Australian Government

Fisheries Research and Development Corporation

ANNUAL REPORT 2004–05

to the Parliament of Australia, the Australian fishing industry and other FRDC stakeholders

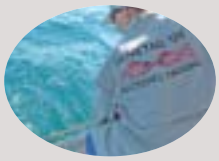
Key achievements in 2004–05

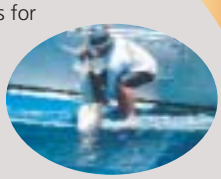
Northern Territory

- (2002/011) Genetag wins ABC *New Inventors* and NT Government award for innovative methods in fish tagging that do not involve handling.
- (2000/210) Mud crab aquaculture success leads to the setup of an indigenous mud crab aquaculture farm.
- (2003/248) A collaborative approach to investigating the viability of sponge aquaculture in regional communities provides an exciting and potentially lucrative new aquaculture industry.

Western Australia

- (2004/051) Samson fish project — 270 recreational fishers and scientists tag almost 2,500 samson fish in 27 days to determine spawning aggregation patterns and behaviour.
- (2000/138) The Shark Bay snapper fishery is recovering following several research projects monitoring catches and bycatches. This research has been instrumental in avoiding closures for the commercial snapper fishery by providing quantitative recruitment estimates.
- (2005/213) SIFTS inland saline aquaculture project wins a new inventors award and heralds the start of innovative, environmentally friendly inland saline aquaculture.
- (2002/086) ESD assessment guides for wild capture and aquaculture are the first for Australia and are internationally recognised.





Others

- FRDC's ESD reporting and assessment subprogram's framework has been modified and adopted for agriculture — fisheries leads NRM development processes for primary industries.

South Australia

- (2003/228) World first measure of activity and oxygen metabolism for caged SBT.
- (2003/229 and 2004/206) YTK and SBT are shown to have exceptionally low residue levels giving the industry a marketing advantage with overseas competitors.
- Southern Rock Lobster Ltd wins a UN Association of Australia award for environmental best practice. FRDC's investment in EMS, codes of practice, stock knowledge and OHS have contributed to the industry working towards this status.
- (2003/072) Determination of the trophodynamics of the Great Australian Bight gains national recognition for integrating broader environment linkages into fisheries NRM.

Queensland

- (2002/056) VMS project internationally recognised and potentially adopted. In Australia, the results have helped industry in negotiations over the Marine Representative Area closures and is to be adopted in Queensland's VMS program.
- (2003/021) A collaborative approach to the mapping of the seabed and bycatches within the GBR region gives a comprehensive understanding of the seabed biodiversity of the region.
- (2002/008) Circulation models of tropical rock lobster larval movement lead to better understanding of spawning and settlement areas, enhancing management of the fishery.
- (1998/135) Partnership with the Injinoo community leads to the voluntary closure of spawning areas for black jewfish to allow for the rebuilding of stocks.

New South Wales

- Thirteen hundred people from 40 countries attend Australasian Aquaculture conference.
- (2003/209) Twenty million spat are sold supporting the commercial success of hatchery produced SRO and adoption by the industry, 4 million QX resistant oysters are also hatched.
- (2001/031) Changes to mesh sizes in commercial and recreational fishing gear reduce the catch of unwanted small prawns by 99% and fish bycatch by 91% in NSW estuaries.

Victoria

- FRDC finalist in ARA Reporting Awards for public sector corporate governance (FRDC winner for 2002–03).
- (1999/116) A national abalone assessment model is implemented to assist in the setting of total allowable catches and assessment of abalone stocks.
- (2003/074) Volunteer anglers are assisting in the determination of the survival of snapper and bream caught by recreational anglers and scoping improved fishing and handling practices.
- (2002/090) Victorian Bay and Inlet fishers collaborate to develop their EMS for one of Australia's oldest commercial fisheries.
- (2002/250) Trials of BioPhos with fish silage ingredients show comparable yields to other fertiliser types however BioPhos is kinder to the environment.

Tasmania

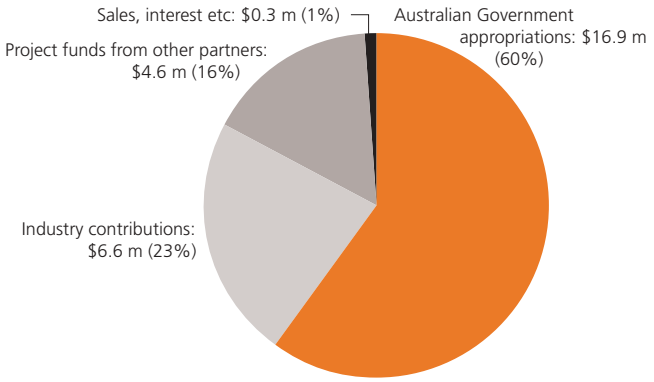
- (2001/311) More than 1000 copies of the "Story of Seafood" teachers' resource kit sent to schools.
- (2003/212) First southern rock lobster juvenile is produced from an egg within a hatchery system in Australia.
- (2002/405) First shipment of silage from fish processing waste sent to ASCo for inclusion in BioPhos fertiliser sent from Devonport.
- ASI sell 24 million thoroughbred oysters to the Pacific oyster industry in Tasmania and South Australia.

Commonwealth

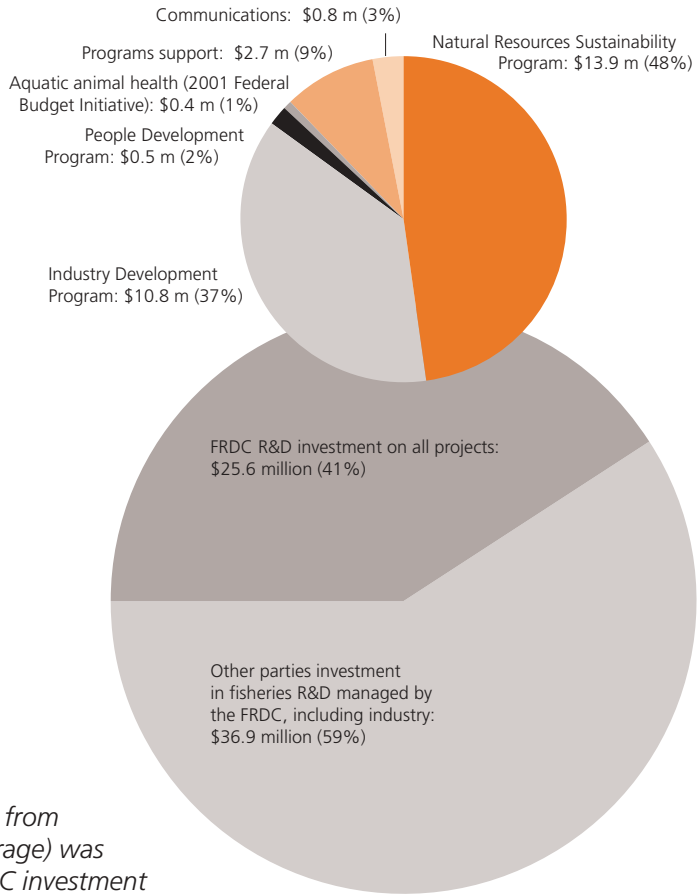
- Northern Prawn Fishery — The research partnership between industry, AFMA and FRDC has assisted in tiger prawn stocks having re-built to sustainable levels resulting in the fishing season being extended for the first time in six years.
- (2003/061) Alternative management strategy options in the SESSF shows the way forward for integrating management and industry information to improve and provide cost effective management.
- Mitigating the interactions with sea turtles and toothed whales in the Eastern Tuna and Billfish Fishery leads to the adoption of improved fishing practices by the fleet.

FIGURE 1: INCOME, EXPENDITURE AND LEVERAGE OF INVESTMENT, 2004–05

INCOME
Total: $28.4 million



EXPENDITURE
Total: $29.1 million



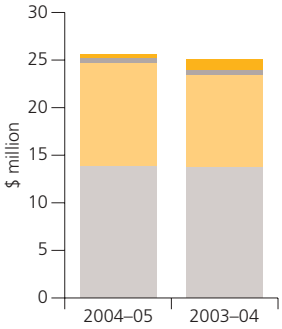
CO-INVESTMENT:
Total investment from all sources: $62.5 million

Investment derived from other sources (leverage) was 1.43 times the FRDC investment

The industry contribution rose from 109% to 114% of the amount that is matched by the Australian Government, reflecting increased recognition by industry of the benefits flowing from fisheries R&D.

Summary of project expenditure

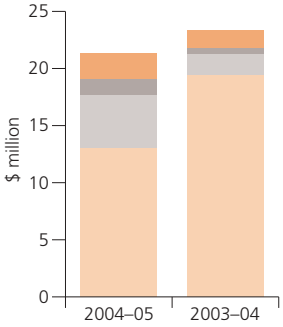
Expenditure by R&D program



R&D program	2004–05	2003–04
Aquatic animal health*	$0.4 m	$1.1 m
Program 3: People Development	$0.5 m	$0.6 m
Program 2: Industry Development	$10.8 m	$9.6 m
Program 1: Natural Resources Sustainability	$13.9 m	$13.8 m
Total	**$25.6 m**	**$25.1 m**

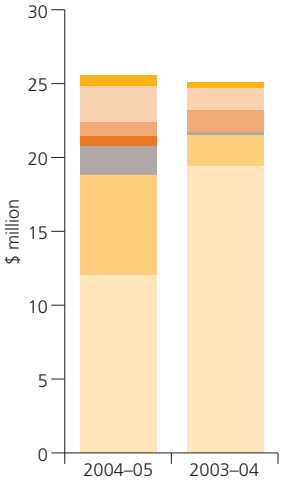
* Aquatic animal health initiative ended 30 June 2004 and Aquatic Animal Health Program commenced February 2005.

Expenditure by Australian Government national research priority



Priority	2004–05	2003–04
Safeguarding Australia	$2.2 m	$1.5 m
Promoting and maintaining good health	$1.4 m	$0.5 m
Frontier technologies for building and transforming Australian industries	$4.6 m	$1.9 m
An environmentally sustainable Australia	$13.1 m	$19.4 m
Total	**$21.2 m**	**$23.3 m**

Expenditure by Australian Government priority for rural R&D



Priority	2004–05	2003–04
Creating an innovative culture	$0.8 m	$0.4 m
Protecting Australia from invasive diseases and pests	$2.4 m	$1.5 m
Use of frontier technologies	$0.9 m	$1.5 m
Improved trade and market access	$0.7 m	—
Maintaining and improving confidence in the integrity of … fish … products	$1.9 m	$0.2 m
Improving competitiveness	$6.9 m	$2.1 m
Sustainable natural resource management	$12.0 m	$19.5 m
Total	**$25.6 m**	**$25.1 m**

For the full list of projects against the Australian Government National Research and Rural R&D priorities visit the FRDC website www.frdc.com.au

TABLE 1: INDUSTRY CONTRIBUTIONS, MAXIMUM MATCHABLE CONTRIBUTIONS BY THE AUSTRALIAN GOVERNMENT AND RETURNS ON INVESTMENT, 2004–05

	A	B	C	D	E	F
	Maximum matchable contribution (0.25% of AGVP) ($) [see note 1]	Actual industry contribution 2004–05 ($)	B÷A as per cent	Distribution of FRDC R&D investments 2004–05 ($) [see note 2]	Return on contribution (D:B) [see note 3] 2004–05	5 yrs
C'wealth Northern Prawn Fishery [note 4]	242,633	862,986	356%	1,674,827	1.9:1	2.1:1
Commonwealth fisheries other	784,917	867,821	111%	2,572,016	3.0:1	4.5:1
Commonwealth fisheries total	1,027,550	1,730,807	168%	4,246,843	2.5:1	3.3:1
New South Wales fisheries total	356,250	417,415	117%	217,821	5.2:1	6.4:1
Northern Territory fisheries total	120,825	107,626	89%	567,895	5.3:1	7.5:1
Qld prawn aquaculture	134,492	225,249	167%	167,010	0.6:1	3.2:1
Qld other	614,333	475,000	77%			
Queensland fisheries total	748,825	700,249	94%	2,546,710	3.6:1	4.4:1
SA southern bluefin tuna [note 8]	488,172	362,079	74%	2,904,500	8.0:1	5.6:1
SA other	520,453	755,995	145%			
South Australia fisheries total	1,008,625	1,118,069	111%	5,518,911	4.9:1	4.7:1
Tas salmon aquaculture [note 9]	277,694	285,000	103%	2,055,926	7.2:1	4.5:1
Tas Pacific oysters	29,721	36,000	123%	33,565	0.9:1	9.8:1
Tas other	417,660	401,500	96%			
Tasmania fisheries total	724,625	722,500	100%	3,875,318	5.4:1	5.2:1
Victoria fisheries total	270,075	252,548	94%	1,438,008	5.7:1	6.4:1
Western Australia fisheries total	1,478,800	1,507,714	102%	5,096,565	3.4:1	3.6:1
Total	**5,735,575**	**6,556,929**	**114%**			

Notes for table 1 are on page vi.

