is currently the Deputy Director General with the Western Australian Department of Fisheries and has also held the position of Executive Director of Fisheries in the Northern Territory.

Renata Brooks: Director

Appointed 1 September 2009.

Renata Brooks is the Deputy Director General, Catchments and Lands in the Department of Primary Industries, with responsibility for the New South Wales crown land estate, delivery of natural resource management programs, particularly through catchment management authorities, the Soil Conservation Service and coordination of regional services across the Department of Primary Industries.

She has previously held senior executive positions within the Department of Primary Industries in the areas of science and research, agriculture, fisheries, biosecurity and compliance and mine safety. Renata holds a Bachelor of Veterinary Science from the University of Sydney, with first class honours, a Graduate Certificate in Bioethics from the University of Technology, Sydney, and is a graduate of the Australian Institute of Company Directors.

Brett McCallum: Director

Appointed 9 September 2009. Member of the Finance, Audit and Risk Management Committee.

Brett McCallum is Chief Executive Officer of the Pearl Producers Association. He has held a number of senior roles in the fishing industry and has been involved in a number of industry and government advisory committees. Previous roles include Chief Executive Officer of the Western Australian Fishing Industry Council, National Aquaculture Council director and several executive management positions in major commercial fishing companies.

Dr Daryl McPhee: Director

Appointed 1 September 2009.

Dr Daryl McPhee is Associate Professor of Environmental Science at Bond University and director of McPhee Research Consultants. Daryl has worked on behalf of industry and government on projects involving all sectors of the fishing industry. This has included industry development and technology transfer and the development and implementation of environmental management systems. He has published numerous papers and reports on topics related to fisheries and marine ecology and fisheries economics and is the author of the textbook *Fisheries Management in Australia*. He also has extensive experience in the environmental assessment of port-related activities.

Professor Keith Sainsbury: Director

Appointed 15 September 2009.

Keith Sainsbury is Professor of Marine System Science, University of Tasmania and a director of SainSolutions Pty Ltd. Keith is Vice-Chair, Marine Stewardship Council, science advisor for the CSIRO Wealth from Oceans Flagship, and a commissioner of the Australian Fisheries Management Authority. He was the 2012 recipient of the Swedish Seafood Award for contributions to achieving ecosystem based fishery management and 2004 laureate of the prestigious Japan Prize for Science for his work in understanding shelf ecosystems and their sustainable utilisation.

Richard Stevens OAM: Director

Appointed as a director 28 September 2006 and re-appointed 1 September 2009.
Member of the Finance, Audit and Risk Management Committee.

Richard Stevens is a fisheries management and government relations adviser. Richard is also a commissioner of the Australian Fisheries Management Authority and a member of the Fisheries Council of South Australia. He chairs the Southern Bluefin Tuna Research Council and a number of fishery management advisory committees. Previous roles include New South Wales Fisheries Resource Conservation Advisory Council chair and member of the Council of the Australian Maritime College, Tasmania.

INDEPENDENT COMMITTEE MEMBER

Mr Robert Seldon—Independent member

Appointed as an independent member of the Finance, Audit and Risk Committee August 2008.

Robert Seldon has more than 40 years' experience in merchant banking, including 15 years as chief executive of a major United States banking subsidiary in Australia. He has had substantial exposure to both food and agribusiness activities, with an active participation in the provision of advice on mergers and acquisitions within that sector. Robert is currently on the Board of Horticulture Australia Ltd and Chair of that company's Finance and Risk Committee. He was formerly a director of the Australian Fisheries Management Authority and Chair of their Finance and Audit Committee.

BOARD COMMITTEES

Currently the Board has two committees:

- **The Finance, Audit and Risk Management Committee**. The Board at the 12 August 2008 meeting, agreed to appoint Mr Robert Seldon to the Committee as an independent member. Mr Seldon has continued in this role during this financial year.
  - The Finance, Audit and Risk Management Committee comprises at least two non-executive directors and the Business Development Manager. The Committee provides a forum for the effective communication between the Board and the external and internal auditors. It also oversees the FRDC Risk Management Framework.
- **The Remuneration Committee**.
  - The Remuneration Committee comprises the FRDC Chair (Chair of the Committee) and two non-executive directors elected by the Board.
  - The Committee reviews the remuneration packages of the Executive Director and senior management on annual basis and makes recommendations to the Board. The packages will be reviewed with due regard to performance and other relevant factors including market relativity.

For more information on the terms of reference for these committees please visit the FRDC website —www.frdc.com.au

ATTENDANCE AT BOARD MEETINGS HELD DURING 2011–12

The tables below show attendance at Board meetings held during the year. The Chairman approved all absences from Board meetings in accordance with section 71(2) of the PIERD Act.

TABLE 7A: ATTENDANCE BY DIRECTORS AND OFFICER AT BOARD MEETINGS

Date	26/8/11	29/11/11	14/2/12	19/4/12	14/6/12
The Hon. Harry Woods (Chair)	Yes	Yes	Yes	Yes	Yes
Mr Stuart Richey (Deputy Chair)	Yes	Yes	Yes	Yes	Yes
Dr Patrick Hone (Executive Director)	Yes	Yes	Yes	Yes	Yes
Ms Heather Brayford	Yes	Yes	Yes	Yes	Yes
Ms Renata Brooks	Yes	Yes	Yes	Yes	Yes
Mr Brett McCallum	Yes	Yes	Yes	Yes	Yes
Dr Daryl McPhee	Yes	Yes	Yes	Yes	Yes
Dr Keith Sainsbury	Yes	Yes	Yes	Yes	No
Mr Richard Stevens OAM	Yes	Yes	Yes	Yes	Yes
Mr John Wilson (Company Secretary)	Yes	Yes	Yes	Yes	Yes

TABLE 7B: ATTENDANCE BY DIRECTORS, INDEPENDENT MEMBER AT FINANCE, AUDIT AND RISK MANAGEMENT COMMITTEE MEETINGS

Date	25/8/11	28/11/11	12/2/12
Mr Stuart Richey (Chair)	Yes	Yes	Yes
Dr Patrick Hone	Yes	Yes	Yes
Mr Brett McCallum	Yes	Yes	Yes
Mr Daryl McPhee	n/a	n/a	Yes
Mr Richard Stevens	Yes	Yes	n/a
The Hon. Harry Woods	Yes	No	Yes
Mr Robert Seldon (Independent member)	Yes	Yes	Yes
Mr John Wilson (Company Secretary)	Yes	Yes	Yes

n/a: Signifies the director was not eligible to attend the meeting (either they had not yet been appointed or their tenure had ended).

TABLE 7C: ATTENDANCE BY DIRECTORS AT REMUNERATION COMMITTEE MEETINGS

Date T/C: teleconference	29/11/11 T/C	29/5/12 T/C	12/6/12
The Hon. Harry Woods (Chair)	Yes	Yes	Yes
Ms Heather Brayford	Yes	Yes	Yes
Ms Renata Brooks	Yes	Yes	Yes

Directors' interests

The FRDC's policy on directors' interests, complies with section 21 of the CAC Act. The policy centres on the principle that a director must disclose an interest whenever he/she considers there is a potential conflict of interests. The FRDC places, where appropriate, its policies on its website.

Participation by director with conflict of interests

A standing notice about directors' interests is updated at each Board meeting. All declarations of interests, and their consideration by the Board, are recorded in the minutes.

SCIENCE FOR SUSTAINABILITY

2011–12

AUDITOR–GENERAL'S REPORT

INDEPENDENT AUDITOR'S REPORT

To the Minister for Agriculture, Fisheries and Forestry

I have audited the accompanying financial statements of the Fisheries Research and Development Corporation for the year ended 30 June 2012, which comprise: a Statement by Directors, Executive Director, and Chief Financial Officer; the Statement of Comprehensive Income; Balance Sheet; Statement of Changes in Equity; Cash Flow Statement; Schedule of Commitments; Schedule of Contingencies; and Notes to and forming part of the financial statements comprising a summary of significant accounting policies.

Director's Responsibility for the Financial Statements

The directors of the Fisheries Research and Development Corporation are responsible for the preparation of the financial statements that give a true and fair view in accordance with the Finance Minister's Orders made under the *Commonwealth Authorities and Companies Act 1997,* including the Australian Accounting Standards, and for such internal control as is necessary to enable the preparation of the financial statements that give a true and fair view and are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

My responsibility is to express an opinion on the financial statements based on my audit. I have conducted my audit in accordance with the Australian National Audit Office Auditing Standards, which incorporate the Australian Auditing Standards. These auditing standards require that I comply with relevant ethical requirements relating to audit engagements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgement, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Fisheries Research and Development Corporation's preparation of the financial statements that give a true and fair view 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 Fisheries Research and Development Corporation's internal control. An audit also includes evaluating the appropriateness of the accounting policies used and the reasonableness of accounting estimates made by the directors, as well as evaluating the overall presentation of the financial statements.

GPO Box 707 CANBERRA ACT 2601
19 National Circuit BARTON ACT 2600
Phone (02) 6203 7300 Fax (02) 6203 7777

I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my audit opinion.

Independence

In conducting my audit, I have followed the independence requirements of the Australian National Audit Office, which incorporate the requirements of the Australian accounting profession.

Opinion

In my opinion, the financial statements of the Fisheries Research and Development Corporation:

(a) have been prepared in accordance with the Finance Minister's Orders made under the *Commonwealth Authorities and Companies Act 1997*, including the Australian Accounting Standards; and

(b) give a true and fair view of the matters required by the Finance Minister's Orders including the Fisheries Research and Development Corporation's financial position as at 30 June 2012 and its financial performance and cash flows for the year then ended.

Australian National Audit Office

Peter Kerr

Executive Director

Delegate of the Auditor-General

Canberra

29 August 2012

FOR THE YEAR ENDED 30 JUNE 2012

SCIENCE FOR SUSTAINABILITY

FINANCIAL STATEMENTS

STATEMENT BY DIRECTORS, EXECUTIVE DIRECTOR AND CHIEF FINANCIAL OFFICER

In our opinion, the attached financial statements for the period ended 30 June 2012 are based on properly maintained financial records, and give a true and fair view of the matters required by the Finance Minister's Orders made under the *Commonwealth Authorities and Companies Act 1997* (CAC Act), as amended.

In our opinion, at the date of this statement, there are reasonable grounds to believe that the Authority will be able to pay its debts as, and when, they become due and payable.

This statement is made in accordance with a resolution of the directors.

Signed..... 29/8/ 2012
The Hon. Harry Woods
Chair

Signed..... 29/8 2012
Stuart Richey AM
Chair Finance, Audit and Risk Management Committee

Signed..... 29/8 2012
Dr Patrick Hone
Executive Director

Signed..... 29/8/12 2012
John Wilson
Chief Financial Officer

STATEMENT OF COMPREHENSIVE INCOME

FOR THE PERIOD ENDED 30 JUNE 2012

	Notes	2012 $	2011 $
EXPENSES			
Employee benefits	3A	**1,957,162**	1,795,526
Suppliers	3B	**1,112,348**	1,165,686
Projects expenditure	3C	**25,979,090**	22,207,389
Depreciation and amortisation	3D	**530,489**	537,805
Finance costs	3E	**38,242**	49,377
Losses from assets disposals	3F	**695**	–
Other expense	3G	**66,000**	–
Total expenses		**29,684,026**	25,755,783
LESS:			
OWN-SOURCE INCOME			
Sale of goods and rendering of services	4A	**76,033**	63,133
Interest	4B	**552,224**	521,959
Grants	4C	**462,682**	885,000
Contributions	4D	**7,699,229**	8,698,326
Total own-source revenue		**8,790,168**	10,168,418
Net cost of services		**(20,893,858)**	(15,587,365)
Revenue from the Australian Government	4E	**16,631,017**	16,527,667
(Deficit) / Surplus attributable to the Australian Government		**(4,262,841)**	940,302
OTHER COMPREHENSIVE INCOME			
Changes in asset revaluation surplus		**17,162**	–
Total other comprehensive income		**17,162**	–
Total comprehensive (loss) / income attributable to the Australian Government		**(4,245,679)**	940,302

THE ABOVE STATEMENT SHOULD BE READ IN CONJUNCTION WITH THE ACCOMPANYING NOTES.

BALANCE SHEET

AS AT 30 JUNE 2012

	Notes	2012 $	2011 $
ASSETS			
Financial assets			
Cash and cash equivalents	5A	**4,878,725**	8,494,643
Trade and other receivables	5B	**1,290,022**	1,566,960
Other investments	5C	**5,001**	5,001
Other financial assets	5D	**–**	60,000
Total financial assets		**6,173,748**	10,126,604
Non-financial assets			
Property, plant and equipment	6A,C	**130,743**	183,764
Intangibles	6B,C	**2,061,215**	2,220,810
Total non-financial assets		**2,191,958**	2,404,574
Total assets		**8,365,706**	12,531,178
LIABILITIES			
Payables			
Suppliers	7A	**126,632**	174,409
Projects	7B	**423,306**	188,380
Other payables	7C	**638,571**	924,333
Total payables		**1,188,509**	1,287,122
Provisions			
Employee provisions	8A	**717,063**	538,243
Total provisions		**717,063**	538,243
Total liabilities		**1,905,572**	1,825,365
Net assets		**6,460,134**	10,705,813
EQUITY			
Reserves		**194,681**	177,519
Retained earnings		**6,265,453**	10,528,294
Total equity		**6,460,134**	10,705,813

THE ABOVE STATEMENT SHOULD BE READ IN CONJUNCTION WITH THE ACCOMPANYING NOTES.

STATEMENT OF CHANGES IN EQUITY

FOR THE PERIOD ENDED 30 JUNE 2012

	Retained earnings		Asset revaluation surplus		Total equity	
	2012 $	2011 $	**2012 $**	2011 $	**2012 $**	2011 $
Opening balance						
Balance carried forward from previous period	**10,528,294**	9,587,993	**177,519**	177,519	**10,705,813**	9,765,511
Adjusted opening balance	**10,528,294**	9,587,993	**177,519**	177,519	**10,705,813**	9,765,511
Comprehensive income						
Other comprehensive income	–	–	**17,162**	–	**17,162**	–
(Deficit) / Surplus for the period	**(4,262,841)**	940,302	–	–	**(4,262,841)**	940,302
Total comprehensive income	**(4,262,841)**	940,302	**17,162**	–	**(4,245,679)**	940,302
of which:						
Attributable to the Australian Government	**(4,262,841)**	940,302	**17,162**	–	**(4,245,679)**	940,302
Closing balance as at 30 June 2012	**6,265,453**	10,528,294	**194,681**	177,519	**6,460,134**	10,705,813
Closing balance attributable to the Australian Government	**6,265,453**	10,528,294	**194,681**	177,519	**6,460,134**	10,705,813

THE ABOVE STATEMENT SHOULD BE READ IN CONJUNCTION WITH THE ACCOMPANYING NOTES.

CASH FLOW STATEMENT

FOR THE PERIOD ENDED 30 JUNE 2012

	Notes	2012 $	2011 $
OPERATING ACTIVITIES			
Cash received			
Receipts from the Australian Government		**16,925,229**	17,287,476
Contributions		**8,744,216**	9,186,460
Grants		**462,682**	885,000
Interest		**539,043**	502,729
Net GST received		**1,655,744**	1,439,132
Other		**76,033**	63,133
Total cash received		**28,402,947**	29,363,930
Cash used			
Employees		**(1,778,342)**	(1,725,749)
Suppliers		**(1,443,213)**	(2,235,772)
Projects expenditure		**(28,105,899)**	(24,275,194)
Other		**(66,000)**	–
Total cash used		**(31,393,454)**	(28,236,715)
Net cash (used by) / from operating activities	9	**(2,990,507)**	1,127,215
INVESTING ACTIVITIES			
Cash used			
Purchase of property, plant and equipment		**(21,899)**	(31,860)
Purchase of intangibles		**(279,508)**	(212,447)
Total cash used		**(301,407)**	(244,307)
Net cash used by investing activities		**(301,407)**	(244,307)
FINANCING ACTIVITIES			
Cash used			
Other	7C	**(324,004)**	(324,004)
Total cash used		**(324,004)**	(324,004)
Net cash used by financing activities		**(324,004)**	(324,004)
Net (decrease) / increase in cash held		**(3,615,918)**	558,905
Cash and cash equivalents at the beginning of the reporting period		**8,494,643**	7,935,738
Cash and cash equivalents at the end of the reporting period	5A	**4,878,725**	8,494,643

THE ABOVE STATEMENT SHOULD BE READ IN CONJUNCTION WITH THE ACCOMPANYING NOTES.

SCHEDULE OF COMMITMENTS

AS AT 30 JUNE 2012

	2012 $	2011 $
BY TYPE		
Commitments receivable		
Net GST recoverable on operating lease commitments	**12,188**	22,607
Net GST recoverable on project commitments	**4,812,174**	4,742,189
Total commitments receivable	**4,824,362**	4,764,796
Commitments payable		
Other commitments		
Operating leases [1]	**134,068**	248,680
Project commitments [2]	**52,933,917**	52,164,077
Total other commitments	**53,067,984**	52,412,757
Net commitments by type	**48,243,622**	47,647,961
BY MATURITY		
Commitments receivable		
Other commitments receivable		
One year or less	**3,045,437**	3,072,987
From one to five years	**1,778,925**	1,691,809
Over five years	**–**	–
Total other commitments receivable	**4,824,362**	4,764,796
Total commitments receivable	**4,824,362**	4,764,796
Commitments payable		
Operating lease commitments		
One year or less	**123,755**	119,367
From one to five years	**10,313**	129,314
Over five years	**–**	–
Total operating lease commitments	**134,068**	248,680
Project commitments		
One year or less	**33,376,050**	33,683,493
From one to five years	**19,557,867**	18,480,584
Over five years	**–**	–
Total project commitments	**52,933,917**	52,164,077
Net commitments by maturity	**48,243,622**	47,647,961

Note: Commitments are GST inclusive where relevant.

(1) Operating leases included were effectively non-cancellable. The lease for the office accommodation at 25 Geils Court, Deakin expires on 31 July 2013. Lease payments are subject to an annual increase in accordance with upwards movements in the Consumer Price Index. The initial period of office accommodation lease is still current and may be renewed for up to three years at the FRDC's option, following a once-off adjustment to rental for the current market level.

(2) Project commitments comprise the future funding of approved projects that are contingent on achievement of agreed milestones over the life of those projects (project agreements are exchanged prior to release of the first payment on a project). Projects, where amounts were payable but were unpaid at the end of the period, have been brought to account as project payables. The FRDC contracts to fund projects in future years in advance of receipt of the income needed to fund them. It manages this risk by having the project agreement allow for termination due to insufficient funds or change of Australian Government policy. If the FRDC were to terminate a project agreement, it would only be liable to compensate the research partner for reasonable costs in respect of unavoidable loss incurred by the research partner and directly attributable to the termination.

THIS SCHEDULE SHOULD BE READ IN CONJUNCTION WITH THE ACCOMPANYING NOTES.

SCHEDULE OF CONTINGENCIES

AS AT 30 JUNE 2012

	Notes	2012 $	2011 $
Contingent liabilities			
Seafood CRC Company Ltd	10	**4,581,168**	7,600,030
Total contingent liabilities		**4,581,168**	7,600,030

Details of contingent liabilities listed above are disclosed in Note 10: Contingent liabilities and assets.

At 30 June 2012, the FRDC had no contingent assets.

THE ABOVE SCHEDULE SHOULD BE READ IN CONJUNCTION WITH THE ACCOMPANYING NOTES.

Notes to and forming part of the financial statements for the period ended 30 June 2012

Table of contents—notes

NOTE 1: SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

1.1 The objective of the Fisheries Research and Development Corporation (FRDC)

The FRDC is an Australian Government controlled entity. It is a not-for-profit entity established as a statutory corporation on 2 July 1991, under the provisions of the *Primary Industries and Energy Research and Development Act 1989* (PIERD Act). The objective of the FRDC is to optimise economic, environmental and social benefits for its stakeholders through effective investment and partnership in 'research, development and extension' (RD&E). The FRDC aims to maximise the benefits from its investment, by ensuring that the activity is well targeted, meets Australian Government and industry RD&E priorities, and builds on previous achievements where applicable.

The FRDC is structured to meet the following outcome:

> *Increased knowledge that fosters sustainable economic, environmental and social benefits for the Australian fishing industry; including indigenous, recreational, commercial and aquaculture sectors, and the community; through investing in research, development and adoption.*

The continued existence of the FRDC in its present form and with its present programs is dependent on Australian Government policy, and on continuing funding by the Parliament for the FRDC's administration and program.

1.2 Basis of preparation of the financial statements

The financial statements are general purpose financial statements, and are required by clause 1(b) of Schedule 1 to the *Commonwealth Authorities and Companies Act 1997*(CAC Act).

The financial statements have been prepared in accordance with:

a) Finance Minister's Orders (FMOs) for reporting periods ending on, or after, 1 July 2011; and

b) Australian Accounting Standards and Interpretations issued by the Australian Accounting Standards Board (AASB) that apply for the reporting period.

The financial statements have been prepared on an accrual basis and in accordance with the historical cost convention, except for certain assets and liabilities at fair value. Except where stated, no allowance is made for the effect of changing prices on the results or the financial position.

The financial statements are presented in Australian dollars, and values are rounded to the nearest dollar unless otherwise specified.

Unless an alternative treatment is specifically required by an accounting standard or the FMOs, assets and liabilities are recognised in the Balance Sheet when, and only when, it is probable that future economic benefits will flow to the entity; or a future sacrifice of economic benefits will be required, and the amounts of the assets or liabilities can be reliably measured. However, assets and liabilities arising under executor contracts are not recognised unless required by an accounting standard. Liabilities and assets that are unrecognised are reported in the Schedule of Commitments or the Schedule of Contingencies.

Unless an alternative treatment is specifically required by an accounting standard, income and expenses are recognised in the Statement of Comprehensive Income when, and only when, the flow, consumption or loss of economic benefits has occurred and can be reliably measured.

NOTE 1: SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

1.3 Significant accounting judgements and estimates

No accounting assumptions or estimates have been identified that have a significant risk of causing a material adjustment to carrying amounts of assets and liabilities within the next accounting period. Key balances that relate to accounting judgements and estimates are detailed in Note 6A: Property, plant and equipment and in Note 8A: Employee provisions.

1.4 New Australian Accounting Standards

Adoption of new Australian Accounting Standard requirements

No accounting standard has been adopted earlier than the application date as stated in the standard.

The new standards, revised standards, interpretations and amending standards that were issued prior to the signing of the statements by the: Board Chair; Chair Finance, Audit and Risk Management Committee; Executive Director; and the Chief Financial Officer; and are applicable to the current reporting period, did not have a financial impact and are not expected to have a future financial impact on the FRDC.

Future Australian Accounting Standard requirements

The new standards, revised standards, interpretations and amending standards that were issued prior to the signing of the statements by the: Board Chair; Chair Finance, Audit and Risk Management Committee; Executive Director; and Chief Financial Officer; and are applicable to the future reporting period, are not expected to have a future financial impact on the FRDC.

1.5 Revenue

Contributions are paid to the FRDC under Section 30A of the PIERD Act. Contributions are recognised when they are entitled to be received by the FRDC.

Revenue from the sale of goods is recognised when:

a) the risks and rewards of ownership have been transferred to the buyer;

b) the FRDC retains no managerial involvement or effective control over the goods;

c) the revenue and transaction costs incurred can be reliably measured; and

d) it is probable that the economic benefits associated with the transaction will flow to the FRDC.

Revenue from rendering of services is recognised by reference to the stage of completion of contracts at the reporting date. The revenue is recognised when:

a) the amount of revenue, stage of completion, and transaction costs incurred can be reliably measured; and

b) the probable economic benefits associated with the transaction will flow to the entity.

The stage of completion of contracts at the reporting date is determined by reference to the proportion that costs incurred to date bear to the estimated total costs of the transaction.

Receivables for goods and services, which have 30 day terms, are recognised at the nominal amounts due, less any impairment allowance account. Collectability of debts is reviewed as at the end of each reporting period. Allowances are made when the collection of the debt is no longer probable.

Interest revenue is recognised using the effective interest method as set out in *AASB 139 Financial Instruments: Recognition and Measurement*.

Other contributions, including Australian Government grants, are recognised when:

a) the FRDC obtains control of the contribution or the right to receive the contribution;

b) it is probable that the economic benefits comprising the contribution will flow to the FRDC; and

c) the amount of the contribution can be reliably measured.

Project refunds from research organisations are brought to account when received.

Revenue from the Australian Government

Funding received or receivable from the Australian Government (appropriated to the FRDC as a CAC Act body payment item), is recognised as revenue from the Australian Government, unless it is in the nature of an equity injection or a loan.

1.6 Gains

Sale of assets

Gains from disposal of assets are recognised when control of the asset has passed to the buyer.

1.7 Employee benefits

Liabilities for 'short-term employee benefits' (as defined in *AASB 119 Employee Benefits*) and termination benefits due within twelve months of the end of reporting period are measured at their nominal amounts.

The nominal amount is calculated with regard to the rates expected to be paid on settlement of the liability.

Other long-term benefits are measured as net total of the present value of the defined benefit obligation at the end of the reporting period minus the fair value at the end of the reporting period of plan assets (if any) out of which the obligations are to be settled directly.

The FRDC acts so as to ensure that its 'financial assets' (cash, receivables and investments) are greater than its 'employee provisions' (leave entitlements).