Achievements through this investment

TABLE 2: FINANCIAL INDICATORS OF R&D INVESTMENT

Expenditure	**2004–05**	**2003–04**	**% change**
– on all R&D projects	$25.6 m	$25.1 m	+2.0%
– on R&D Program 1 (Natural Resources Sustainability)	$13.9 m	$13.8 m	+0.7%
– on R&D Program 2 (Industry Development)	$10.8 m	$9.6 m	+12.5%
– on R&D Program 3 (People Development)	$0.5 m	$0.6 m	–16.7%
– on Aquatic Animal Health	$0.4 m	$1.1 m	–63.6%
– on R&D of benefit to the commercial sector	$26.8 m (380 projects)	$25.7 m (385 projects)	+4.3%
– on R&D of benefit to the recreational sector	$3.5 m (154 projects)	$3.2 m (164 projects)	+9.3%
– on R&D of benefit to the indigenous sector	$0.2 m (46 projects)	$0.3 m (47 projects)	–33.3%
Benefits	**2004–05**	**2003–04**	
Return on R&D investment to the fishing industry for every dollar contributed to the FRDC	$3.89	$3.85	+1.0%
Investment levered from other sources for every dollar invested by the FRDC	1.43	1.63	–12.3%
Australian Fisheries Statistics*	**2003–04**	**2002–03**	
The wild-catch sector earned less and caught more	$1.48 bn for 228,000 tonnes	$1.55 bn for 205,000 tonnes	$: –4.5% t: +11.2%
The aquaculture sector earned and produced slightly less	$732 m for 43,475 tonnes	$743 m for 44,000 tonnes	$: –1.5% t: –1.2%
Total commercial sector production	$2.20 bn for 271,000 tonnes	$2.30 bn for 249,000 tonnes	$: –4.4% t: +8.8%

* The figures quoted from the Australian Fisheries Statistics are for 2002–03 and 2003–04 and are from the latest edition which is historically published in March each year. This can be downloaded from the FRDC website www.frdc.com.au

Other indicators

	2004–05	2003–04	2002–03
Number of applications evaluated	135	171	142
Number of approved new projects	64	81	82
Total number of active projects under management	426	494	485
Number of final reports completed	106	122	82
Median value of active R&D projects	$246,261	$224,406	$206,557

This year, the target was 80% and the FRDC achieved 114% ($6.57 million). The $6.57 million industry contribution was 1% more than last year's contribution. As a proportion of total FRDC revenue, industry contributions were 23% approximately the same as last year.

NOTES FOR TABLE 1:

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 vii (including when industry contributions exceed 0.25% of average GVP).
2. Distribution of FRDC R&D investments is based on the estimated flow of R&D benefits to the respective fisheries.
3. Ratios in column F are derived from the distribution of FRDC investments (column D) for 2004–05 and the previous four years. The figures for these five years are relevant to the 1995 Ministerial direction, summarised on page 82, concerning spending of industry contributions.
4. The Northern Prawn Fishery contributes to the FRDC under the terms of a memorandum of understanding.
5. Production figures for prawn aquaculture are only available to the FRDC for Queensland and New South Wales (via ABARE's *Australia Fisheries Statistics*).
6. Contributions refer only to Australian Prawn Farmers' Association levies and do not include moneys paid via government licences.
7. All Australian Prawn Farmers Association contributions are currently attributed to Queensland because a break-down by states is not yet available from the Levies Revenue Service of the Department of Agriculture, Fisheries and Forestry.
8. 2004–05 SBT levy collections were not all forwarded to the FRDC before 30 June 2005; the expected contribution level relating to 2004–05 is expected to exceed 0.25% AGVP.
9. The Tasmanian Salmon Growers Association contributes to the FRDC under the terms of a memorandum of understanding.

The following figure shows improvement in contributions over time:

FIGURE 2: INDUSTRY CONTRIBUTIONS AND MAXIMUM MATCHABLE CONTRIBUTIONS BY THE AUSTRALIAN GOVERNMENT

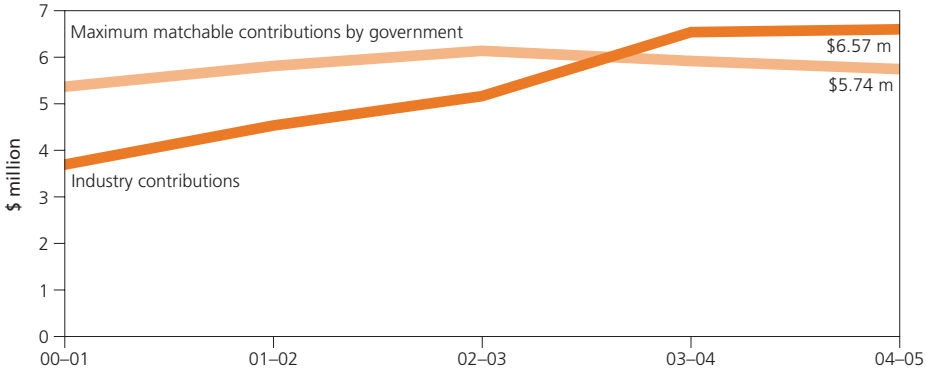
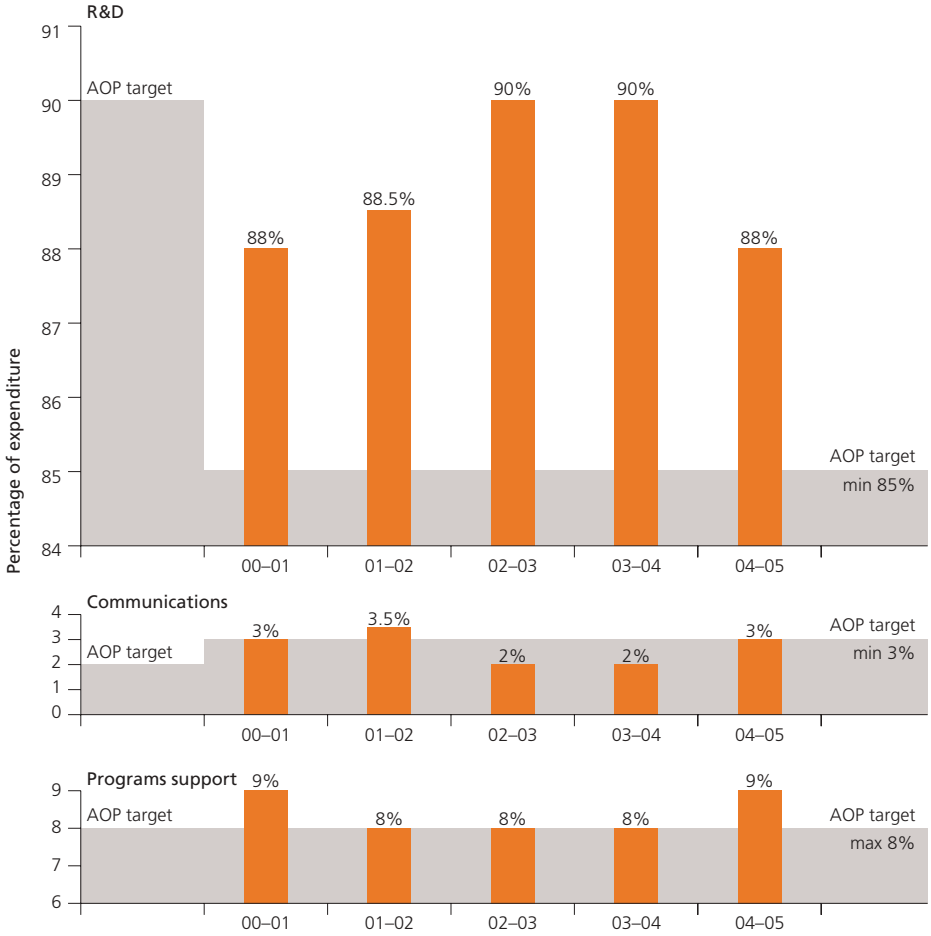


FIGURE 3: MAXIMUM FRDC EXPENDITURE ON R&D PROGRAMS



Note: Communications expenditure includes extension activities undertaken by the Secretariat. Programs support expenditure includes all other activities undertaken by the FRDC, including all salaries and operating expenses of the Secretariat and the Board.

About the FRDC

The FRDC is one of 14 rural research and development corporations. The FRDC is co-funded by its stakeholders, the Australian Government and the fishing industry.

The Corporation invests strategically across all of Australia in research and development (R&D) activities that benefit all three sectors of the fishing industry — commercial (wild catch and aquaculture), recreational and customary. The FRDC's goal is for Australia's fisheries to be sustainably managed.

The FRDC aims to work with partners to disseminate R&D results and assist with its adoption and, when appropriate, commercialisation.

Strategic directions are set with key stakeholders and then partner organisations are directly engaged from all over Australia to undertake its R&D activities.

This innovative approach to project management provides the FRDC a great deal of flexibility, while at the same time enabling us to work as a virtual organisation many times its size.

The seafood industry is Australia's fourth most valuable food-based primary industry with a landed value of more than $2 billion a year. In addition more than 3.4 million Australians recreationally fish each year spending an additional $1.8 billion a year. For indigenous communities the fishing industry not only provides avenues for income but also plays a significant role in their culture and subsistence.

Fish are a valuable, community-owned, renewable resource. They are, however, limited and vulnerable. Therefore, it is important they are managed using the best information available.

The Corporation and its partners are striving to ensure that fisheries ecosystems are used in a sustainable way so that future generations benefit.

Not only does FRDC's R&D aim to ensure the sustainability of Australia's natural resources. It also aims to raise awareness of key fisheries-related issues such as industry development, the social and economic impacts on fishing communities, and the health benefits of seafood.

The business environment in which the FRDC operates is characterised by:

- the need for effective stewardship to ensure best use of Australia's resources;
- a high emphasis on natural resource management;
- specific priorities of the three sectors of the seafood industry;
- geographic diversity — Australia's waters extend from the tropics to the Antarctic, and include both marine and freshwater;
- a broad range of products, including 800+ commercial species,1000+ recreational species and 100+ farmed species, with a further 100+ protected species.

The five strategic challenges

The FRDC and its stakeholders have analysed the fishing industry's business environment and the changes likely to occur during the next 20 years. This analysis has resulted in identification of the following five strategic challenges:

1. Natural resources sustainability
2. Resource access and resource allocation
3. Responses to demand; profitability
4. People development
5. Community and consumer support.

The three visions of the Fisheries Research and Development Corporation

For the industry

The commercial sector of the fishing industry is internationally competitive and profitable over the long term.