Leave

The liability for employee benefits includes provision for annual leave and long service leave. No provision has been made for sick leave as all sick leave is non-vesting, and the average sick leave taken in future years by employees is estimated to be less than the annual entitlement for sick leave.

Leave liabilities are calculated on the basis of employees' remuneration at the estimated salary rates that will apply at the time the leave is taken, including the FRDC's employer superannuation contribution rates; to the extent that the leave is likely to be taken during service rather than paid out on termination.

The liability for long service leave has been determined by reference to the work of an actuary as at 30 June 2012. The estimate of the present value of the liability takes into account attrition rates and pay increases through promotion and inflation.

All leave provision calculations are based on remuneration packages as at 1 July 2012, see Note 8: Provisions.

NOTE 1: SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Superannuation

FRDC staff are members of the Commonwealth Superannuation Scheme (CSS), the Public Sector Superannuation Scheme (PSS), or the PSS accumulation plan (PSSap) or an approved superannuation scheme of their choice. The CSS and PSS are defined benefit schemes for the Australian Government. The PSSap is a defined contribution scheme.

The liability for defined benefits is recognised in the financial statements of the Australian Government, and is settled by the Australian Government in due course. This liability is reported by the Department of Finance and Deregulation administered schedules and notes.

The FRDC makes employer contributions to the employees' superannuation schemes at rates determined by an actuary to be sufficient to meet the current cost to the Australian Government. The FRDC accounts for the contributions as if they were contributions to defined contribution plans.

For other approved superannuation schemes, the FRDC contributes a minimum of 9% of superannuable salaries.

As at 30 June, all superannuation contributions were fully paid, therefore no superannuation liability has been recognised (2010–11: $NIL).

1.8 Leases

A distinction is made between finance leases and operating leases. Finance leases effectively transfer from the lessor to the lessee substantially all the risks and rewards incidental to ownership of leased assets. An operating lease is a lease that is not a finance lease. In operating leases, the lessor effectively retains substantially all such risks and benefits.

Where an asset is acquired by means of a finance lease, the asset is capitalised at either the fair value of the lease property or, if lower, the present value of minimum lease payments at the inception of the contract and a liability is recognised at the same time and for the same amount.

The discount rate used is the interest rate implicit in the lease. Leased assets are amortised over the period of the lease. Lease payments are allocated between the principal component and the interest expense.

Operating lease payments are expensed on a straight-line basis that is representative of the pattern of benefits derived from the leased assets.

The FRDC does not currently have any finance leases.

1.9 Projects

The FRDC recognises project liabilities through project agreements that require the research partner to perform services or provide facilities, or to meet eligibility criteria. In these cases, liabilities are recognised only to the extent that the services required have been performed, or the eligibility criteria have been satisfied by the research partner to the FRDC's satisfaction.

1.10 Cash

Cash is recognised at its nominal amount. Cash and cash equivalents includes:

a) cash on hand; and

b) demand deposits in bank accounts with an original maturity of 3 months or less that are readily convertible to known amounts of cash and subject to insignificant risk of changes in value.

In accordance with section 42 of the PIERD Act, the Treasurer has approved the FRDC overdrawing its bank account to a limit of $900,000 on the basis that sufficient funds are held in related accounts to offset any overdrawing, with these funds to be transferred as soon as possible to clear any debt.

1.11 Financial assets

The FRDC classifies its financial assets in the following categories:

a) held-to-maturity investments; and

b) loans and receivables.

The classification depends on the nature and purpose of the financial assets, and is determined at the time of initial recognition. Financial assets are recognised and derecognised upon 'trade date'.

Effective interest method

The effective interest method is a method of calculating the amortised cost of a financial asset and of allocating interest income over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash receipts through the expected life of the financial asset; or, where appropriate, a shorter period.

Income is recognised on an effective interest rate basis, except for financial assets that are recognised at fair value through profit or loss.

Held-to-maturity investments

Non-derivative financial assets with fixed or determinable payments and fixed maturity dates that the FRDC has the positive intent and ability to hold to maturity, are classified as held-to-maturity investments. Held-to-maturity investments are recorded at amortised cost using the effective interest method less impairment, with revenue recognised on an effective yield basis.

Loans and receivables

Trade receivables, loans and other receivables that have fixed or determinable payments that are not quoted in an active market are classified as 'loans and receivables'. Loans and receivables are measured at amortised cost using the effective interest method less impairment. Interest is recognised by applying the effective interest rate.

NOTE 1: SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Impairment of financial assets

Financial assets are assessed for impairment at the end of each reporting period.

Financial assets held at amortised cost—if there is objective evidence that an impairment loss has been incurred for loans and receivables or held-to-maturity investments held at amortised cost, the amount of the loss is measured as the difference between the asset's carrying amount and the present value of estimated future cash flows discounted at the asset's original effective interest rate. The carrying amount is reduced by way of an allowance account. The loss is recognised in the Statement of Comprehensive Income.

Financial assets held at cost—if there is objective evidence that an impairment loss has been incurred, the amount of the impairment loss is the difference between the carrying amount of the asset and the present value of the estimated future cash flows discounted at the current market rate for similar assets.

1.12 Financial liabilities

Financial liabilities are classified as either financial liabilities 'at fair value through profit or loss' or other financial liabilities. Financial liabilities are recognised and derecognised upon 'trade date'.

Financial liabilities at fair value through profit or loss

Financial liabilities at fair value through profit or loss are initially measured at fair value. Subsequent fair value adjustments are recognised in profit or loss. The net gain or loss recognised in profit or loss incorporates any interest paid on the financial liability.

Other financial liabilities

Other financial liabilities, including borrowings, are initially measured at fair value, net of transaction costs. These liabilities are subsequently measured at amortised cost using the effective interest method, with interest expense recognised on an effective yield basis.

The effective interest method is a method of calculating the amortised cost of a financial liability and of allocating interest expense over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash payments through the expected life of the financial liability, or, where appropriate, a shorter period.

Supplier and other payables are recognised at amortised cost. Liabilities are recognised to the extent that the goods or services have been received (and irrespective of having been invoiced).

1.13 Contingent liabilities and contingent assets

Contingent liabilities and contingent assets are not recognised in the balance sheet, but are reported in the relevant schedules and notes. They may arise from uncertainty as to the existence of a liability or asset, or represent an asset or liability in respect of which the amount cannot be reliably measured. Contingent assets are disclosed when settlement is probable but not virtually certain; and contingent liabilities are disclosed when settlement is greater than remote.

1.14 Acquisition of assets

Assets are recorded at cost on acquisition except as stated below. The cost of acquisition includes the fair value of assets transferred on exchange and liabilities undertaken. Financial assets are initially measured at their fair value plus transaction costs where appropriate.

Assets acquired at no cost, or for nominal consideration, are initially recognised as assets and income at their fair value at the date of acquisition, unless acquired as a consequence of restructuring of administrative arrangements. In the latter case, assets are initially recognised as contributions by owners at the amounts at which they were recognised in the transferor's accounts immediately prior to the restructuring.

1.15 Property, plant and equipment

Asset recognition threshold

Purchases of property, plant and equipment are recognised initially at cost in the balance sheet, except for purchases costing less than $5,000, which are expensed in the year of acquisition (other than where they form part of a group of similar items which are over $5,000).

Revaluations

Fair values for each class of asset are determined as shown below:

Asset class	*Fair value measurement*
Property, plant and equipment	Market selling price

Following initial recognition at cost, property, plant and equipment are carried at fair value less subsequent accumulated depreciation and accumulated impairment losses. Valuations are conducted with sufficient frequency to ensure that the carrying amounts of assets do not differ materially from the assets' fair values as at the reporting date. The FRDC organises an independent valuation annually, usually in May.

All property, plant and equipment assets were reviewed for fair value as at 30 June 2012 by the Australian Valuation Office.

Revaluation adjustments are made on a class basis. Any revaluation increment is credited to equity under the heading of asset revaluation reserve, except to the extent that it reversed a previous revaluation decrement of the same asset class that was previously recognised in the surplus/deficit. Revaluation decrements for a class of assets are recognised directly in the surplus/deficit, except to the extent that they reversed a previous revaluation increment for that class.

Any accumulated depreciation as at the revaluation date is eliminated against the gross carrying amount of the asset, and the asset restated to the revalued amount.

Depreciation

Depreciable property, plant and equipment assets are written-off to their estimated residual values over their estimated useful lives to the FRDC using, in all cases, the straight-line method of depreciation.

Depreciation rates (useful lives), residual values and methods are reviewed at each reporting date, and necessary adjustments are recognised in the current, or current and future reporting periods, as appropriate.

NOTE 1: SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Depreciation rates applying to each class of depreciable asset are based on the following useful lives:

	2012	2011
Property, plant and equipment	**3 to 5 years**	3 to 5 years

Impairment

All assets were assessed for impairment as at 30 June 2012. Where indications of impairment exist, the asset's recoverable amount is estimated and an impairment adjustment made if the asset's recoverable amount is less than its carrying amount.

The recoverable amount of an asset is the higher of its fair value less costs to sell, and its value in use. Value in use is the present value of the future cash flows expected to be derived from the asset. Where the future economic benefit of an asset is not primarily dependent on the asset's ability to generate future cash flows, and the asset would be replaced if the FRDC were deprived of the asset, its value in use is taken to be its depreciated replacement cost.

No indicators of impairment were found for assets at fair value as at 30 June 2012.

Derecognition

An item of property, plant and equipment is derecognised upon disposal, or when no further future economic benefits are expected from its use or disposal.

1.16 Intangibles

The FRDC's intangibles comprise internally developed software and purchased software for internal use. These assets are carried at cost, less accumulated amortisation and accumulated impairment losses.

Internally developed software and purchased software is amortised on a straight-line basis over its anticipated useful life. The useful life of software is 10 years (2010–11: 10 years).

All software assets were assessed for indications of impairment as at 30 June 2012.

1.17 Taxation

The FRDC is exempt from all forms of taxation except fringe benefits tax (FBT), payroll tax and the goods and services tax (GST).

Revenues, expenses and assets are recognised net of GST except:

a) where the amount of GST incurred is not recoverable from the Australian Taxation Office; and

b) for receivables and payables.

1.18 Comparative figures

Comparative figures have been adjusted so they conform with changes in the presentation of these financial statements where required.

1.19 Change in accounting policy

In 2011–12 the FRDC created a new extension and adoption program and allocated expenses for this activity to its own chart of account code. As a result, the 2010–11 comparative figures had to be re-classified, with $643,912 of supplier expenses being moved to project expenditure. There were no impacts on 2010–11 totals for revenue and expenses; and there was no impact on the opening balance in 2011–12.

NOTE 2: EVENTS AFTER THE REPORTING PERIOD

No reportable events have occurred after the balance sheet date.

NOTE 3: EXPENSES

Note 3A: Employee benefits

	2012 $	2011 $
Wages and salaries	**1,378,321**	1,348,058
Superannuation:		
Defined contribution plans	**163,784**	138,669
Defined benefit plans	**245,849**	239,022
Leave and other entitlements	**169,208**	69,777
Total employee benefits	**1,957,162**	1,795,526

NOTE 3: EXPENSES (CONTINUED)

Note 3B: Suppliers

	2012 $	2011 $
Goods and services		
Agency staff	**13,383**	8,227
Annual report	**30,217**	28,995
Asset purchases less than $5,000	**19,613**	21,096
Audit fees	**30,000**	28,100
External service providers	**126,912**	106,052
Insurance—general	**18,274**	16,068
Information technology	**274,708**	322,145
Joint RDC activities	**45,022**	70,144
Legal	**62,220**	64,534
Office supplies	**27,959**	32,333
Postage and courier	**5,585**	8,951
Property	**28,980**	33,375
RD&E plan	**–**	24,825
Recruitment / director selection costs	**17,672**	–
Representative organisations consultation	**13,756**	4,392
Representation	**19,903**	9,895
Telecommunications	**34,256**	58,666
Training	**63,814**	34,922
Travel	**128,858**	126,445
Other	**22,885**	46,346
Total goods and services	**984,017**	1,045,511
Goods and services are made up of:		
Provision of goods and services—related entities	**35,843**	117,890
Provision of goods and services—external parties	**948,174**	927,621
Total goods and services	**984,017**	1,045,511
Other supplier expenses		
Operating lease rental—external parties:		
Minimum lease payments	**111,072**	106,962
Workers compensation expenses	**17,259**	13,212
Total other supplier expenses	**128,331**	120,175
Total supplier expenses	**1,112,348**	1,165,686

Note 3C: Projects expenditure

	2012 $	2011 $
Australian Government entities (related entities)	**5,099,043**	2,237,386
State and territory governments	**3,763,817**	3,695,888
Universities	**5,441,465**	5,036,877
Overseas	**3,500**	18,000
Cooperative research centres	**4,574,288**	4,222,483
Other	**7,096,977**	6,996,755
Total project expenditure	**25,979,090**	22,207,389

Note 3D: Depreciation and amortisation

	2012 $	2011 $
Depreciation:		
Property, plant and equipment	**91,386**	90,736
Total depreciation	**91,386**	90,736
Amortisation:		
Intangibles	**439,103**	447,069
Total amortisation	**439,103**	447,069
Total depreciation and amortisation	**530,489**	537,805

Note 3E: Finance costs

	2012 $	2011 $
DAFF debt — unwinding of discount	**38,242**	49,377
Total finance costs	**38,242**	49,377

Department of Agriculture, Fisheries and Forestry (DAFF) debt—unwinding of discount expense represents the discount to the present value of the future cash flows for the DAFF debt payable (refer Note 7C) in accordance with *AASB 139 Financial Instruments: Recognition and Measurement*.

Note 3F: Losses from asset disposals

	2012 $	2011 $
Property, plant and equipment:		
Carrying value of assets disposed of	**695**	–
Total losses from asset disposals	**695**	–

NOTE 3: EXPENSES (CONTINUED)

Note 3G: Other expense

	2012 $	2011 $
Bad debts written off [1]	**66,000**	–
Total other expenses	**66,000**	–

(1) Bad debts written off stem from two entities that had undertaken to contribute to FRDC projects, but found themselves unable to do so. The projects will be reviewed with a view to adjusting the project budgets.

NOTE 4: INCOME

OWN-SOURCE REVENUE

Note 4A: Sale of goods and rendering of services

	2012 $	2011 $
Provision of goods and rendering of services — related entities	**20,584**	42,157
Provision of goods and rendering of services — external parties	**55,449**	20,976
Total sale of goods and rendering of services	**76,033**	63,133

Note 4B: Interest

	2012 $	2011 $
Deposits	**552,224**	521,959
Total interest	**552,224**	521,959

Note 4C: Grants

	2012 $	2011 $
Public sector:		
Department of Agriculture, Fisheries and Forestry [1]	**462,682**	885,000
Total grants	**462,682**	885,000

(1) Research program funding for Department of Agriculture, Fisheries and Forestry research (refer Note 14). The FRDC received as at 30 June 2012: $462,682 (30 June 2011: $885,000).

Note 4D: Contributions

	2012 $	2011 $
Fisheries:		
Australian Prawn Farmers Association	**165,606**	181,206
Australian Fisheries Management Authority	**817,446**	1,514,418
Australian Capital Territory	**129,260**	–
New South Wales	**361,608**	349,863
Northern Territory	**408,234**	620,569
Queensland	**492,773**	711,511
South Australia	**1,979,103**	1,711,830
Tasmania	**1,584,539**	1,538,632
Victoria	**485,034**	582,792
Western Australia	**1,230,049**	1,258,430
Sub-total	**7,653,652**	8,469,251
Projects		
Project funds received from other parties	**23,818**	16,792
Project refunds of prior years expenditure	**21,759**	212,283
Sub-total	**45,577**	229,076
Total contributions revenue	**7,699,229**	8,698,326

REVENUE FROM THE AUSTRALIAN GOVERNMENT

Note 4E: Revenue from the Australian Government

	2012 $	2011 $
Department of Agriculture, Fisheries and Forestry:		
CAC Act body payment item		
Australian Government contribution of 0.50% of GVP [1]	**11,121,560**	11,031,419
Matching of industry contributions [2]	**5,509,457**	5,496,248
Total revenue from the Australian Government	**16,631,017**	16,527,667

(1) GVP is the average gross value of fisheries production for the current year and the two preceding financial years. The Australian Government's contribution of 0.50% of GVP is made on the grounds that the FRDC exercises a stewardship role in relation to fisheries resources on behalf of the Australian community.

(2) Matching of industry's contributions (up to 0.25% of GVP) by the Australian Government.

NOTE 5: FINANCIAL ASSETS

Note 5A: Cash and cash equivalents

	2012 $	2011 $
Cash at bank	**178,725**	751,523
Deposits on call	**3,700,000**	5,743,120
Funds on term deposit	**1,000,000**	2,000,000
Total cash and cash equivalents	**4,878,725**	8,494,643

Note 5B: Trade and other receivables

	2012 $	2011 $
Goods and services:		
Goods and services — related entities	**10,344**	149,388
Goods and services — external entities	**875,597**	995,028
Total receivables for goods and services	**885,941**	1,144,416
Department of Agriculture, Fisheries and Forestry:		
Receivable	**–**	294,212
Total receivable from Department of Agriculture, Fisheries and Forestry	**–**	294,212
Other receivables:		
GST receivable from the Australian Taxation Office	**399,081**	123,333
ASCo loan [(1)]	**5,000**	5,000
Total other receivables	**404,081**	128,333
Total trade and other receivables	**1,290,022**	1,566,960
Receivables are expected to be recovered in:		
No more than 12 months	**1,290,022**	1,566,960
Total trade and other receivables	**1,290,022**	1,566,960
Receivables are aged as follows:		
Not overdue	**1,261,972**	1,412,959
Overdue by:		
0 to 30 days	**5,500**	27,500
31 to 60 days	**22,000**	–
61 to 90 days	**550**	126,501
More than 90 days	**–**	–
Total receivables	**1,290,022**	1,566,960

No indicators of impairment were found for trade and other receivables.

Australian Seafood Co-Products Pty Ltd (ASCo)

(1) ASCo shareholder's loan

Included in receivables above is a loan by the FRDC to ASCo of $5,000 under clause 14.3 of the shareholder agreement (refer also Note 5C). The FRDC expects this loan will be repaid in due course. The FRDC does not consider the loan to be impaired or overdue — it is expected to be repaid from future profits.

Note 5C: Other investments

	2012 $	2011 $
Shares in other company—unlisted [1]	**5,001**	5,001
Total other investments	**5,001**	5,001
Total other investments are expected to be recovered in:		
More than 12 months	**5,001**	5,001
Total other investments	**5,001**	5,001

Australian Seafood Co-Products Pty Ltd (ASCo)

(1) Shares in unlisted company

Australian Seafood Co-Products Pty Ltd (ASCo) is an unlisted company in which the FRDC owns a one-fifteenth share. The FRDC is not represented on the ASCo Board. The principal activity of ASCo is to invest in ASCo Fertilisers Pty Ltd, which carries on the business of commercialisation of know-how and technical information relating to the conversion of fish waste and fish nutrient into agricultural fertiliser products, and the development of production facilities for those products. As the shares do not have a quoted market price in an active market, and cannot be reliably measured, they have been carried at cost in accordance with *AASB 139*.

Note 5D: Other financial assets

	2012 $	2011 $
Pre-paid sponsorships [1]	–	60,000
Total other financial assets	–	60,000
Total other financial assets are expected to be recovered in:		
No more than 12 months	–	60,000
Total other financial assets	–	60,000

(1) Pre-paid sponsorships are amounts paid to sponsor the biennial Seafood Directions conference.

NOTE 6: NON-FINANCIAL ASSETS

Note 6A: Property, plant and equipment

	2012 $	2011 $
Property, plant and equipment:		
Fair value	**130,743**	274,500
Accumulated depreciation	–	(90,736)
Total property, plant and equipment	**130,743**	183,764

Revaluations of non-financial assets

All revaluations were conducted in accordance with the revaluation policy stated at Note 1. On 30 June 2012, an independent valuer, the Australian Valuation Office, conducted a review of the fair value of the FRDC's property, plant and equipment. Depreciation has been written back for 2011–12.

A revaluation increment of $17,162 for property, plant and equipment (2010-11: $Nil) was credited to the asset revaluation reserve by asset class and included in the equity section of the balance sheet.

No indicators of impairment were found for property, plant and equipment.

No property, plant and equipment is expected to be sold or disposed of within the next 12 months.

Note 6B: Intangibles

	2012 $	2011 $
Computer software:		
Internally developed—in progress	**126,436**	–
Internally developed—in use	**4,624,107**	4,471,035
Accumulated amortisation	**(2,689,328)**	(2,250,225)
Total computer software	**2,061,215**	2,220,810
Total intangibles	**2,061,215**	2,220,810

No indicators of impairment were found for intangible assets.

No intangibles are expected to be sold or disposed of within the next 12 months.

Note 6C: Reconciliation of the opening and closing balances of property, plant and equipment and intangibles (2011–12)

	Property, plant and equipment $	Intangibles $	Total $
As at 1 July 2011			
Gross book value	274,500	4,471,035	4,745,535
Accumulated depreciation/amortisation	(90,736)	(2,250,225)	(2,340,961)
Net book value 1 July 2011	183,764	2,220,810	2,404,574
Additions:			
By purchase	21,899	–	21,899
Internally developed—in progress	–	126,435	126,435
Internally developed—in use	–	153,073	153,073
Revaluations recognised in other comprehensive income	17,162	–	17,162
Depreciation/amortisation expense	(91,386)	(439,103)	(530,489)
Disposals	(695)	–	(695)
Net book value 30 June 2012	130,743	2,061,215	2,191,958
Net book value as of 30 June 2012 represented by:			
Gross book value	130,743	4,750,543	4,881,286
Accumulated depreciation/amortisation	–	(2,689,328)	(2,689,328)
Net book value 30 June 2012	130,743	2,061,215	2,191,958

NOTE 6: NON-FINANCIAL ASSETS (CONTINUED)

Reconciliation of the opening and closing balances of property, plant and equipment and intangibles (2010–11)

	Property, plant and equipment $	Intangibles $	Total $
As at 1 July 2010			
Gross book value	242,640	4,258,589	4,501,229
Accumulated depreciation/amortisation	–	(1,803,156)	(1,803,156)
Net book value 1 July 2010	242,640	2,455,433	2,698,073
Additions:			
By purchase	31,860	–	31,860
Internally developed—in progress	–	–	–
Internally developed—in use	–	212,447	212,447
Revaluations recognised in other comprehensive income	–	–	–
Depreciation/amortisation expense	(90,736)	(447,069)	(537,805)
Disposals	–	–	–
Net book value 30 June 2011	183,764	2,220,810	2,404,574
Net book value as of 30 June 2011 represented by:			
Gross book value	274,500	4,471,035	4,745,535
Accumulated depreciation/amortisation	(90,736)	(2,250,225)	(2,340,961)
Net book value 30 June 2011	183,764	2,220,810	2,404,574

NOTE 7: PAYABLES

Note 7A: Suppliers

	2012 $	2011 $
Trade creditors and accruals	**93,829**	142,778
FBT payable	**–**	2,811
PAYG payable	**32,803**	28,820
Total supplier payables	**126,632**	174,409
Supplier payables expected to be settled within 12 months:		
Related entities	**32,831**	32,694
External parties	**93,801**	141,715
Total	**126,632**	174,409
Total supplier payables	**126,632**	174,409

Settlement is usually made within 30 days.

Note 7B: Projects

	2012 $	2011 $
Australian Government entities (related entities)	**144,890**	70,345
State and Territory Governments	**147,535**	–
Other	**130,881**	118,035
Total project payables	**423,306**	188,380
Total projects—are expected to be settled in:		
No more than 12 months	**423,306**	188,380
Total projects payables	**423,306**	188,380

Project payables are recognised at their nominal amounts, being the amounts at which the liabilities will be settled. They relate to payments approved on achievement of agreed milestones, but which were unpaid at the end of the reporting period. Settlement is usually made within 30 days.

Note 7C: Other payables

	2012 $	2011 $
Debt payable to DAFF [1]	**638,571**	924,333
Total other payables	**638,571**	924,333
Total other payables is expected to be settled in:		
No more than 12 months	**324,004**	324,004
More than 12 months	**314,567**	600,329
Total other payables	**638,571**	924,333

(1) The debt payable to DAFF represents the recovery of GVP overpayments to the FRDC. DAFF inadvertently used an incorrect formula to determine the GVP for fisheries for the financial years between 2001–02 and 2006–07. DAFF and the FRDC have agreed the total value of the debt is $1,944,024 ($1,371,565 in relation to 0.50% GVP; and $572,459 in relation to the matching contributions). DAFF and the FRDC have also agreed that the debt will be repaid over six years, with the last payment to be made in 2013–14, and FRDC has recognised it as other payables.

In accordance with *AASB 139 Financial Instruments: Recognition and Measurement*, the debt has been recognised initially at its fair value, and has been discounted to represent a present value of the future cash flows. Because the DAFF debt has been discounted, there will be an expense recognised in the statement of comprehensive income in future periods as each debt repayment is made (refer Note 3E). The quantum of that expense will be the difference between the nominal and discounted value.

NOTE 8: PROVISIONS

Note 8A: Employee provisions

	2012 $	2011 $
Leave [1]	**717,063**	538,243
Total employee provisions	**717,063**	538,243

(1) During the reporting period the increase in the balance of employee provisions was mainly driven by the fall in the Commonwealth 10 year long term bond rate, together with the accrual of additional leave entitlements by staff.