The commercial, recreational and indigenous sectors use aquatic resources in a sustainable way; are characterised by a learning culture; and are forward-looking, innovative, professional and socially resilient.

For the community and consumer

The community and consumers are supportive of the fishing industry and the natural resources on which the industry depends.

For fisheries and aquaculture research

Fisheries and aquaculture research is innovative and responsive to the needs of the Australian community, the fishing industry, and the aquatic ecosystems on which they depend.

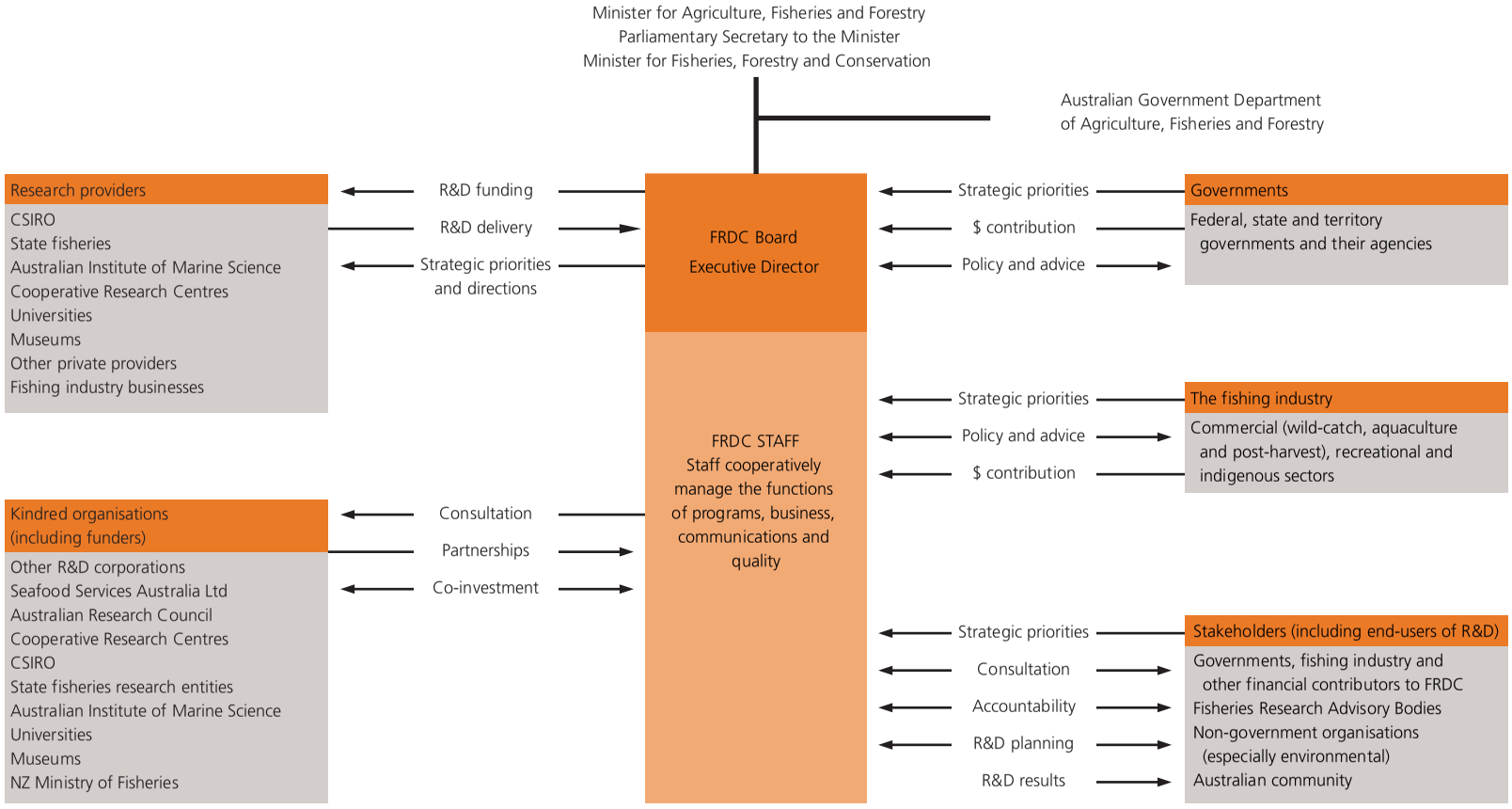
The Corporation's mission

The FRDC's mission is to maximise economic, environmental and social benefits for its stakeholders through effective investment and partnership in research and development.

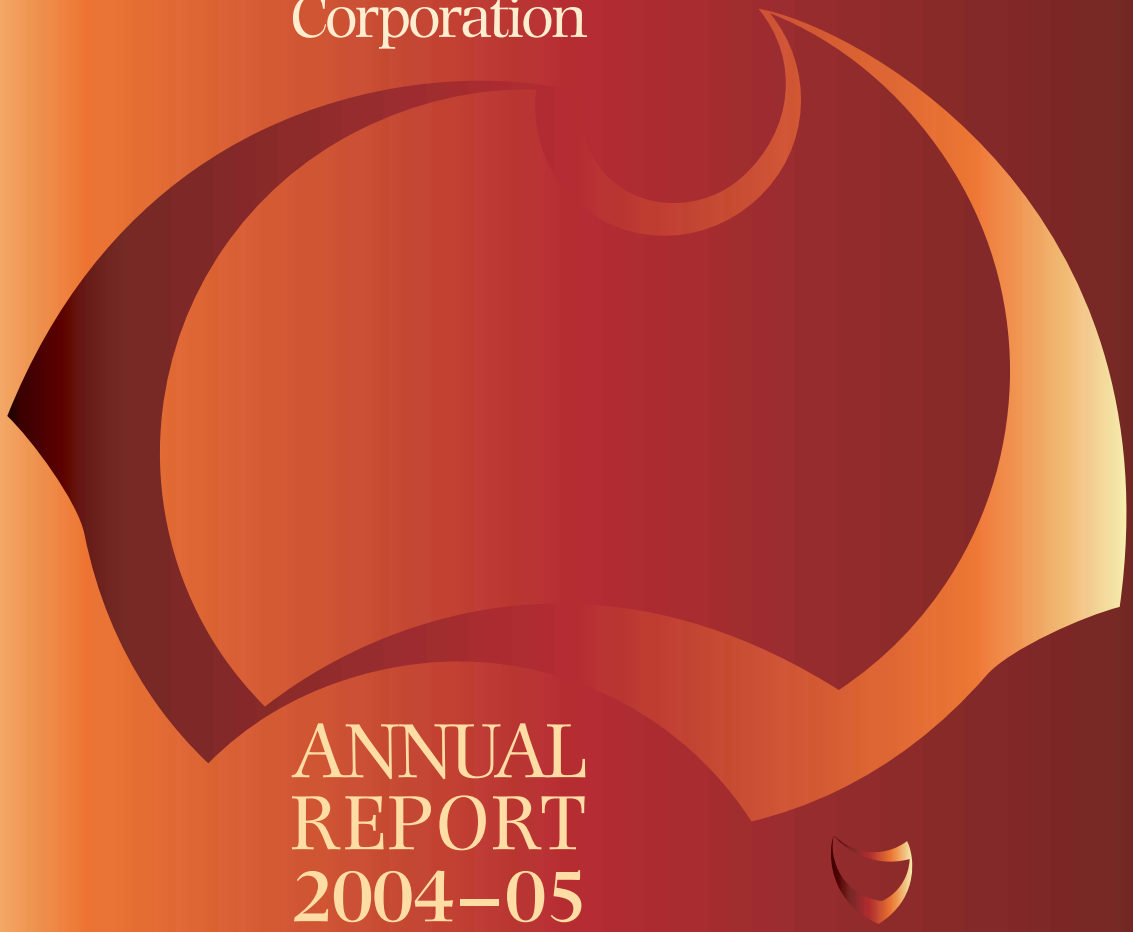
Stakeholders

Stakeholders in the FRDC are the fishing industry; the federal, state and territory governments; and the people of Australia.

FIGURE 4: THE FRDC'S ORGANISATION AND OPERATING CONTEXT



Fisheries Research and Development Corporation



ANNUAL REPORT 2004–05

Australian Government
Fisheries Research and Development Corporation

14 October 2005

Senator the Hon. Richard Colbeck
Parliamentary Secretary to the 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 2005. It is forwarded in accordance with section 9 of the *Commonwealth Authorities and Companies Act 1997* (CAC Act). It has been prepared in accordance with the *Primary Industries and Energy Research and Development Act 1989*, the CAC Act, the *Environment Protection and Biodiversity Conservation Act 1999*, the Commonwealth Authorities and Companies (Report of Operations) Orders of 2005, and other Commonwealth legislation and guidelines.

The contents of the report are intended to enable an informed judgement of the Corporation's performance during the year ended 30 June 2005 by you; by the Minister for Agriculture, Fisheries and Forestry; by the Minister for Fisheries, Forestry and Conservation; and by the Parliament.

The report is also intended to inform the FRDC's other stakeholders — especially fishing industry levy payers and other financial contributors; other people in the commercial, recreational and indigenous sectors of the fishing industry; and members of the research and development community.

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,

Denis Byrne
Chairman

Postal address: PO Box 222, Deakin West ACT 2600 Australia
Office location: [illegible]
Telephone: 02 6285 0400 Web: http://www.frdc.com.au
[illegible] E-mail: [illegible]
Australian Business Number: 76 211 084 813

CONTENTS

TRIPLE BOTTOM LINE REPORTING

A new approach to reporting — triple bottom line

This year the FRDC's focus on reporting has been aligned with the triple bottom line (TBL) and global reporting initiatives. The move to these reporting standards will help keep the FRDC at the leading edge of reporting.

The FRDC will report against environment, economic and social indicator categories. These categories line up with existing FRDC programs, for example; program one — natural resources sustainability will become the environment indicator; program two — industry development becomes the economic indicator; and program three — people development, the social indicator.

In addition, the FRDC will use two new measures to benchmark and assess its performance. The first is a triple bottom line assessment of the FRDC as a business — this work has been carried out by the University of Sydney as part of its *Balancing Act* research undertaken with CSIRO. The second measure compares the FRDC's investment in Natural Resource Management against the other rural research and development corporations.

To view a full version of the 'FRDC Balancing Act Review' visit www.frdc.com.au

Balancing Act

The FRDC is moving to integrated triple bottom line reporting to provide greater transparency on and understanding of, how the FRDC operates. As the first stage of this process FRDC engaged Sydney University to undertake an analysis of the FRDC Secretariat functions (the running of the FRDC, staff, building etc.) and develop a TBL account for the Corporation.

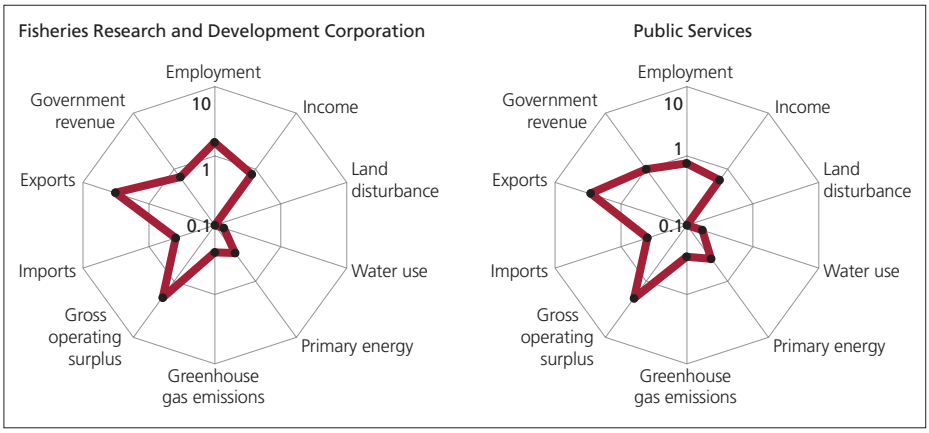
The calculation of the FRDC's TBL account uses a 'generalised input-output analysis' to develop a numerate triple bottom line account for three financial, three social and four environmental indicators. Every indicator is shown at an intensity, that is, per one dollar of final demand or per one dollar spent for consumption in everyday life. The indicators are generated with a supply chain approach where all activities are included or 'embodied' in the final indicator number. Taken together, these ten indicators provide a macro-landscape against which the FRDC will be able to benchmark many management issues. The ten indicators consist of:

- four environmental indicators — greenhouse gas emissions, primary energy use, managed water use and land disturbance,
- three social indicators — employment generation, income and government revenue, and
- three financial indicators — the gross operating surplus (or profits), the export propensity and the import penetration.