	2012 $	2011 $
Employee provisions are expected to be settled in:		
No more than 12 months	**638,649**	478,744
More than 12 months	**78,414**	59,499
Total employee provisions	**717,063**	538,243

NOTE 9: CASH FLOW RECONCILIATION

	2012 $	2011 $
Reconciliation of cash and cash equivalents as per balance sheet to cash flow statement		
Cash and cash equivalents as per:		
Cash flow statement	**4,878,725**	8,494,643
Balance sheet	**4,878,725**	8,494,643
Difference	**0**	0
Reconciliation of net cost of services to net cash from operating activities:		
Net cost of services	**(20,893,858)**	(15,587,365)
Add revenue from the Australian Government	**16,631,017**	16,527,667
Adjustments for non-cash items		
Depreciation / amortisation	**530,489**	537,805
Finance costs	**38,242**	49,377
Loss on disposal of assets	**695**	–
Changes in assets / liabilities		
(Increase) / decrease in net receivables	**336,939**	374,123
Increase / (decrease) in employee provisions	**178,820**	69,777
Increase / (decrease) in supplier payables	**(47,777)**	14,273
Increase / (decrease) in project payables	**234,926**	(751,401)
Increase / (decrease) in other payables	**–**	(107,042)
Net cash (used by) / from operating activities	**(2,990,507)**	1,127,215

NOTE 10: CONTINGENT ASSETS AND LIABILITIES

At 30 June 2012, the FRDC had no contingent assets.

	2012 $	2011 $
Contingent liabilities		
Balance from previous period	**7,600,030**	9,221,731
New	**–**	1,679,719
Expired	**(3,018,862)**	(3,301,420)
Total contingent liabilities [(1)]	**4,581,168**	7,600,030

(1) **Quantifiable contingencies**

The Schedule of Contingencies reports contingent liabilities in respect of Seafood CRC Company Ltd (Seafood CRC) in which FRDC is a participant. The FRDC has agreements with the Seafood CRC that commit the FRDC to investing $28,634,719 over the life of the CRC, which finishes 30 June 2014. The FRDC recognises commitments as contracts are signed.

The FRDC recognised $24,053,551 in Seafood CRC contracts as at 30 June 2012 ($21,034,689 as at 30 June 2011).

This leaves a contingent liability of $4,581,168 as at 30 June 2012 ($7,600,030 as at 30 June 2011).

As the FRDC commits to further Seafood CRC contracts this contingent liability will reduce.

Unquantifiable contingencies

The FRDC had no unquantifiable contingencies.

Significant remote contingencies

The FRDC had no significant remote contingencies.

NOTE 11: DIRECTORS' REMUNERATION

	2012 No.	2011 No.
The number of non-executive directors of the FRDC included in these figures are shown below in the relevant remuneration bands:		
$0 to $29,999	**2**	8
$30,000 to $59,999	**6**	1
Total	**8**	9
	$	$
Total remuneration received, or due and receivable, by directors of the FRDC	**225,519**	220,059

Remuneration of the Executive Director is included in Note 13: Senior executive remuneration.

NOTE 12: RELATED PARTY DISCLOSURES

The directors of the FRDC during the year were:

Ms H. Brayford	Director (Member Remuneration Committee)
Ms R. Brooks	Director (Member Remuneration Committee)
Dr P. Hone	Executive Director
Mr B. McCallum	Director (Member Finance, Audit and Risk Management Committee)
Dr D. McPhee	Director (Member Finance, Audit and Risk Management Committee—commenced membership 1 December 2011)
Mr S. Richey AM	Director (Deputy Chair) (Chair Finance, Audit and Risk Management Committee)
Dr K. Sainsbury	Director
Mr R. Stevens OAM	Director (Member Finance, Audit and Risk Management Committee to 30 November 2011—ceased membership of the Finance, Audit and Risk Management Committee 30 November 2011)
The Hon. Harry Woods	Chair (Chair Remuneration Committee) (Commenced 1 September 2010)

Transactions with director-related parties

The FRDC's practice is to disclose all transactions with an entity with whom a director has an association. This means that directors that have disclosed a material personal interest have attributed to them all the transactions of that entity with the FRDC. Typically, the FRDC will not transact with all the entities for which a director has made such a declaration.

The FRDC Board governance policy provides guidance to directors on how the FRDC deals with material personal interests. Where a director has an association with an entity where a conflict has the potential to arise, in addition to the duty to disclose that association, the director absents him/herself from both the discussion and the decision making process.

No loans were made to directors or director-related entities during the year.

Director	Organisation and position held	Nature of interest	Income received from entity $	Expenditure paid to entity $
Ms H. Brayford	Department of Fisheries Western Australia *Director Aquatic Management*	Research projects or work undertaken by the organisation	1,507,583	1,397,348
Ms R. Brooks	Department of Primary Industries (NSW)—formerly Industry and Investment NSW *Deputy Director-General Catchments and Lands*	Research projects or work undertaken by the organisation	392,269	611,209

All transactions were conducted under normal terms and conditions and include GST.

NOTE 12: RELATED PARTY DISCLOSURES (CONTINUED)

Transactions with director-related parties

Director	Organisation and position held	Nature of interest	Income received from entity $	Expenditure paid to entity $
Dr P. Hone	Seafood CRC Company Ltd *Director*	Research projects or work undertaken by the organisation	26,329	5,033,408
Mr B. McCallum	Pearl Producers Association *Chief Executive Officer*	Research projects or work undertaken by the organisation	0	606
Dr D. McPhee	Bond University *Associate Professor*	Research projects or work undertaken by the organisation	0	136,620
Mr S. Richey AM	Australian Fisheries Management Authority *Chairman of Northern Prawn Management Advisory Committee*	Research projects or work undertaken by the organisation	96,359	239,982
Dr K. Sainsbury	University of Tasmania *Professor Marine System Science*	Research projects or work undertaken by the organisation	11,496	3,416,143
	Australian Fisheries Management Authority *Commissioner*	Research projects or work undertaken by the organisation	96,359	239,982
	SainSolutions Pty Ltd *Director*	Research projects or work undertaken by the organisation	0	165
	Victorian Abalone Divers Association (VADA) *Advisor*	Research projects or work undertaken by the organisation	0	18,150

All transactions were conducted under normal terms and conditions and include GST.

Transactions with director-related parties

Director	Organisation and position held	Nature of interest	Income received from entity $	Expenditure paid to entity $
Mr R. Stevens OAM	Australian Fisheries Management Authority *Commissioner*	Research projects or work undertaken by the organisation	96,359	239,982
	Recreational Survey for the Greater Sydney Region (Department of Trade and Investment, Regional Infrastructure and Services) (NSW) *Chair*	Research projects or work undertaken by the organisation	392,269	492,226
	Steering committee for FRDC project 2008/004: *Integrating fishery independent and—dependent data for improved sustainability of fisheries resources and other aspects of biodiversity Chair*	Research projects or work undertaken by the organisation	0	118,983
	Department of Regional Development, Primary Industry, Fisheries and Resources (NT) *Chair, Mud Crab and Spanish Mackerel Fishery MACs* and *Chair, Barramundi Fishery MAC*	Research projects or work undertaken by the organisation	451,694	147,144
	Primary Industries and Resources SA *Member of the South Australian Fisheries Council (wild fisheries only — not aquaculture)*	Research projects or work undertaken by the organisation	2,128,065	501,186
	Australian Southern Bluefin Tuna Industry Association *Chair of Southern Bluefin Tuna Research Council for FRDC project 2008/227 Member*	Research projects or work undertaken by the organisation	0	57,792

All transactions were conducted under normal terms and conditions and include GST.

NOTE 13: SENIOR EXECUTIVE REMUNERATION

Note 13A: Senior executive remuneration expense for the reporting period [1],[2]

	2012 $	2011 $
Short-term employee benefits		
Salary	**689,798**	662,329
Annual leave accrued	**32,616**	18,968
Total short-term employee benefits	**722,414**	681,297
Post-employment benefits:		
Superannuation	**157,090**	152,581
Total post-employment benefits	**157,090**	152,581
Other long-term benefits:		
Long service leave	**84,838**	35,722
Total long-term benefits	**84,838**	35,722
Total employment benefits	**964,342**	869,600

During the year no termination benefits were paid to senior executives (2010–11: $Nil).

Notes:

(1) Note 13A was prepared on an accrual basis.

(2) Note 13A excludes acting arrangements and part-year service (noting that the FRDC does not pay higher duties to its employees).

Note 13B: Actual annual reportable remuneration paid to substantive senior executives during the reporting period

	2012					
Actual annual reportable remuneration [1]	Senior executives	Reportable salary [2]	Contributed superannuation [3]	Reportable allowances [4]	Bonus paid [5]	Total
	no.	$	$	$	$	$
Total remuneration (including part-time arrangements):						
less than $150,000	**1**	126,922	18,895	–	–	145,817
$150,000 to $179,999	**1**	143,344	21,677	–	–	165,021
$240,000 to $269,999	**1**	173,250	78,048	–	–	251,298
$270,000 to $299,999	**1**	246,282	38,470	–	–	284,752
Total	**4**					

	2011					
Actual annual reportable remuneration [1]	Senior executives	Reportable salary [2]	Contributed superannuation [3]	Reportable allowances [4]	Bonus paid [5]	Total
	no.	$	$	$	$	$
Total remuneration (including part-time arrangements):						
less than $150,000	1	121,807	18,133	–	–	139,940
$150,000 to $179,999	1	137,567	20,803	–	–	158,370
$240,000 to $269,999	1	165,780	77,020	–	–	242,800
$270,000 to $299,999	1	237,175	36,625	–	–	273,800
Total	4					

Notes:

(1) This table reports substantive senior executives who received remuneration during the reporting period. Each row represents an actual figure for the individuals in that remuneration band (i.e. the 'Total' column).

(2) 'Reportable salary' includes the following

a) gross payments (less any bonuses paid, which are separated out and disclosed in the 'bonus paid' column);

b) reportable fringe benefits (at the net amount prior to 'grossing up' to account for tax benefits); and

c) exempt foreign employment income.

(3) The 'contributed superannuation' amount is the average actual superannuation contributions paid to senior executives in that reportable remuneration band during the reporting period, including any salary sacrificed amounts, as per the individuals' payslips.

(4) 'Reportable allowances' are the actual allowances paid as per the 'total allowances' line on individuals' payment summaries.

(5) 'Bonus paid' represents average actual bonuses paid during the reporting period in that reportable remuneration band. During the year no bonuses were paid to senior executives (2010–11: $Nil) (The FRDC does not pay its senior executives bonuses).

(6) Super salary sacrifice arrangements were available to senior executives. Super salary sacrifice benefits are reported in the 'contributed superannuation' column.

Note 13C: Other highly paid staff

During 2011–12 and 2010–11, there were no employees whose salary or performance bonus was $150,000 or more (noting that the FRDC does not pay its employees bonuses).

NOTE 14: OTHER RELATED PARTY DISCLOSURES

Agrifood Skills Australia (ASA)

On 13 August 2010, the FRDC became a member of Agrifood Skills Australia Ltd (ASA). ASA is a company limited by guarantee contracted to the Australian Government to provide advice and support to industry and enterprises on skills and workforce development. ASA was established in May 2004 as one of 11 Industry Skills Councils.

The FRDC has recognised in 2011–12: $500 (2010–11: $500) (this expense is included in Note 3C: Projects expenditure—other), and was paid to ASA in accordance with the agreement.

Department of Agriculture, Fisheries and Forestry (DAFF)

The FRDC has a Research & Development Funding Head Agreement with DAFF under which it manages the projects detailed below:

- Indigenous RD&E;
- Industry Biosecurity Plans for Aquatic Animal Industries;
- Aquatic Animal Health Training Scheme;
- National Aquatic Animal Health strategic planning;
- Scientific update on formal Fisheries Harvest Strategies;
- Development of methods for obtaining national estimates of the recreational catch of Southern Bluefin Tuna; and
- Recreational fishing industry development strategy.

The FRDC has recognised in 2011–12: $462,862 (2010–11: $885,000) (refer Note 4C: Grants), from DAFF in accordance with the agreements.

NOTE 15: REMUNERATION OF AUDITORS

	2012 $	2011 $
The fair value of the services provided was:		
Financial statement audit services	**30,000**	28,100
Total	**30,000**	28,100

Financial statement audit services are provided to the FRDC by the Australian National Audit Office (ANAO). RSM Bird Cameron is contracted by the ANAO to provide audit services on the ANAO's behalf. Fees for these services are included above. No other services were provided by the ANAO or their contractors, RSM Bird Cameron.

NOTE 16: FINANCIAL INSTRUMENTS

Note 16A: Categories of financial instruments

	2012 $	2011 $
Financial assets		
Loans and receivables:		
Cash and cash equivalents	**4,878,725**	8,494,643
Trade and other receivables	**885,941**	1,438,627
Shares	**5,001**	5,001
Loan	**5,000**	5,000
Pre-paid sponsorship	**–**	60,000
Total	**5,774,667**	10,003,271
Carrying amount financial assets	**5,774,667**	10,003,271
Financial liabilities		
Other financial liabilities:		
Trade creditors	**93,829**	142,778
Project creditors	**423,306**	188,380
Other payables	**638,571**	924,333
Total	**1,155,706**	1,255,491
Carrying amount financial liabilities	**1,155,706**	1,255,491

Note 16B: Net income and expenses from financial assets

	2012 $	2011 $
Loans and receivables:		
Interest revenue (Note 4B)	**552,224**	521,959
Net gain from loans and receivables	**552,224**	521,959
Net gain from financial assets	**552,224**	521,959

NOTE 16: FINANCIAL INSTRUMENTS (CONTINUED)

Note 16C: Fair value of financial instruments

	Carrying amount 2012 $	Fair value 2012 $	Carrying amount 2011 $	Fair value 2011 $
Financial assets				
Loans and receivables				
Cash and cash equivalents	**4,878,725**	**4,878,725**	8,494,643	8,494,643
Trade and other receivables	**885,941**	**885,941**	1,438,627	1,438,627
Shares [(1)]	**5,001**	**–**	5,001	–
Loan	**5,000**	**–**	5,000	–
Pre-paid sponsorship	**–**	**–**	60,000	60,000
Total	**5,774,667**	**5,764,666**	10,003,271	9,993,270
Financial liabilities				
Other financial liabilities				
Trade creditors	**93,829**	**93,829**	142,778	142,778
Project creditors	**423,306**	**423,306**	188,380	188,380
Other payables	**638,571**	**638,571**	924,333	924,333
Total	**1,155,706**	**1,155,706**	1,255,491	1,255,491

(1) There are no significant differences between the carrying amounts and fair values of financial assets and liabilities; with the exception of the value of ASCo shares and loans, which are carried at cost because they do not have a quoted market price in an active market, and a fair value cannot be reliably measured.

Note 16D: Credit risk

The FRDC's activities expose it to normal commercial financial risk. As a result of the nature of the FRDC's business, the FRDC's internal policies, and Australian Government policies dealing with the management of financial risk, the FRDC's exposure to credit, liquidity, market, cash flow and fair value interest rate risk is considered to be low.

The FRDC is exposed to minimal credit risk as the majority of its receivables are from government agencies, industry, universities and program contributors who have long standing relationships with the FRDC.

The FRDC held no collateral to mitigate against credit risk.

Credit quality of financial instruments not past due or individually determined as impaired				
	Not past due nor impaired	Not past due nor impaired	Past due or impaired	Past due or impaired
	2012 $	2011 $	2012 $	2011 $
Cash and cash equivalents	**4,878,725**	8,494,643	**–**	–
Receivables for goods and services	**885,941**	1,438,627	**28,050**	154,001
Shares	**5,001**	5,001	**–**	–
Loan	**5,000**	5,000	**–**	–
Other (pre-paid sponsorship)	**–**	60,000	**–**	–
Total	**5,774,667**	10,003,271	**28,050**	154,001

Ageing of financial assets that were past due but not impaired for 2012					
	0 to 30 days $	31 to 60 days $	61 to 90 days $	90+ days $	Total $
Receivables for goods and services	**5,500**	**22,000**	**550**	**–**	**28,050**
Total	**5,500**	**22,000**	**550**	**–**	**28,050**
Ageing of financial assets that are past due but not impaired for 2011					
	0 to 30 days $	31 to 60 days $	61 to 90 days $	90+ days $	Total $
Receivables for goods and services	27,500	–	126,501	–	154,001
Total	27,500	–	126,501	–	154,001

As of 30 June 2012, other receivables in the amount of $28,050 ($154,001 as at 30 June 2011) were past due, but not impaired.

These relate to debtors for whom there is no recent history of default. The FRDC has been in contact with the relevant debtors, and is satisfied that the payment will be received in full.

Other balances within other receivables do not contain impaired assets and are not past due. It is expected these balances will be received when due.

NOTE 16: FINANCIAL INSTRUMENTS (CONTINUED)

Note 16E: Liquidity risk

The FRDC's financial liabilities are project payables, supplier payables and other payables. The exposure to liquidity risk is based on the notion that the FRDC will encounter difficulty in meeting its obligations associated with these financial liabilities. This is highly unlikely due to Australian Government funding and internal policies and procedures put in place to ensure there are appropriate resources for the FRDC to meet its financial obligations.

Maturities for non-derivative financial liabilities in 2012					
	On demand $	Within 1 year $	1 to 2 years $	2 to 5 years $	Total $
Suppliers	–	93,829	–	–	93,829
Projects	–	423,306	–	–	423,306
Other payables	–	324,004	314,567	–	638,571
Total	–	841,139	314,567	–	1,155,706
Maturities for non-derivative financial liabilities in 2011					
	On demand $	Within 1 year $	1 to 2 years $	2 to 5 years $	Total $
Suppliers	–	142,778	–	–	142,778
Projects	–	188,380	–	–	188,380
Other payables	–	324,004	307,842	292,487	924,333
Total	–	655,162	307,842	292,487	1,255,491

The FRDC has no derivative financial liabilities in either 2011–12 or 2010–11.

Note 16F: Market risk

The FRDC holds basic financial instruments that do not expose the FRDC to certain market risks. The FRDC is not exposed to 'currency risk' or 'other price risk'.

Note 16G: Financial assets reconciliation

	Notes	2012 $	2011 $
Financial assets			
Total financial assets as per balance sheet		6,173,748	10,126,604
Less: non-financial instrument components			
GST receivable from the Australian Taxation Office	5B	399,081	123,333
Total non-financial instrument components		399,081	123,333
Total financial assets as per financial instruments note		5,774,667	10,003,271

NOTE 17: REPORTING OF OUTCOME

The FRDC is a co-funded partnership between its stakeholders, the Australian Government and the Australian fishing industry (wild catch commercial, aquaculture, recreational and indigenous fishers).

The objective of the FRDC is to optimise economic, environmental and social benefits for its stakeholders through effective investment and partnership in 'research, development and extension' (RD&E). The FRDC aims to maximise the benefits from its investment, by ensuring that the activity is well targeted, meets Australian Government and industry RD&E priorities, and builds on previous achievements where applicable.

Note 17A: Net cost of outcome delivery

	Outcome 1	
	2012 $	2011 $
Departmental		
Expenses	**29,684,026**	25,755,783
Own-source income	**8,790,168**	10,168,418
Net cost of outcome delivery	**20,893,858**	15,587,365

NOTE 17: REPORTING OF INCOME (CONTINUED)

Note 17B: Major classes of expenses, income, assets and liabilities by outcome

	Outcome 1	
	2012 $	2011 $
Expenses		
Employee benefits	**1,957,162**	1,795,526
Supplier	**1,112,348**	1,165,686
Projects expenditure	**25,979,090**	22,207,389
Depreciation and amortisation	**530,489**	537,805
Loss from disposal of assets	**695**	–
Other expense	**66,000**	–
Finance costs	**38,242**	49,377
Total	**29,684,026**	25,755,783
Income		
Revenue from the Australian Government	**16,631,017**	16,527,667
Sale of goods and rendering of services	**76,033**	63,133
Interest	**552,224**	521,959
Grants	**462,682**	885,000
Contributions	**7,699,229**	8,698,326
Total	**25,421,185**	26,696,085
Assets		
Cash and cash equivalents	**4,878,725**	8,494,643
Trade and other receivables	**1,290,022**	1,566,960
Other investments	**5,001**	5,001
Other financial assets	**–**	60,000
Property, plant and equipment	**130,743**	183,764
Intangibles	**2,061,215**	2,220,810
Total	**8,365,706**	12,531,178
Liabilities		
Suppliers	**126,632**	174,409
Projects	**423,306**	188,380
Other payables	**638,571**	924,333
Employee provisions	**717,063**	538,243
Total	**1,905,572**	1,825,365


ABCDEF

APPENDICES

SCIENCE FOR SUSTAINABILITY

THE FRDC'S PRINCIPAL REVENUE BASE

As stipulated in the PIERD Act, and shown in figure 3, the FRDC's primary revenue source is based on:

A. the Australian Government providing unmatched funds equivalent to 0.50 per cent of the average gross value of Australian fisheries production (AGVP) for the current year plus the two preceding years;

B. fishers and aquaculturists providing contributions; and

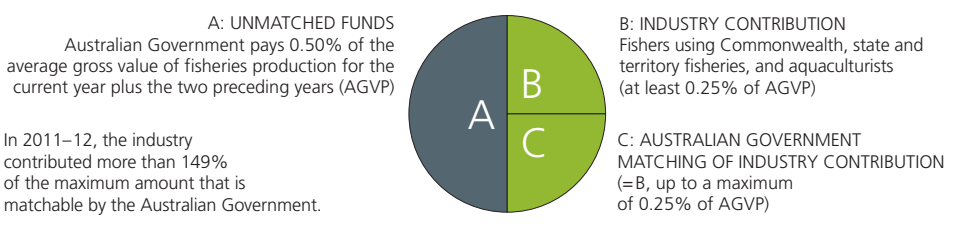
C. the Australian Government matches this amount up to a maximum of 0.25 per cent of AGVP.

There is no legislative impediment to fishers and aquaculturists contributing to the FRDC above the maximum level at which the Australian Government will provide a matching contribution.

Industry contributions for the past financial year and trends for the past five years are shown on page vii.

Details of all FRDC revenue (including investments, royalties, and sales of products, information and services) are in the financial statements starting on page 97.

FIGURE 3: PROPORTIONS OF THE FRDC'S PRINCIPAL REVENUE BASE



Rationale for the FRDC's revenue base

The high component of public good in the operating environment of the fishing industry, has significance for the FRDC's revenue base. The Australian Government's contribution of 0.50 per cent of AGVP is made on the grounds that the Australian Government exercises a stewardship role in relation to fisheries resources on behalf of the Australian community.

Industry makes its contributions to the FRDC recognising that fisheries RD&E will be oriented to its needs and will deliver economic and social benefits. In turn, the Australian Government's matching of the industry contributions is in line with policy principles that:

- beneficiaries from research should pay roughly in proportion to the benefits received; and
- the greater the spill-over benefits, the greater the proportion the Australian Government should contribute.

PRINCIPAL LEGISLATIVE REQUIREMENTS FOR REPORTING

This annual report complies with the requirements of Commonwealth legislation. The principal reporting requirements, and some of their consequences for the FRDC, are outlined in this appendix. The Acts are:

- the *Commonwealth Authorities and Companies Act 1997* (CAC Act);
- the *Primary Industries and Energy Research and Development Act 1989* (PIERD Act); and
- the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

CAC Act requirements

The CAC Act is the principal legislation that specifies the content and standards of presentation of statutory authorities' annual reports for parliamentary scrutiny.

Section 9 of the CAC Act requires the FRDC's directors to prepare an annual report in accordance with Schedule 1 each financial year, and to give it to the responsible minister by 15 October. Clause 10 of the CAC Orders specifies that the report of operations and future prospects (one of the three main elements of the annual report, the others being financial statements and a report by the Auditor-General) are to include, among other things:

- a review of how the FRDC has performed during the financial year in relation to its statutory objects and functions, its R&D plan and its principal outputs and contribution to outcomes;
- factors influencing its performance over the financial year and in the future;
- significant events;
- operational and financial results, including principal outputs, major investing and financing activities, and key financial and non-financial performance indicators;
- significant changes in the FRDC's state of affairs or principal activities;
- developments since the end of the financial year; and
- matters required to be included by the PIERD Act and any other legislation.

PIERD Act requirements

The PIERD Act also specifies matters that must be reported. In particular, section 28 states:

(1) The directors must include in each report on an R&D corporation prepared under section 9 of the *Commonwealth Authorities and Companies Act 1997*:

(a) particulars of:

(i) the R&D activities that it coordinated or funded, wholly or partly, during the period; and

(ii) the amount that it spent during the period in relation to each of those activities; and

(iia) which (if any) of those activities related to ecologically sustainable development; and

(iii) revisions of its R&D plan or annual operational plan approved by the Minister during the period; and

(iv) the entering into of agreements under sections 13 and 14 during the period and its activities during the period in relation to agreements entered into under that section during or prior to the period; and

(v) its activities during the period in relation to applying for patents for inventions, commercially exploiting patented inventions and granting licences under patented inventions; and

(vi) the activities of any companies in which the Corporation has an interest; and

(vii) any activities relating to the formation of a company; and

(viii) significant acquisitions and dispositions of real property by it during the period; and

(b) an assessment of the extent to which its operations during the period have:

(i) achieved its objectives as stated in its R&D plan; and

(ii) implemented the annual operational plan applicable to the period; and

(c) an assessment of the extent to which the Corporation has, during the period, contributed to the attainment of the objects of this Act as set out in section 3; and

(d) in respect of the grain industry or such other primary industry or class of primary industries as is prescribed in the regulations, particulars of sources and expenditure of funds, including:

(i) commodity, cross commodity and regional classifications; and

(ii) funds derived from transfer of:

(A) assets, debts, liabilities and obligations under section 144; and

(B) levies attached to Research Funds under the *Rural Industries Research Act 1985* under section 151 of this Act.