Each indicator or intensity is segmented into its direct and indirect effects to indicate whether efforts to improve performance should focus on each sector's own affairs within house, or whether the sector should start managing its supply chain in a more concerted way. The sector specific analysis provides guidelines for individual products and firms and gives a benchmark against which individual firms and institutions can measure their own performance.

The results of this analysis show that measured per dollar of output, FRDC performs much better than the economy-wide average in terms of all environmental indicators, including far above average in land disturbance and water use, and above average in greenhouse gas emissions and primary energy use (see Figure 5). FRDC's performance was above average in government revenue and imports, below average in exports and in gross operating surplus, and slightly below average in terms of employment generated. Finally, FRDC's linkages with the rest of the economy are weaker than those of other sectors, measured per dollar of output.

FIGURE 5: *BALANCING ACT* – TRIPLE BOTTOM LINE RESULTS



Benchmarked only against the public services sectors, FRDC's TBL performance was comparable with the average public service provider. FRDC's performance is slightly above average in terms of all environmental indicators, but below average in terms of income and employment generation.

Each key indicator has a plotted point of reference. The closer the reference point to the centre of the diagram the better the rating.

To view a full version of the 'FRDC Balancing Act Review' visit www.frdc.com.au

Natural Resource Management

The rural R&D Corporations (RDCs) have a strong commitment to improving the environmental sustainability of Australia's primary industries and their management of natural resources such as soil, water and biodiversity. They do this through strategic investments in priority natural resource management (NRM) issues for their particular commodity and through collaborative efforts when issues are of a generic importance.

In 2004–05 the RDCs worked together to develop a consistent view across of the investment in natural resource management. It achieved this through a Natural Resource Management Research and Development Reporting Framework, which has established a standard classification system against which each RDC has reported. The work was done through a collaborative effort under the auspices of the RDCs Natural Resource Management Working Group. It should be noted though, not all organisations had the opportunity at time of reporting to apply the framework to their entire research portfolio. Therefore there will be an element of under-reporting in the final figures.

In 2004/05, the rural RDCs collectively invested $78.5 million in natural resource issues with the FRDC investing $13.9 million or 17% of the total NRM investment. This $78.5 million is a significant proportion of Australia's total NRM research and represents more than 20% of the RDCs' research investment.

Figure 6 and Figure 7 show the relevant expenditure by category of the RDCs and FRDC. It is clear the FRDC invests a majority of its investment on marine biodiversity. Given the nature of the environment it operates, this is unsurprising.

FIGURE 6: RDC EXPENDITURE ON NATURAL RESOURCE MANAGEMENT

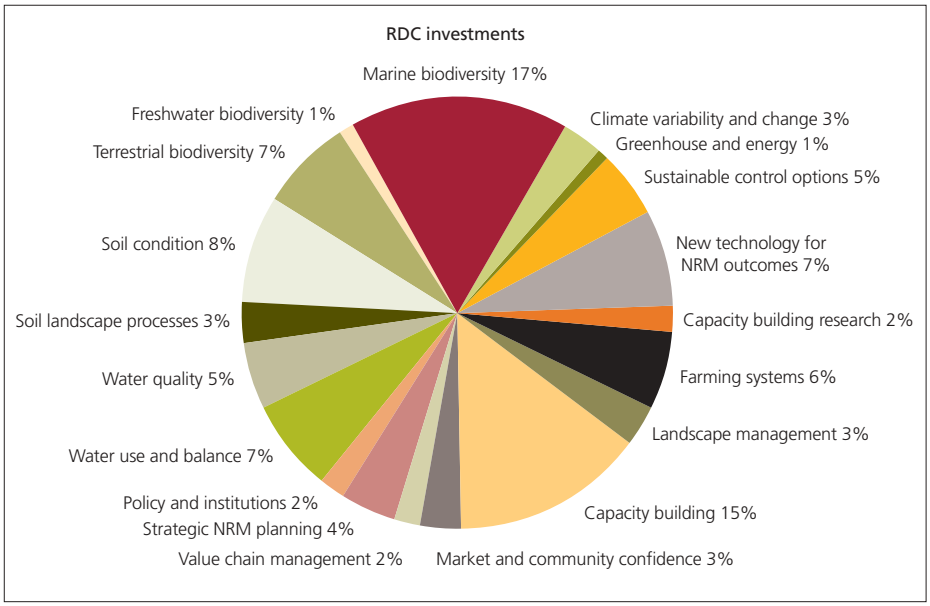
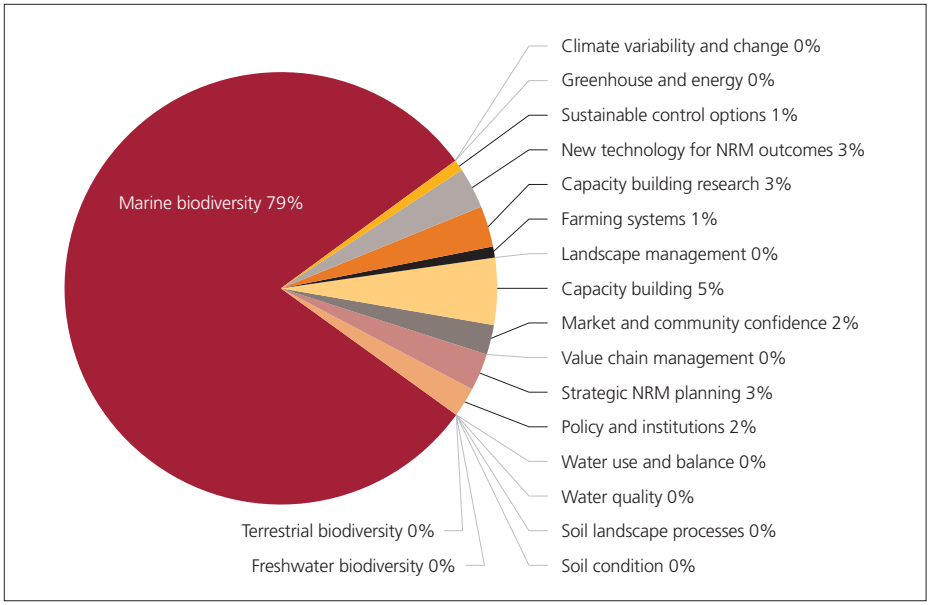


FIGURE 7: FRDC EXPENDITURE ON NATURAL RESOURCE MANAGEMENT



Reporting criteria of the Australian Government and representative organisations

In recent years, the Australian Government has significantly increased the criteria against which its agencies conduct and report their activities — especially through enactment of the CAC Act and EPBC Act; introduction of the outcome-output framework; specification of national research priorities; and, in the case of rural R&D corporations, specification of priorities for rural R&D. These criteria are shown in the compliance index (page 140).

More comprehensive information on the criteria is available as follows:

- the CAC Act, PIERD Act and *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act): Appendix B: Principal legislative requirements for reporting, on page 129;
- legislated objects, functions, statutory powers, ministerial powers: Appendix C: The FRDC's legislative foundation and the exercise of ministerial powers, on page 132;
- national research priorities: www.dest.gov.au/priorities/; and
- priorities for rural R&D: www.frdc.com.au/links.

The report of operations explicitly addresses section 9 of the *Commonwealth Authorities and Companies Act 1997* and includes material required by other legislation, particularly the *Primary Industries and Energy Research and Development Act 1989* and the *Environment Protection and Biodiversity Conservation Act 1999*.

CERTIFICATE CONCERNING THE REPORT OF OPERATIONS

The directors of the FRDC are responsible, under section 9 of the CAC Act, for preparation of the following report of operations in accordance with the CAC Orders.

This report of operations is made in accordance with a resolution of the directors at their meeting of 9 August 2005.

The date of the report is 1 September 2005.

Denis Byrne
Chairman

CERTIFICATE CONCERNING THE GLOBAL REPORTING INITIATIVE

This annual report was prepared in accordance with the 2002 Global Reporting Initiative guidelines and represents a balanced and reasonable presentation of the Corporation's sustainability performance.

[A compliance index for reporting against the Global Reporting Initiative is on page 140.]

Denis Byrne
Chairman

REPORT OF OPERATIONS

Part 1: The Directors' review of operations and future prospects

A tough year for industry

Increasing fuel prices, strong Australian dollar, low-cost imported seafood, increased environmental reporting requirements, new marine protected areas and a reduced labour pool have all made the last year particularly difficult for all sectors of the Australian fishing industry. While not unexpected, these changes in the industry's business and operating environment have put significant pressure on industry to change how it does its business. Not surprisingly this has impacted on industry's R&D investment approach. The most significant interactions are:

Impact on industry	Change in FRDC's R&D investment
GVP has plateaued over the last 12–18 months, and is expected to decline over the next two years	Capacity to invest in R&D will decline in real terms and in the short to medium term as contributions to FRDC are linked to GVP
Industry profit margins have declined	Industry research priorities have become more tactical and short term, with a greater focus on factors affecting industry profitability, in particular market research
Increased environmental reporting requirements	EPBC reporting requirements have significantly increased the demand for R&D to address broader environmental interactions, independent measures of fisheries catch and inclusion of recreational catch in stock assessment measures

FRDC's actions

Structuring FRDC's investment to meet stakeholder needs and improve speed of output delivery has been the focus for the past year. To improve FRDC's return on investment, two reviews have been implemented in:

1. data and information management, and
2. monitoring and evaluation

Both are aimed at improving outcome delivery by making better use of past and current R&D investment.

During the evaluation of the 2005 funding round the FRDC Board invested in several strategic initiatives that were identified as gaps by stakeholders in FRDC's current investments. The purpose of these was to improve FRDC's future investment in these strategically important areas, and through this investment, facilitate additional R&D in these areas. These strategic initiatives included:

- A review of FRDC's People Development Program.
- Establish a "Recreational Fishing Working Group" to develop a recreational fishing implementation plan for R&D.
- Invest in the development of options for establishing a viable framework for marketing seafood.
- Explore options for improving FRDC's investment in the indigenous fishing sector.

In addition to these strategic initiatives the Board has asked the Secretariat to:

- Undertake a review of eco-labelling in partnership with the Australian Seafood Industry Council (ASIC) and the National Aquaculture Council.
- Address the issues of environmental flows and the role FRDC will have in addressing these in relation to the R&D priorities.
- Work with the AFMF Compliance Committee to develop an application to address illegal fishing.
- Hold a workshop with select technical experts and industry to explore options to implement better self management or integrated management into Australian fisheries. This workshop should also address mechanisms to reduce the cost of fisheries management and the implementation of broader environmental issues into the management framework.

These activities provide a strong indication of the Board's view on R&D priorities and willingness to respond to stakeholders' changing circumstances.

Transition in leadership

December 2004 saw FRDC's inaugural Executive Director, Mr Peter Dundas-Smith leave the FRDC after 13 years. During those (13) years, Peter provided great leadership in establishing the policies and procedures that formed the foundation for FRDC's method of operating. He oversaw the broadening in FRDC's beneficiaries from the commercial wild catch to encompass commercial, recreational and indigenous sectors. The establishment of the Fisheries Research Advisory Bodies (FRABs) gave stakeholders a direct voice in determining R&D priorities. Peter also showed considerable leadership in implementing corporate governance that has been nationally recognised for its accountability to beneficiaries.