Further information on the PIERD Act in relation to the FRDC is in Appendix C.

EPBC Act requirements

Section 516A of the EPBC Act requires the FRDC to report on ecologically sustainable development (ESD) and environmental matters. The specific reporting required by section 516A, and the FRDC's responses, are as follows.

- The extent to which the principles of ESD have been internalised in decision-making systems and processes. The objects of the FRDC, specified in the enabling legislation and detailed in Appendix C, focus its activities on economic, environmental and social matters (that is, the principal elements of ESD), including 'sustainable use and sustainable management of Australia's fisheries natural resources'. The first three of the legislated objects underlie the FRDC's vision, and are the basis for the planned outcomes of the FRDC RD&E programs. In pursuing these outcomes, the FRDC has fully internalised the principles of ESD in its decision-making systems and processes.
- The contribution to ESD of the social, economic and environmental outcomes that the Australian Government is seeking. Reporting of the FRDC RD&E programs (pages 25–69) addresses this requirement. In addition, Appendix D: Government priorities on pages 151–153 outlines expenditure against the broader government priorities including an environmentally sustainable Australia.
- Program 1: Natural resources sustainability and Program 2: Industry, clearly focus and deliver RD&E outcomes that are consistent with the intentions of the EPBC and assist management agencies.
- The environmental impacts of the FRDC's operations and actions, the measures being taken to minimise the impact on the environment, and the mechanisms for reviewing and improving performance. The FRDC implements section 516A through two functions, as follows:
  - R&D project management. The FRDC identifies R&D needs, and the means of addressing them, through a planning process and by entering project agreements with research providers; it does not undertake research itself. Management of fisheries R&D involves reporting against economic, environmental and/or social outcomes—at a strategic level through this annual report and in more detail in the final reports for projects. Before R&D projects start, the FRDC assesses their environmental impacts and ensures that appropriate approvals are obtained. The FRDC also has an entire R&D subprogram dedicated to developing an ESD reporting and assessment framework so that the industry can meet its obligations under the Act.
  - FRDC internal operations. Mechanisms for reviewing and improving performance are incorporated in the Corporation's ISO-certified quality management system, which provides a structure for continual improvement that permeates all management processes. The FRDC manages the process through the Management and Accountability Program.

A compliance index shows the page numbers on which the FRDC has reported on matters specified in Australian Government legislation and policies.

THE FRDC'S LEGISLATIVE FOUNDATION AND THE EXERCISE OF MINISTERIAL POWERS

Enabling legislation

The FRDC's enabling legislation is the *Primary Industries and Energy Research and Development Act 1989* (Commonwealth) (PIERD Act).

The FRDC Board is responsible to the Minister for Agriculture, Fisheries and Forestry and, through him, to the Parliament of Australia.

The objects, functions and statutory powers of R&D corporations are specified in the PIERD Act, the text of which is available via the FRDC website.

In the interests of clarity, the following statements of the FRDC's objects, functions and statutory powers mirror the wording of the PIERD Act but are specific to the FRDC and its business environment. Similarly, the statements of the FRDC's functions and statutory powers have been made shorter and simpler than the wording of the Act.

Objects

The objects of the FRDC, deriving from section 3 of the PIERD Act, are to make provision for the funding and administration of fisheries RD&E with a view to:

- increasing the economic, environmental and social benefits to members of the Australian fishing industry and to the community in general by improving the production, processing, storage, transport or marketing of fish and fish products;
- achieving the sustainable use and sustainable management of Australia's fisheries natural resources;
- making more effective use of the resources and skills of the community in general and the scientific community in particular; and
- improving accountability for expenditure on fisheries RD&E.

Functions

The functions of the FRDC, deriving from section 11 of the PIERD Act, are to:

- investigate and evaluate the requirements for fisheries research and development and, on that basis, prepare a five year R&D plan, review it annually and revise it if required;
- prepare an annual operational plan for each financial year;
- coordinate or fund the carrying out of R&D activities that are consistent with the annual operational plan;
- monitor and evaluate fisheries R&D activities that are funded and report on them to the Parliament; the Minister for Agriculture, Fisheries and Forestry; the Australian Seafood Industry Council; and the Australian Recreational and Sport Fishing Industry Confederation (trading as Recfish Australia); and
- facilitate the dissemination, adoption and commercialisation of the results of fisheries R&D.

Statutory powers

Subject to the PIERD Act, the FRDC is empowered under section 12 of the Act to do all things necessary or convenient to be done for, or in connection with, the performance of its functions, which may include:

- entering into agreements for the carrying out of R&D activities by other persons;
- entering into agreements for the carrying out of R&D activities by the FRDC and other persons;
- making applications, including joint applications for patents;
- dealing with patents vested in the FRDC and other persons;
- making charges for work done, services rendered, and goods and information supplied by it;
- accepting gifts, grants, bequests and devices made to it, and acting as trustee of money and other property vested in it on trust;
- acquiring, holding and disposing of real and personal property;
- joining in the formation of a company; and
- doing anything incidental to any of its powers.

The description of ministerial powers on the following page has been drawn from several sections of the PIERD Act and has been condensed from the original in the interests of clarity.

Ministerial powers

Ministerial powers under the enabling legislation may be exercised by the Minister for Agriculture, Fisheries and Forestry. They relate to:

- directing the FRDC in writing as to the performance of its functions and the exercise of its powers;
- approving the RD&E plan and the annual operational plan;
- requesting and approving variation to the RD&E plan and the annual operational plan;
- requesting the establishment of a selection committee and determining certain conditions relating to the selection committee;
- appointing the presiding member and members of a committee for the selection of directors;
- determining the number of directors;
- determining the terms and conditions of appointment of directors (other than the Executive Director) in relation to matters not provided for by the PIERD Act;
- appointing the Chairperson;
- appointing directors, other than the Chairperson and Executive Director, from persons nominated by a selection committee;
- appointing a nominated director to be the Deputy Chairperson;
- declaring one or more specified organisations to be representative organisations in relation to the FRDC;
- determining the gross value of production of the fishing industry for the purposes of establishing the maximum payments by the Australian Government to the FRDC;
- establishing written guidelines covering the payment by the FRDC to an eligible industry body, or member of an eligible industry body, for expenses reasonably incurred in connection with consultation with the FRDC;
- causing, at least once in each financial year, a coordination meeting to be held of all R&D corporations;
- granting leave of absence to the Chairperson; and
- terminating the appointment of the Chairperson or a director other than the Executive Director.

Additional powers under the CAC Act relating to corporate governance and reporting are available to the Minister for Agriculture, Fisheries and Forestry; and the Finance Minister.

Exercise of ministerial powers during 2011–12 is described on pages 84–85.

GOVERNMENT PRIORITIES

The National Research Priorities and Rural Research Priorities can be viewed at http://www.daff.gov.au/agriculture-food/innovation/priorities

National research priorities and their associated goals (for use with the tables on the following page).

Priority 1—An environmentally sustainable Australia

A1 Water—a critical resource
A2 Transforming existing industries
A3 Overcoming soil loss, salinity and acidity
A4 Reducing and capturing emissions in transport and energy generation
A5 Sustainable use of Australia's biodiversity
A6 Developing deep earth resources
A7 Responding to climate change and variability

Priority 2—Promoting and maintaining good health

B1 A healthy start to life
B2 Ageing well, ageing productively
B3 Preventive healthcare
B4 Strengthening Australia's social and economic fabric

Priority 3—Frontier technologies for building and transforming Australian industries

C1 Breakthrough science
C2 Frontier technologies
C3 Advanced materials
C4 Smart information use
C5 Promoting an innovation culture and economy

Priority 4—Safeguarding Australia

D1 Critical infrastructure
D2 Understanding our region and the world
D3 Protecting Australia from invasive diseases and pests
D4 Protecting Australia from terrorism and crime
D5 Transformational defence technologies

TABLE 8: 2011–12 TOTAL INVESTMENT—COMPOSITION OF GOVERNMENT RESEARCH PRIORITIES ATTRIBUTED TO EACH RD&E PROGRAM ($ AND %)

Rural Research Priorities												
Rural Research Priorities (RRP)	Program 1: Environment		Program 2: Industry		Program 3: Communities		Program 4: People development		Program 5: Extension and adoption		Total expenditure	
	$000	%	$000	%	$000	%	$000	%	$000	%	$000	%
Productivity and adding value	1,348	5.19	3,606	13.88	20	0.08	464	1.79	410	1.58	5,848	22.51
Supply chain and markets	139	0.54	1,893	7.29	51	0.20	241	0.93	340	1.31	2,664	10.25
Natural resource management	6,957	26.78	2,416	9.30	116	0.45	417	1.61	613	2.36	10,519	40.49
Climate variability and climate change	1,960	7.54	204	0.79	8	0.03	118	0.45	134	0.52	2,424	9.33
Biosecurity	1,158	4.46	358	1.38			120	0.46	85	0.33	1,721	6.62
Innovation skills	92	0.35	293	1.13	28	0.11	306	1.18	128	0.49	847	3.26
Technology	183	0.70	644	2.48			26	0.10	63	0.24	916	3.53
Other research	493	1.90	393	1.51	9	0.03	71	0.27	74	0.28	1,040	4.00
TOTAL	12,330	47.46	9,807	37.75	232	0.89	1,763	6.79	1,847	7.11	25,979	100.00

Notes:

(a) When looking at the RD&E expenditure estimates across the rural research priorities and national research priorities, note that expenditure estimates differ for similarly themed priorities as a result of differences between descriptors.

(b) National research priorities and their associated goals are listed above.

Figures in this table have been rounded, hence totals may not agree with component figures.

TABLE 8: CONTINUED

National Research Priorities													
National research priorities (NRP)		Program 1: Environment		Program 2: Industry		Program 3: Communities		Program 4: People development		Program 5: Extension and adoption		Total expenditure	
		$000	%	$000	%	$000	%	$000	%	$000	%	$000	%
An environmentally sustainable Australia	A1												
	A2	974	4.04	2,197	9.10			35	0.15	235	0.97	3,441	14.26
	A3												
	A4			152	0.63					21	0.09	173	0.72
	A5	6,373	26.41	1,439	5.96	96	0.40	790	3.27	643	2.66	9,341	38.71
	A6												
	A7	1,949	8.08			83	0.34			122	0.51	2,154	8.93
Promoting and maintaining good health	B1												
	B2												
	B3	36	0.15	645	2.67					60	0.25	741	3.07
	B4	80	0.33			32	0.13	246	1.02	179	0.74	537	2.23
Frontier technologies for building and transforming Australian industries	C1	584	2.42	480	1.99			44	0.18	57	0.24	1,165	4.83
	C2	434	1.80	2,279	9.44					140	0.58	2,853	11.82
	C3	95	0.39	320	1.33					25	0.10	440	1.82
	C4	244	1.01	80	0.33					19	0.08	343	1.42
	C5			840	3.48	20	0.08	357	1.48	73	0.30	1,290	5.35
Safeguarding Australia	D1												
	D2												
	D3	1,081	4.48	246	1.02			185	0.77	142	0.59	1,654	6.85
	D4												
	D5												

REPRESENTATIVE ORGANISATIONS

Guidelines on funding of consultation costs by primary industry and energy portfolio statutory authorities were issued by the Hon. John Anderson MP, Minister for Primary Industries and Energy in July 1998 under the relevant enabling legislation and in association with paragraph 16(1)(b) of the *Commonwealth Authorities and Companies Act 1997* (CAC Act) which obliges directors of a Commonwealth authority to provide the responsible Minister with such reports, documents and information as he or she requires.

As required by Section 5(b) of the Guidelines FRDC is required to report:

> *Where the statutory authority has authorised an industry organisation, with which it has a formal relationship under its enabling legislation, to undertake a discrete project or consultancy on its behalf as per Section 1(b) of these guidelines, then details of the nature, purpose and expected or final outcome of the project or consultancy should be provided concurrently, with details of any consultation funding, in the main body of the annual report.*

The following tables are a list of all projects FRDC had with representative bodies in 2011–12. Note that projects can run over multiple years.

There are no projects in progress with the National Seafood Industry Association or the Commonwealth Fisheries Association.