Dr Patrick Hone was appointed acting director from December 2004 and following an extensive selection process was appointed to the position on 21 April 2005. Patrick is no newcomer to FRDC, having worked for the past seven years as its programs manager; as such, he has a good understanding of how the FRDC operates. He has been involved in various sectors of the fishing industry including the development of several significant aquaculture industry developments including southern bluefin tuna, Pacific oyster, abalone and mussel aquaculture.

A new plan — Investing for tomorrow's fish

With a change in leadership comes an opportunity to look at and assess how FRDC, as an organisation, is performing and seek ways to improve upon this and how the FRDC responds to its investors. It was therefore timely that FRDC's current R&D plan term ended on the 30 June 2005. Over the last 12 months extensive consultation has been undertaken to identify the drivers and challenges facing the industry. Significant factors identified to impact on the fishing industry include:

- trade and market access issues;
- competing demand from users of the same aquatic resources;
- increasing energy costs;
- increasing global nature of seafood industry;
- low cost aquaculture production from Asia;
- growing power of supermarkets;

- labour shortages;
- growing concerns on environmental issues such as bycatch;
- customary fishing issues;
- demand from consumers for safe and healthy foods;
- reduced access to fisheries resources through implementation of marine protected areas; and
- increasing demand for a broad range of quality recreational fishing experiences.

The new R&D plan was approved by the Parliamentary Secretary to the Minister for Agriculture, Fisheries and Forestry on 27 June 2005. The plan has addressed all of these factors and focuses FRDC investment for the next five years on:

1. **Natural resources sustainability**
   — *Maintain and improve the management and use of aquatic natural resources to ensure their sustainability.*
2. **Resource access and resource allocation**
   — *Optimise resource access, resource allocation and opportunities for each sector of the fishing industry, within a rights-based framework.*
3. **Response to demand; profitability**
   — *Respond to, and take advantage of, increased demand for seafood and for recreational and customary fishing experiences.*
4. **People development**
   — *Develop people who will help the fishing industry to meet its future needs.*
5. **Community and consumer support**
   — *Increase community and consumer support for the benefits of the three main sectors of the fishing industry.*

These five challenges are the prime points of focus in working towards the planned outcomes of the FRDC and its R&D partners. They therefore underpin the comprehensive R&D program reporting on pages 24–58 and the reporting of projects against Australian Government priorities on pages on the FRDC website.

Board changes

In April 2005 John Harrison resigned from the Board to take up his new position as Chief Executive Officer of Recfish Australia. This position precluded him from holding a position on the FRDC Board. John has made a significant contribution to the FRDC by improving its focus on recreational fishing issues and how the FRDC interacts with this sector. As one of the fastest growing fishing industry sectors, John's leadership has laid the platform for increasing the FRDC's investment portfolio for this sector.

FRDC's Chair, Denis Byrne was re-appointed for another three years from 16 July 2004 by Australian Fisheries Minister Ian Macdonald. This recognised the significant contribution Denis has made in taking FRDC outside its traditional areas of operation and making it more accountable to stakeholders, in particular FRDC's largest investor the Australian Government.

Australian Government developments

Performance of the Australian Government's R&D investment continues to be in the spotlight. Concern about fragmentation in R&D effort, delivery of tangible benefits and governance of statutory authorities has required the RDCs to collectively and individually improve their performance. A good example of this improved reporting has been the joint RDC initiative on natural resource management — communication, reporting and collaboration. As reported on pages 7 and 18, a key deliverable has been the development of an agreed reporting process for NRM across sectors. It was very pleasing to see the RDCs adopt the reporting framework that FRDC with its partners in Bureau of Rural Science (BRS), Fisheries WA and CSIRO have developed for fisheries.

During the year the FRDC has worked with the Australian Fisheries Management Authority, CSIRO and the Departments of Agriculture, Fisheries and Forestry and the Environment and Heritage to establish an improved process for planning and investing in Commonwealth fisheries R&D. The intent is to utilise the existing Commonwealth FRAB, expanding its terms of reference and membership, to streamline R&D for commonwealth fisheries.

Stakeholders have their say

In December 2004 FRDC contracted IPSOS (a leading market research firm) to undertake an independent review of stakeholder's opinions of FRDC. The research consisted of a mail survey in the *R&D News*, face to face interviews and over 200 telephone interviews with grass roots industry stakeholders. Preliminary reporting has shown that FRDC has a high level of recognition in the fishing industry and is well respected. While many of the qualitative comments were positive, most stakeholders saw a need for the FRDC to listen more to its stakeholders, to better enable it to meet their needs and develop partnerships.

The coming year

The emphasis in the coming year will be to deliver on the initiatives developed by the Board, and implement improved outcome delivery to beneficiaries. This will require the FRDC to listen to its partner stakeholders to ensure adoption from this investment. Two exciting developments will be the ongoing discussion on the formation of a consortium to invest in "Sustainable Fisheries Management" and developing an improved investment model for recreational fishing.

FRDC staff and the Board will be instrumental with FRABs, subprograms and other strategic partners in delivering in the coming year the benefits from our research portfolio. The FRDC would like to thank all staff, Board members and stakeholders who have contributed advice and information over the last 12 months to improve our R&D performance. Please let the staff or any of the directors know what your thoughts are after reading this annual report.

2004–05 funding round

This year's planning and application process was the most successful in many years with the FRABs screening applications, ensuring only the most relevant applications were submitted. This meant the FRDC received 36 fewer applications and in a year where the available investment was $2 million less than the previous year. This ensured that the Board was able to fund around 50% of applications submitted. Thank you to all involved in this successful result.

Performance indicator matrix

Environmental indicators — Natural resources sustainability

Key performance indicator	Achievement
Self-managed or co-managed fisheries governance structures and processes developed and a minimum of five fisheries brought under self management.	Not achieved
30% reduction in fisheries that are overfished or of an unknown status.	Not achieved
Increased utilisation of fisheries R&D outputs by fisheries management agencies.	Partially achieved
Development of formal socio-economic assessments for incorporation into fisheries resource allocation processes.	Not achieved
Evidence of improved use of spatial management as a tool for fisheries management.	Not achieved

By 30 June 2005, 86 fisheries out of 126 had been assessed as part of the strategic assessment (Part 10 of the *EPBC Act*) by the Department of the Environment and Heritage (DEH — http://www.deh.gov.au/coasts/fisheries/index.html). Fifty per cent (43) of those assessed had been exempted for five years on the list exempt native species for export approval (section 13A of EPBC Act). The remaining 50 per cent (43) were classified as WTO approved which means that they are consistent with the EPBC Act and are unlikely to have an unacceptable impact in the short term. These fisheries will need to address actions provided by the assessment. Twenty eight fisheries were under assessment and a remaining 12 had not commenced the assessments. This score card provides the first comprehensive report on Australian fisheries. It still does not cover fisheries which do not export. FRDC's investment has been integral in almost all assessments. The Bureau of Rural Sciences (BRS) provides a more detailed report on the 22 fisheries that occur in Commonwealth waters (greater than 3 nautical miles offshore). The 2004 BRS status report found of the 74 fish stocks, 17 were regarded as overfished, 40 had uncertain status and 17 were not overfished. This was a increase in one stock classified as overfished. A pleasing result was that brown tiger prawns in the Northern Prawn Fishery (NPF) went from overfished to not overfished. This is the culmination of many years research, industry's willingness to adopt research and management action. The BRS report is available via the web from www.brs.gov.au

There are no collective assessments for Australia's aquaculture sector, recreational-only fisheries and indigenous fishing. The lack of assessment data for the fishing industry is being addressed by FRDC in partnership with its key stakeholders. In the last year FRDC has invested in a wide range of ESD assessments using the ESD reporting and assessment framework. For example, FRDC has co-invested with PIRSA in an environmental audit of South Australian aquaculture industries and the development of ESD reports for each industry.

Documenting environmental performance needs to be integrated into the industry's culture to improve management and provide confidence to the community on how the resource is being utilised. Over the last few years FRDC, SSA, DAFF and its industry association partners have invested considerable resources in implementing Environmental Management Systems (EMS). Rocky Point Prawn Farm with FRDC and SSA assistance provided through the Australian Prawn Farmer's Association has implemented an integrated EMS — ISO 14001/HACCP and QA program for its operations. EMS programs are being developed in all fisheries jurisdictions.

Economic indicators — Industry development

Key performance indicator	Achievement
At least two companies accessing new markets for domestically caught seafood.	Partially achieved
Establishment of a third-party audited food quality standard for vessels and processors.	Not achieved
5% increase in finfish production through improved feeds and feeding practices.	Not achieved
Establishment of a commercial operation (ASCo) specialising in the utilisation of fish processing waste.	Achieved
At least two companies utilising improved stock from selective breeding programs.	Achieved

Australia's fisheries value decreased by 5% to $2.2 billion in 2003–04 even though production increased by 5% to 267,000 tonnes. The decline reflected the increased competition in domestic and export markets resulting from the improved Australian dollar and the increasing dominance of Chinese and SE Asian fisheries exports. Industry where possible is adapting to these changing trading conditions for example by reducing costs, vertically integrating and reducing the supply chain. Many production businesses are capturing value through value adding and direct selling. FRDC's investment has provided many industries the information to adapt to these changing circumstances. Southern Rock Lobster Ltd (SRL) has invested with FRDC in identification of new market opportunities for southern rock lobster exports (2004/251). The resultant report has been adopted by SRL as part of their development investment.

Social indicators — People development

Key performance indicator	Achievement
Two seafood industry leaders to complete the Australian Rural Leadership Program annually.	Achieved
Minimum of ten fishing industry participants annually to attend the Advance in Seafood Leadership Development Program.	Achieved
10% improvement in recreational fisher capacity to release all fish in good condition.	Achieved
10% increased consumption of seafood.	Not assessed
Aquaculture ventures are able to access new sites.	Not assessed

Capacity building for fishers and researchers continues to be a high investment priority for FRDC. Over the last 12 months FRDC has invested in a variety of forums to improve knowledge and technical transfer and adoption (see page 52).

Based on figures provided by info-fish services and version seven of the national released fish strategy it is likely that the performance indicator of 10% improvement of recreational fisher capacity to release all fish in good condition was achieved.

During 2004–05 it was not possible to assess the consumption rate of seafood by consumers, or access rates by aquaculture ventures. During 2005–06 work will be undertaken to benchmark this figure to allow for future reporting.

TABLE 5: GOVERNMENT PRIORITIES AND FRDC R&D PROGRAMS

This table shows how the R&D programs incorporate the Australian Government's priorities.

Objects of the FRDC's enabling legislation — PIERD Act section 3

Achieve sustainable use and management of natural resources	Increase economic, environmental and social benefits	Make more effective use of human resources and skills

Improve accountability for expenditure

Planned outcomes of representative organisations	**Planned outcomes of representative organisations**	**Planned outcomes of representative organisations**
ASIC outcome: Ecologically sustainable fisheries, based on sound environmental and management practices. **Recfish Australia outcome**: Australian marine and freshwater resources and habitats are managed sustainably to produce abundant, diverse, high-quality fishing experiences for recreational and sport fishers.	**ASIC outcome**: Financial viability of commercial fisheries and associated communities, based on industry stability and growth in both domestic and export markets that is consistent with economic, environmental and social policy goals for Australia. **Recfish Australia outcome**: The recreational sector of the fishing industry develops in ways that maximise economic, environmental and social benefits to recreational and sport fishers, associated businesses and the Australian community.	**ASIC outcome**: Strong industry development, based on industry education and training as a catalyst for change and an investment in the future. **Recfish Australia outcome**: The skills of people in the recreational sector of the fishing industry are developed and used to achieve sustainable fishing practices, to enable fishers and their organisations to participate effectively in sustainable fisheries management, and to derive maximum economic, environmental and social benefits for the Australian community.
National Research Priority • An environmentally sustainable Australia • Safeguarding Australia	National Research Priority • Frontier technologies for building and transforming Australian industries • Promoting good health	National Research Priority • Frontier technologies for building and transforming Australian industries • Promoting and maintaining good health

Priority for rural R&D

- Sustainable natural resource management
- Protecting Australia from invasive pests and diseases

Challenge 1 — Maintain and improve the management and use of aquatic natural resources to ensure their sustainability.

Challenge 2 — Optimise resource access, resource allocation and opportunities for each sector of the fishing industry, within a right-based framework.

FRDC Planned Outcome

The natural resources on which the commercial, recreational and traditional sectors of the fishing industry depend are used in an ecologically sustainable way.

Priority for rural R&D

- Improved competitiveness through a whole-of-chain approach
- Maintaining and improving confidence in the integrity of Australian agricultural, food, fish and forestry products
- Improved trade and market access
- Use of frontier technologies

Challenge 3 — Respond to, and take advantage of, increased demand for seafood and for recreational and customary fishing experiences.

FRDC Planned Outcome

The commercial sector of the Australian fishing industry is profitable and internationally competitive; the commercial, recreational and traditional sectors are socially resilient.

Priority for rural R&D

- Use of frontier technologies
- Creating an innovative culture

Challenge 4 — Develop people who will help the fishing industry to meet its future needs.

Challenge 5 — Increase community and consumer support for the benefits of the three main sectors of the fishing industry.

FRDC Planned Outcome

The knowledge and skills of people in and supporting the Australian fishing industry, and in the wider community, are developed and used so that Australians derive maximum economic, environmental and social benefits from fisheries research and development.

The Corporation's mission — The FRDC's mission is to maximise economic, environmental and social benefits for its stakeholders through effective investment and partnership in research and development.

Challenges for the FRDC

R&D demand factors

Demand for FRDC investment in R&D is growing strongly because of increasing awareness of the foregoing challenges and the need for preparedness to address them. Legislation, reflecting higher expectations of the Australian public, is also creating significant demand for fisheries R&D.

Translating these demands into R&D projects is challenging because (particularly with wild-catch production):

- fisheries managers and the fishing industry often have conflicting views on R&D priorities, and generally the industry does not have the resolve or organisation to advocate R&D priorities for the industry;
- existing fisheries research capacities are dominated by biological disciplines, which strongly influences the nature of R&D — in particular, directing R&D away from economic and social topics;
- many fisheries research institutes are driven by the need to gain access to external funding, which gives rise to a focus on cash rather than outcomes in their R&D planning; and
- the FRDC is under increasing pressure to fund a share of the cost of R&D infrastructure such as research vessels.

Funding supply factors

Competing pressures for public sector funds limit R&D expenditure by the federal, state and territory governments. It is likely that governments will do no more than maintain current levels of investment in fisheries R&D, resulting in increasing demands being placed on the FRDC. Consequently, the FRDC needs to expand its revenue base to maximise investment in fisheries R&D by:

- providing increased incentives for fishers and aquaculturists to contribute to the FRDC above the limit to which the Australian Government will provide matching contributions;
- providing a mix of arrangements to facilitate contribution, such as levies (compulsory and voluntary) underpinned by legislation or memoranda of understanding;
- exploring options for expanding the definition of gross value of production to recognise the economic value of the natural resources used by the recreational and indigenous sectors;
- providing increased incentives for other users of fisheries resources to contribute to the FRDC; and
- assuming a more commercial approach to the sale of knowledge, processes and technology.

Further, the FRDC needs to continue to develop flexible approaches to ensure that the most cost-effective arrangements are pursued on behalf of stakeholders. Therefore, although the competitive annual R&D cycle will remain the primary avenue for FRDC funding for the foreseeable future, the Corporation will need to employ other avenues, including by:

- commissioning research providers to undertake specific R&D;
- forming collaborative research teams (such as managed subprograms) to undertake specific R&D;
- requesting tenders for specific R&D; and
- supporting the formation of entities for effective commercialisation.

REPORT OF OPERATIONS

Part 2: The FRDC's operational results

Environment indicators

R&D Program 1: Natural Resources Sustainability

Reporting of the year's R&D activities is, for the most part, set out against the five main challenges arising from the FRDC's forecasts of the next 20 years.

The FRDC addresses these strategic challenges as it works towards achieving the planned outcomes for its three R&D programs.

Summary of completed projects in 2004–05 for Program 1

Strategic challenge	No. of projects completed in 2004–05	FRDC investment in these projects
Challenge 1: Natural resources sustainability Improve the sustainability of natural resources supporting wild-catch and aquaculture	47	$12.4 m
Key performance indicator		
Self managed or co-managed fisheries governance structures and processes developed and a minimum of five fisheries brought under self management.		
30% reduction in fisheries that are overfished or of an unknown status.		
Increased utilisation of fisheries R&D outputs by fisheries management agencies.		
Challenge 2: Resource access and resource allocation Optimise resource access, resource allocation and opportunities for each sector of the fishing industry, within a rights-based framework	2	$0.6 m
Key performance indicator		
30% reduction in fisheries that are overfished or of an unknown status.		
Increased utilisation of fisheries R&D outputs by fisheries management agencies.		
Total	**49**	**$13.0 m**

Summary of performance

Quantitative measures of natural resources sustainability in wild fisheries are difficult to prescribe and report against. For more detail see the performance matrix on page 16. Notwithstanding this, the FRDC is confident, on an aggregated basis, that:

MOST ASPECTS OF THE AOP PERFORMANCE MEASURES WERE NOT MET

Principal inputs

During 2004–05, $13.9 million (48 per cent of the FRDC's R&D investment) was invested in R&D activities within this program, through 79 projects listed on the FRDC website.

The FRDC also oversaw an additional $0.4 million of R&D funded for aquatic animal health projects.

Environment indicators

R&D 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 14 million square kilometres: about twice the area of Australia's land mass. This zone contains about 4,500 known species of finfish (and perhaps tens of thousands of invertebrate species) — most in relatively small numbers.

Federal, state and territory government agencies are responsible for managing the fisheries and aquaculture activities within their jurisdictions. A large component of the research and development undertaken by the FRDC focuses on providing information that will assist these agencies improve the sustainable use of Australia's environment. The projects that are outlined below highlight the diversity and excellence of the FRDC's current research portfolio.

Crossing the line

Sea turtle mitigation for Australian pelagic longline fisheries (project 2003/013)

A new DVD has been produced to help the Australian longline fishing industry minimise its impact on sea turtle populations. It shows how to use dehooking devices on deck and on turtles while still in the water. The guide also outlines how to safely bring turtles aboard, handle them on deck, help caught turtles recover and how to release them back into the water.

The DVD has been so well received that it will also now be translated into several languages for distribution to countries like Malaysia and Ecuador to assist their industries in achieving best practice in turtle conservation. Another version is to be prepared for an even broader audience to provide information on sea turtle research, lifecycles and conservation.

This product is vital to industry as the United States moves towards embargos on countries that are not effectively mitigating the interaction between sea turtles and fishing operations. Restrictions are currently in place for US domestic fisheries, but as has been shown by the extension of restrictions on prawn trawl fishers, this could become a more widespread ban.

Fishers in the Eastern and Western Tuna Bill fisheries are being pro-active about the issue and have become involved in an initiative to reduce the interaction of their fishing operations on sea turtles.

The first step has been workshops to inform industry members on sea turtle biology, identification, migration patterns and mitigating interactions. These information sessions have been well attended by industry, with participants taking this knowledge to sea to put theory into practice. One turtle affectionately known as "Andy the olive ridley" has been satellite tagged to get an idea of fine scale movement of the animals. Industry has been trained on handling and recovery techniques to ensure that the turtle returns to the sea safe and sound for those rare occasions that one comes on-board. Industry is also collecting additional data for scientists to assist their efforts in sea turtle conservation.

More: Ms Carolyn Robins, Belldi Consultancy Pty Ltd,
tel: 07 5442 8575, e-mail: robins.eumundi@bigpond.com

Exploring life on the bottom of the sea

Effects of Trawling Subprogram: Mapping bycatch and seabed benthos assemblages in the Great Barrier Reef region for environmental risk assessment and sustainable management of the Queensland east coast trawl fishery (project 2003/021)

In February 2005 this project passed a milestone surveying its 1000th site. Sites surveyed have been between Cape York and Gladstone.

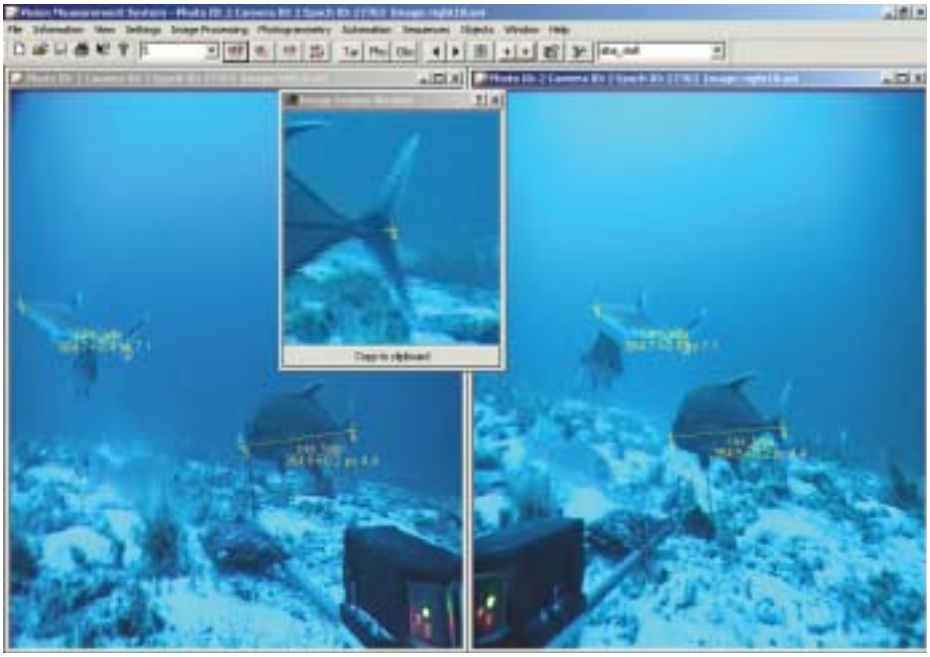
The project will assist fisheries managers to ensure that ongoing harvests meet the conditions of ecologically sustainable development. It will also provide more accurate stock assessments for fish that have significant populations in deep shoal grounds.

The project uses two types of video sampling to build up a picture of life on the seabed. A half-million dollar remote controlled video camera was towed over the seabed to record the bottom type and visible life. Scientists also used Baited Remote Underwater Video Stations to attract and count large fish not seen by the towed camera.

Information gathered by the Great Barrier Reef Seabed Biodiversity Project will be analysed meticulously over the next two years, and used to create maps of seabed habitats, plants and animals. This information will be used to assist future planning in the Marine Park, including management for sustainable fisheries.

This project is a great example of effective partnership with the project funded by CRC Reef Research Centre, the FRDC, and the National Oceans Office. It has also been co-funded by the Australian Institute of Marine Science, CSIRO Marine Research, CSIRO Mathematical and Information Sciences, Queensland Department of Primary Industries, and the Queensland Museum.

More: Dr Roland Pitcher, CSIRO Division of Marine Research,
tel: 07 3826 7200, e-mail: roland.pitcher@csiro.au



Genetag makes first match

Genetag: Genetic mark-recapture for real-time harvest rate monitoring. Pilot studies in northern Australia Spanish mackerel fisheries (project 2002/011)

Researchers and volunteers in northern Australia believe they have achieved a world first by capturing a genetically-tagged finfish.