NATIONAL AQUACULTURE COUNCIL

Project number	Project title	Total project cost
2009/303	Australasian Aquaculture 2010 to 2014	$240,000
2009/303.20	People development program: Australasian Aquaculture 2010 to 2014 (bursary sponsorships)	$51,500

RECFISH AUSTRALIA

Project number	Project title	Total project cost
2011/502	Recreational Fishing Industry Development Strategy: Australian National Recreational Fishing Conference 2012	$120,000
2010/211	Development of National Extension and Adoption Framework for Fishing and Aquaculture	$358,880
2008/329	People development program: FRDC world recreational fishing conference bursaries	$6,000

FREEDOM OF INFORMATION STATEMENT

The *Freedom of Information Act 1982* (FOI Act) requires each Australian Government agency to publish a statement setting out its role, structure and functions, the documents available for public inspection, and access to such documents. Section 8 of the FOI Act requires each agency to publish information on the way it is organised, its powers, decisions made and arrangements for public involvement in its work.

As part of the establishment of the Information Publication Scheme (IPS), section 8 has now been amended with effect from 1 May 2011.

The following statement, in conjunction with information contained in this annual report, is intended to meet the requirements of the FOI Act for the reporting period from 1 July 2010 to 30 April 2011.

The Commonwealth's FOI legislation is administered by the Privacy and FOI Policy Branch of the Department of the Prime Minister and Cabinet (PM&C). More information is available from the PM&C website—http://www.pmc.gov.au/foi/index.cfm

ROLE, STRUCTURE AND FUNCTIONS

The FRDC's role is described on page 1 of this annual report; its structure and functions and legislation under which it is established are described in Appendices A to C.

DOCUMENTS AVAILABLE FOR INSPECTION

RD&E Plan (the FRDC's strategic plan)	File, publication and website *
FRDC policies	Unpublished documents, list on website *
Annual operational plan	File, publication and website *
Project details	Database, files and website *
Project agreements	Files and generic copy on website *
Final reports and non-technical summaries	Publications and website *
RD&E funding applications	Files
Annual report	File, publications and FRDC website *
FISH magazine	File, publications and FRDC website *
Administration	Files, unpublished document
Mailing lists	Database

* The FRDC's website address is **www.frdc.com.au**

Some other information may be subject to assessment of access for such matters as commercial confidentiality or personal privacy in accordance with the FOI Act.

ACCESS TO DOCUMENTS

To seek access to FRDC documents, please contact the FRDC's FOI Officer: address, telephone, fax and e-mail details are shown inside the back cover of this report. It may not be necessary to request the information under the FOI Act—the FRDC may simply provide it to you when you ask for it. At all times, however, you have the option of applying under the FOI Act.

FEES AND CHARGES FOR FOI

Request	Charge
Application	No fee
Search and retrieval	$15 per hour
Decision making and consultation	First five hours free, after that $20 per hour
When a FOI request is not responded to within the statutory time limit	No fee
Internal review	No fee
Request for personal information	

The standard FOI application fee is nil when making your application, however processing charges will apply.

Documents are usually made available for direct access at the FRDC's office in Canberra. They may also be provided, depending on your preference:

- by post (photocopies) to an address specified in your request, or
- at the Information Access Office (established by the Attorney-General) nearest where you live.

LIST OF ABBREVIATIONS

AASB	Australian Accounting Standards Board
AGVP	average gross value of production
ASCo	Australian Seafood Co-products
b	billion
CAC Act	*Commonwealth Authorities and Companies Act 1997*
CEO	Chief Executive Officer
CRC	cooperative research centre
CRRDC	Council of Rural RDCs
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DAFF	Department of Agriculture, Fisheries and Forestry
DCCEE	Department of Climate Change and Energy Efficiency
DPI	Department of Primary Industries
E&A	extension and adoption
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
ESD	ecologically sustainable development
FOI Act	*Freedom of Information Act 1982*
FRAB	Fisheries Research Advisory Body
FRDC	Fisheries Research and Development Corporation
GPS	global positioning system
GST	goods and services tax
GVP	gross value of production
ISO	International Organization for Standardisation
IT	information technology
m	million
MP	member of parliament
NPF	National Priorities Forum
NSW	New South Wales
OH&S	occupational health and safety
PhD	Doctor of Philosophy
PIERD Act	*Primary Industries and Energy Research and Development Act 1989*
R&D	research and development
RD&E	research, development and extension
RDC	research and development corporation


COMPLIANCE + ALPHABETICAL

INDICES

COMPLIANCE INDEX

This index shows the page numbers on which the FRDC has reported on matters specified in Australian Government legislation and policies, and in the Global Reporting Initiative.

When this annual report has not addressed a compliance subject (usually because no activity occurred under that heading during the year), the subject entry is followed by '—' rather than by a page number.

Australian Government legislation and policies

The Australian Government legislation and policies with which the FRDC complies include the following:

- the FRDC's enabling legislation, the *Primary Industries and Energy Research and Development Act 1989* (PIERD Act);
- the C*ommonwealth Authorities and Companies Act 1997* (CAC Act) and its supporting Commonwealth Authorities and Companies (Report of Operations) Orders 2008 made under section 48 of the Act (CAC Orders);
- the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act);
- other legislation, such as the *Freedom of Information Act 1982*, the *Occupational Health and Safety (Commonwealth Employment) Act 1991*, the *Disability Discrimination Act 1992* and the *Commonwealth Electoral Act 1918*;
- ministerial notifications of Australian Government policy, including national priorities for research and priorities for rural R&D;
- *Requirements for annual reports*, Department of the Prime Minister and Cabinet (PM&C), June 2001, approved by the Joint Committee of Public Accounts and Audit under sub-sections 63(2) and 70(2) of the *Public Service Act 1999*;
- other Australian Government guidelines; and
- recommendations by the Australian National Audit Office.

The document *Requirements for annual reports* acknowledges that agencies vary in role and size and there is discretion as to the extent of information to include in annual reports and the sequence in which it is presented. The Joint Committee on Publications has also observed that a departmental report will necessarily be different from that of a statutory authority; a statutory authority, while accountable for its activities, has a degree of independence not shared by departments and its annual reports will thus have a greater freedom of expression and comment. The FRDC's reporting is, accordingly, appropriate to its legislative basis, functions and size.

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PUBLICATIONS AND OTHER INFORMATION

The following information is available from the FRDC	Printed	Website
The RD&E Plan (*Investing for tomorrow's fish: the FRDC's Research, Development and Extension Plan 2010–2015*), which provides comprehensive information on the Corporation; its business environment; the outlook for the fishing industry and the natural resources on which it depends; and the way in which the FRDC plans, invests in and manages fisheries R&D.	Yes	Yes
This and the previous annual report.	Yes	Yes
R&D plans for Commonwealth, states, Northern Territory, regions and industry sectors.	Yes	Yes
FISH (published in March, June, September and December, and on other occasions for special themes), which provides information on FRDC activities, summarises final reports on completed R&D projects released during the previous quarter, and lists projects that have been newly funded.	Yes	Yes
Information on completed projects (final reports and other related products).	Yes (see note 1)	Yes
Non-technical summaries of all final reports of FRDC projects.		Yes
Hyperlinks to other websites containing full final reports and fisheries R&D strategies, and to other important websites.		Yes
R&D funding application details.		Yes
Coming events of significance for the industry.		Yes
Research databases.		Yes

Note 1: Information on completed projects (final reports and other related products) are also available from:

- the National Library of Australia, Parkes ACT 2600
- the Librarian, CSIRO Marine Research, GPO Box 1538, Hobart Tasmania 7001
- state libraries and research institutions that the researcher considers appropriate.

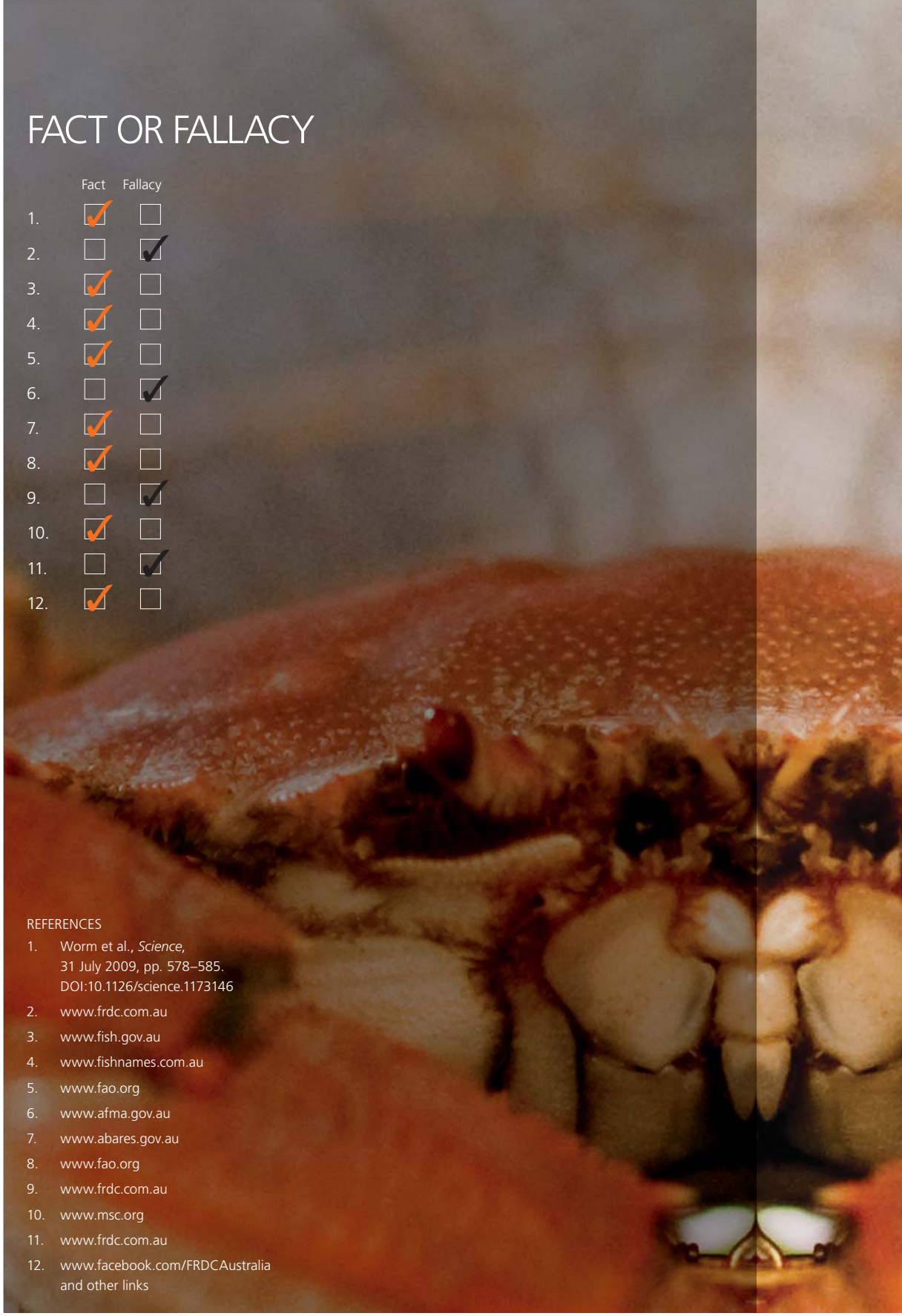
www.frdc.com.au

The FRDC's website (**www.frdc.com.au**) provides easy access to information and publications, including the items on this page.

… and FRDC is now on Facebook.

FACT OR FALLACY

	Fact	Fallacy
1.	✓	
2.		✓
3.	✓	
4.	✓	
5.	✓	
6.		✓
7.	✓	
8.	✓	
9.		✓
10.	✓	
11.		✓
12.	✓	



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9. www.frdc.com.au
10. www.msc.org
11. www.frdc.com.au
12. www.facebook.com/FRDCAustralia and other links

ABOUT THIS REPORT

This report describes the extent to which the Corporation implemented its approved annual operational plan during the previous financial year. It meets the requirements for reporting legislated by the Australian Government and informs the FRDC's other stakeholders—especially those in the commercial, recreational and indigenous sectors of the fishing industry and in the research and development community.

Fisheries Research and Development Corporation Annual Report, 2011–12

An electronic version is at the FRDC website—**www.frdc.com.au**

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Postal address:	Locked Bag 222, Deakin West ACT 2600
Office:	Fisheries Research House, 25 Geils Court, Deakin, Australian Capital Territory
Telephone:	02 6285 0400; from overseas + 61 2 6285 0400
Facsimile:	02 6285 4421; from overseas + 61 2 6285 4421
E-mail:	frdc@frdc.com.au
Internet:	www.frdc.com.au

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FRDC is co-funded by our stakeholders,
the Australian Government, and the fishing industry.

The FRDC invests strategically across all of Australia in research, development and extension (RD&E) activities that benefit all sectors of the fishing industry. Our goal is for Australia's fisheries to be sustainably managed.