The FRDC-funded Genetag project is a collaboration between the Northern Territory's Department of Business, Industry and Resource Development and Queensland's Department of Primary Industries and Fisheries (QDPIF).

The project uses barbless lures to take tissue samples from Spanish mackerel for a DNA database, without bringing the fish on to boat.

The project will assess the potential of using the unique DNA fingerprint possessed by every individual fish to identify that individual over its lifetime.

Potential benefits include eliminating tag shedding and minimising tag-induced mortality and changes in behaviour.

Besides their barbless lures, project staff have made a tagging pole that participating recreational fishers use to collect tissue samples from fish brought alongside a boat.

To identify tagged fish after capture, fin tip samples are collected from Spanish mackerel harvested in commercial and recreational fisheries. These are checked for database matches by QDPIF's Jenny Overden, who has developed a process to systematically examine subsets of their DNA.

Principal investigator Rik Buckworth said the Genetag project now had 1000 tag samples and 7000 fin tip samples.

More: Rik Buckworth, tel: 08 8999 2144; e-mail: rik.buckworth@nt.gov.au or Jenny Overden, tel: 07 3817 9500

Recreational fishers use release information

National Strategy for the Survival of Released Line Caught Fish: Planning, project management and communications (project 2002/099)

The National Strategy for the Survival of Released Line Caught Fish aims to improve the survival of released fish. The National Strategy commenced in 2001/02 and projects funded to date continue through to 2008/09. Currently there are 15 projects under the strategy with a total funding commitment of $6.5 million.

Research carried out by Roy Morgan Research in August 2004 suggests that more than a third of recreational fishers have changed their practices following a 2003 awareness campaign promoting best practice in releasing line-caught fish.

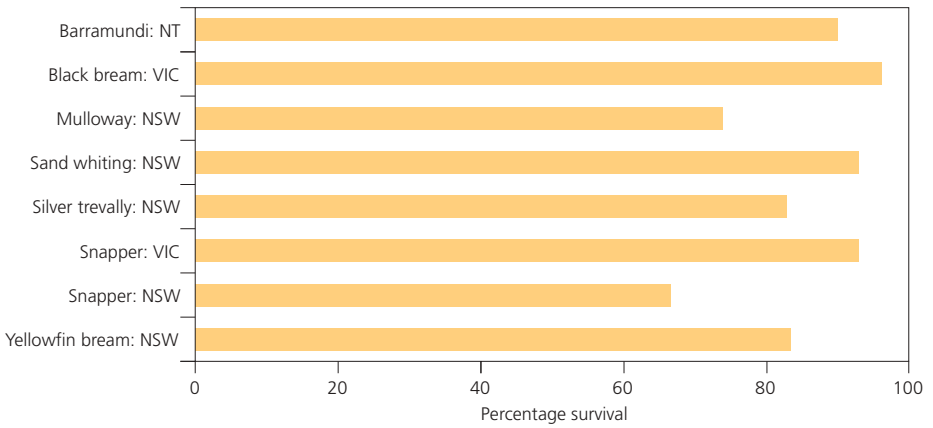
Roy Morgan Research surveyed recreational attitudes both before and after the television-led campaign. In the follow-up survey 59 per cent of respondents said they were aware of the campaign and 35 per cent said they had changed their practices as a result of it.

Bill Sawynok, Principal Investigator of FRDC's National Strategy for the Survival of Released Line Caught Fish, said the results supported the decision to promote best practice as a front-line approach.

A number of research projects have now provided an estimate of survival for a range of species. The figure below provides an overall summary of the survival rates however care is required in the interpretation of these results as they come from a number of projects using different methodologies. Reference to the underlying research is required for more details on the interpretation of the results.

More: Bill Sawynok, tel: 07 4928 6133, www.info-fish.net/releasefish

Summary of survival rates derived from Australian research



Profiling our partners

The Aquafin Cooperative Research Centre is a research and education provider for the sustainable aquaculture of finfish in Australia. The main research emphasis is on Atlantic salmon and southern bluefin tuna. The Aquafin CRC is a joint venture of a large group of research institutions, universities, industry associations, companies and the Fisheries Research and Development Corporation. The Centre's effectiveness depends entirely on the collaborative efforts of these partners.

Baitfish sampling and residue standards (project 2003/227)

- As a result of project data and modelling, the Food Standards ANZ mercury advisory statement has been revised with respect to SBT.
- Farmed SBT was shown to be well below the most stringent Food Standards ANZ allowable levels for mercury. This is a substantial indicator of product quality.
- A sampling method for SBT, which matches Japanese practice, was established. This is now being used by the National Residue Survey and the National Dioxin Program.
- A guide on chemical residues in baitfish species used for SBT has been compiled.

More: David Padula, SARDI Food Safety, tel: 08 8207 7886

Development of a vaccine for Amoebic Gill Disease (AGD) (project 2002/251)

- The first ever trial of a DNA vaccine for AGD in Atlantic salmon was undertaken.
- By determining the relative genome size of a cultured salmon isolate from the parasite responsible for AGD, it was established that it is logistically feasible to develop a vaccine with DNA cloned from the parasite.
- Through methods for the isolation of both total and polyA-RNA from crude gill-isolated and from the cultured parasitic amoeba, it was discovered that it is possible to generate clones representing genes that are likely to be linked to the infectivity of the parasite. As such, these are promising vaccine targets.
- A library of up-regulated genes from the infective amoeba using suppressive subtractive hybridisation has been created.
- An initial transfer of the parasite's cDNA from pDNR-LIB to the expression/delivery vector has been undertaken with approximately 1200 resultant clones picked and sorted in preparation for immunisation studies.
- An efficient delivery vector and potential antigen clones are now available for conducting experimental DNA vaccinations of Atlantic salmon for AGD.

More: Professor Robert Raison, tel: 02 9330 1256 or
Dr Chris Prideaux, tel: 03 5227 5000

PROFILING OUR PARTNERS (continued)

A whole of ecosystem assessment of environmental issues for salmonid aquaculture (project 2004/074)

- Monthly monitoring work has been established in the D'Entrecasteaux Channel and Huon Estuary in Tasmania and this is producing valuable environmental data sets for model calibration.
- Intensive field research was done during the autumn phytoplankton bloom in the Huon Estuary. This work will provide clearer insight into the ecological processes and better parameterisation of models.
- Biogeochemical modelling can now provide distributions of chlorophyll, nutrients, salinity and temperature as movie loops for defined time periods. The model can predict the effects of increased salmon farm feed loadings on nutrient levels and phytoplankton abundance.
- Extensive work was carried out with the heterotrophic dinoflagellate *Noctiluca* showing that it can consume remarkable quantities of toxic and non-toxic phytoplankton species.

More: Dr John Volkman, tel: 03 6232 5222

Aquafin CRC — www.aquafincrc.com.au

CASE STUDY

Making the best even better

Barry Evans reckons good fishing practices based on sound research have made the South Australia's Spencer Gulf prawn fishery the best of its kind. His evidence includes:

- A fleet of just 39 modern boats, delivering a sustainable annual catch of about 2,000 tonnes of western king prawns — 'best in the world', he declares unblushingly — for a beach price of $15 per kilo and upwards.
- Using collaborative, ongoing monitoring and research to work only 12 to 15 per cent of the available water each season.
- Working there just 50 to 60 nights a year, in the dark of the moon.
- Allowing a committee-at-sea of skippers to select the fishing areas and the nights to work.
- Making these selections to target the Gulf's biggest prawns, leaving the schools of smaller ones to grow to maximum size for future fishing.
- Using hoppers on 38 of the 39 boats that segregate bycatch for a swift return to the sea.
- Accepting input controls that regulate boat length, engine size and net configuration.

President of the Spencer Gulf and West Coast Prawn Fishermen's Association since 1994, Barry Evans entered the fishery as a deckhand in 1971. By 1977 he owned his own boat.

A moment of truth came in the mid-80s when a mini-collapse of the hard-fished stock saw the annual catch drop from 2000 to 1200 tonnes. This convinced him and his fellow-fishers to stop killing small prawns by devising research-based strategies to locate and catch mature ones only.

Guidance came from the South Australian Research and Development Institute's (SARDI) Neil Carrick, who helped the fishery understand the structure of the stock and locate its nursery areas.

This researcher–industry partnership lasted until 2004, sustained by Neil Carrick's belief that success depended on both parties working for the goal of sustainable industry profitability.

Continuing support from FRDC following its inception in 1993 continued to clarify stock structure and behaviour, helping the fishery to sharpen its targeting.

As prawn catchability, size and quality improved, the fishery that had worked up to 280 nights a year began to massively reduce sea time, increase profits and improve the quality of life for fishers and their families.

continued over

CASE STUDY (continued)

Now the fishers themselves, 10 or 11 boats at a time, make the crucial pre-season survey that will indicate the best harvest locations, based on test shots from coordinates that remain constant year-on-year.

No new area is fished without sampling. The skipper-elected coordinator of the fishery's committee-at-sea consolidates the survey results and, with the assistance of the SARDI scientist, now Cameron Dixon, consensus is reached on the areas to be opened and closed.

The precision approach continues when the nets are down. Bycatch is minimal.

"We don't pick up bottom, or weed, and the catch of finfish per tonne of prawns wouldn't make a meal for a family," Barry Evans said.

The blue crabs that are the major bycatch are drafted into a separate compartment in the net during each tow, and then separately released on to crab racks.

After the prawns are released into the hopper the separated crabs are returned to the Gulf, after spending as little as one minute on board.

Barry Evans said for a fishery determined to err on the side of caution, self-management was the next R&D goal.

"We've already got it to a degree, we want more of it, but we need to thoroughly research our options and make sure that the outcome is a benefit, not a burden."

The future? "Rosy. I feel good about it. We now have a third generation of Port Lincoln families beginning to run the boats and they're doing everything necessary to hand over a first class fishery to a fourth generation."

More: Barry Evans, tel: 08 8682 1859, e-mail sgwcpfa@ozemail.com.au

Economic indicators

R&D Program 2: Industry Development

Investment in activities under this Program depends on evidence of market, institutional, technical, policy or political failure, and/or likely "public good" benefits.

Such investment helps to achieve the "public good" imperative of relieving pressure (directly or indirectly) on wild fisheries resources. At the same time, it helps to meet a growing demand for seafood (e.g. through aquaculture) and for lifestyle benefits through recreational fishing. It also helps to satisfy the cultural needs of Aboriginal and Torres Strait Islander people through customary fishing.

Summary of completed projects in 2004–05 for Program 2

Strategic challenge	No. of projects completed in 2004–05	FRDC investment in these projects
Challenge 3: Response to demand; profitability Respond to, and take advantage of, increased demand for seafood and for recreational and customary fishing experiences.	38	$6.0 m
Key performance indicator		
At least two companies accessing new markets for domestically caught seafood.		
Establishment of a third-party audited food quality standard for vessels and processors.		
Five per cent increase in finfish production through improved feeds and feeding practices.		
Establishment of a commercial operation (ASCo) specialising in the utilisation of fish processing waste.		
At least two companies utilising improved stock from selective breeding programs.		
Total	**38**	**$6.0 m**

Summary of Program 2 performance

Quantitative measures of industry development are difficult to prescribe and report against. For more detail see the performance matrix on page 16. Notwithstanding this, the FRDC is confident, on an aggregated basis, that:

A NUMBER OF PERFORMANCE MEASURES WERE MET

Principal inputs

During 2004–05, $10.8 million (about 43 per cent of the FRDC's R&D investment) was invested in R&D activities within this program, through 39 projects listed on the FRDC website.

Economic indicators

R&D Program 2: Industry Development

Demand for high-quality seafood is predicted to outstrip supply in both domestic and export markets; and similarly in the recreational and indigenous sectors the demand for high-quality fishing experiences will outstrip supply. There is a need therefore, 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 project descriptions provide examples of the R&D being currently undertaken.

Rotation key to keeping salmon environments clear

Atlantic Salmon Aquaculture Subprogram: Development of novel methods for the assessment of sediment condition and determination of management protocols for sustainable finfish cage aquaculture operations (project 2000/164)

This multidisciplinary project involved researchers from both Tasmanian Aquaculture and Fisheries Institute (Marine Research Laboratories and School of Aquaculture) and CSIRO Marine Research. The findings indicate that although finfish aquaculture significantly affected sediments, under certain production scenarios (dependent on stocking level and baseline environmental condition) the sediments recovered after three months fallowing to a degree that enabled cages to be restocked. However, under intensive production regimes, the present results indicated that there was potential for progressive sediment degeneration, consequently environmental status should be considered as part of production planning.

A clear relationship between farm management practices and level of impact was established and a series of nine distinct stages of sediment condition were characterised. Several field based techniques have been recommended which will enable farmers to easily classify sediment condition. With this information farmers will be able to gauge the environmental status of the sediments within their lease and make appropriate management decisions.

The value of these research findings has been acknowledged by stakeholders (industry and government) through their support for the development of a field guide, data analysis package and associated training workshops; ensuring that the research outputs are incorporated into management practices as quickly as possible.

Tassal Pty Ltd employees (Huon Estuary) and workshop co-ordinators involved in a recent workshop demonstrating recommended farm-based sediment condition assessment techniques. Back (L–R): Lindsey Pettit, Marc Trendal, Dave Cameron and Chris Coad. Front (L–R): Pete Warner, Matt McLean, Giles Campbell, Richard Taylor, Shane McHugh, Grant Purdon, Catriona Macleod (workshop co-ordinator) and Oliver Kanawaty. Photo: Catriona Macleod.

The final project report is a substantial document that comprehensively covers all the above research findings of this project. In order to facilitate uptake of the management recommendations by industry it was felt that a more targeted approach to the presentation of this information might be useful. Consequently, in January 2005 the original project was extended by five months to enable development of a field guide and a data management system specifically geared to the needs of farm managers and to undertake a series of training workshops. A number of workshops have been undertaken and have been very well attended and the response from participants has been extremely positive, with some farms already employing the techniques to evaluate sediment conditions.

More: Catriona Macleod, University of Tasmania,
tel: 03 6227 7277, e-mail: Catriona.Macleod@utas.edu.au

First hatchery lobster hailed

Rock Lobster Enhancement and Aquaculture Subprogram: Propagation of southern rock lobster (*Jasus edwardsii*) in Tasmania (project 2003/212)

Tiny, transparent and fragile, Australia's first hatchery-reared rock lobster has brought the national goal of commercial rock lobster aquaculture significantly closer.

A team lead by Arthur Ritar at the Tasmanian Aquaculture and Fisheries Institute (TAFI) produced the first Australian hatchery puerulus to survive the moult from the phyllosoma stage in November 2004.

The achievement is a high point of FRDC's Rock Lobster Enhancement and Aquaculture Subprogram, which so far has invested six years and more than $6 million in an attempt to make Australia the first country in the world capable of culturing rock lobster commercially.

"Others have tried and failed. We know of only two other labs — both Japanese — that have successfully reared lobsters past the phyllosoma stage," said TAFI Director Colin Buxton.

"They worked with very small numbers and sterile conditions, but we're now producing consistently high numbers of phyllosoma larvae, with the expectation of many more puerulus."

"The significance for eventual commercial production is that the phyllosoma larval period in our hatchery was only 12 months, whereas in the wild it is estimated to be up to 24 months. This was the result of good husbandry, good health management and a great science team," he said.

TAFI's Director said this initial success would contribute very significantly to the understanding of larval rearing at TAFI and at its partner labs interstate. He said he believed some of the methods used had commercial potential and could be licensed, but this would be a matter for groups involved within the Subprogram.

Wild fisheries had nothing to fear, he said, because commercial aquaculture would produce a smaller lobster requiring a separate marketing strategy.

More: Dr Arthur Ritar, University of Tasmania, tel: 03 6227 7277, e-mail: arthur.ritar@utas.edu.au

Sydney rock oyster trial run

Sydney rock oysters: overcoming constraints to commercial scale hatchery and nursery production (project 2003/209)

Nearly 18 million selectively bred Sydney rock oyster spat have been sold in fiscal year 2004/05 to NSW and Queensland oyster farmers via the Select Oyster Company P/L (SOCo). Incorporated in July 2004 by the Oyster Farmers' Association of NSW and the NSW Farmers' Association, SOCo's aim is to increase profitability in the NSW oyster industry by providing the industry with superior Sydney rock oyster stock developed through hatchery technology. SOCo has been working closely with the NSW Department of Primary Industries, a commercial hatchery (New Tech Aquaculture P/L of Hervey Bay, Queensland) and nurseries, run by oyster farmers, to distribute fifth generation 'fast growth' stock and third generation QX resistant stock.

Unexpected losses at the early nursery stage indicate that there is more to be learnt yet at the hatchery/nursery interface, but reports from growers are generally very positive and SOCo expects that orders for 2005/06 will exceed 2004/05. Growers are hopeful that an estimated 12 month reduction in growing time for the fast growth line will be achieved.

SOCo has taken Expressions of Interest from growers for industry's selected stock needs in 2005–06. The first of the 2005–06 orders is being placed; the spring run of the fast growth stock. Forecast demand has exceeded last year with increases seen across spring and autumn deliveries of fast growth stock and autumn delivery of QX resistant stock.

Amidst operational activity SOCo has been working on its future development and is very pleased to have received approvals from both the Australian Government, through the FRDC, and the NSW Government, through the Department of State and Regional Development, for projects to develop SOCo.

More: Dr Wayne O'Connor, NSW Department of Primary Industries, tel: 02 4982 1232, e-mail: wayne.oconnor@fisheries.nsw.gov.au

Stopping lobsters becoming legless

Rock Lobster Post Harvest Subprogram: Development of a method for alleviating leg loss during post-harvest handling of rock lobsters (project 2000/251), and Rock Lobster Post Harvest Subprogram: Quantifying and controlling hyper- and hyposaline-induced post-harvest leg autotomy in the western rock lobster (project 2001/255)

Conservative estimates of the cost of leg loss to the western rock lobster industry were in the order of $3 million by weight alone with further costs occurring due to the downgrading and devaluing of lobsters which lose legs upon capture and subsequent handling.

The project set out to identify processes that could reduce the incidence of leg loss from point of capture to post harvest processes such as packaging for export. It was found that the simple process of cold stunning in seawater at temperatures of 0 to 10°C for 5 to 10 seconds could reduce the incidence of leg loss by up to 80% on-board the catching vessel. This had the added advantage of an increased ease of handling and grading into sizes by the crew on-board the vessel. Cold stunned lobsters easily recovered when placed in ambient seawater temperatures for 10 seconds further assisting leg retention and survival of undersize and berried lobsters returned to the water.

Results from the project showed that hypersaline environments caused leg loss further down the post harvest process and techniques to reduce hypersaline environments and cold stunning reduced leg loss significantly eased the handling and grading process and did not affect the selection and quality of animals suitable for export. This was as simple as washing contact surfaces with fresh or salt water to reduce the incidence of hypersaline films.

Conversely, the standard process of freshwater drowning prior to processing, subjecting the animal to a hyposaline environment, also caused leg loss. It was estimated that this cost the industry several hundreds of thousands of dollars. Again, cold seawater stunning prior to freshwater drowning reduced the incidence of leg autotomy.

These simple solutions have the potential to increase the value of the catch to industry by in excess of $2 million per year and increase the proportion of lobsters suitable for the high value export market.

More: Dr Glen Davidson, Geraldton Fishermens Co-Operative Ltd, tel: 08 9965 9000, e-mail: glend@brolos.com.au

Seafood thrives in salty ground water

During 2004–05 considerable work was undertaken on the $1.2 million Inland Saline Aquaculture project. The project aims at developing a long term inland saline aquaculture industry, and is being undertaken at 20 sites in New South Wales, Western Australia, South Australia, Queensland and Victoria.

The project has seen test sites established that will grow seafood in a variety of systems including purpose-built tanks, dams and ponds. The water is sourced from artesian bores, saline lakes and by diverting water from rivers that have high saline content.

Results are already being seen with inland aquaculture seafood being marketed throughout Australia. Prawns and silver perch farmed in this way are gaining a reputation for their consistent quality.

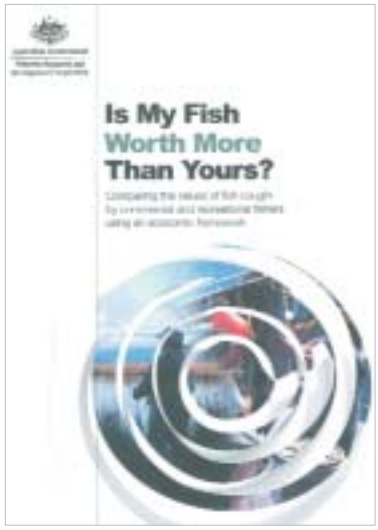
Long term it's hoped that this project may lead to and offer a partial solution to the shortage of suitable stable and cost effective coastal sites for aquaculture.

For further information on Inland Saline Aquaculture initiatives see the case study "Hopes high for shift to SIFTS" on page 43 or visit the Australian Aquaculture Portal (www.australian-aquaculturereportal.com.au).

Is my fish worth more than yours?

Australia is surrounded by vast seas, from which a wonderful variety of seafood is harvested. Yet in some fisheries there are simply too many fishers. That leads to arguments about who will have how much access to the particular fishery.

Nevertheless, some of the most important debates about access to fisheries resources are still being argued by appeals to emotion than rather to facts. We have some facts, so its time to start using them.



Important questions in the debate include: How can the values of fish caught by commercial and recreational fishers be ascertained? How can these values be compared with each other (as in comparing apples with apples) to help in making decisions about who should be allowed to catch fish? And at the core is the question that draws the emotion: Is a fish worth more to an angler than to a commercial fisher?

These questions are important because we need answers that allow us to optimise allocations of fisheries resources for the best economic (and environmental and social) returns to the Australian community, which owns the resource.

More: FRDC, tel: 02 6285 0400

Profiling our partners

SEAFOOD SERVICES AUSTRALIA

Increasingly sophisticated global markets impel the industry to have prompt, efficient access to the best knowledge, processes and technology if it is to remain globally competitive. To streamline this process, the Corporation and the Australian Seafood Industry Council established Seafood Services Australia Ltd. The mission of this not-for-profit company is to be a catalyst for sustainable development of the seafood industry. The company's services include:

- value-adding through seafood product and process development;
- product quality, food safety and consumer health;
- management systems and standards for quality and ecologically sustainable development;
- market development;
- seafood marketing names;
- seafood emergency management; and
- information and advice on other technical issues.

Through being a non-government entity, the company has been able to attract significant external funding to undertake its mission. This has allowed urgent development priorities to be fast-tracked. Some examples of this work include:

A study on the allergic health problems in the Australian seafood processing industry (project 2003/401)

A survey of the Australian seafood industry was conducted which determines the prevalence of work related allergies. Australian seafood processing companies are much more aware of the incidence of seafood related allergies in their workplace.

Identification of natural mudworm species in SA Pacific Oyster (*Crassotrea gigas*) (project 2003/402)

This project assisted the oyster industry to identify the animal and to minimise the damage caused by mudworm infestation. Skills transfer to the industry and to scientists to assist in identification and management of mudworm infestation. Best management techniques have been developed to reduce mudworm infestation rates.

Determining survival times of blue swimmer crab using conventional live packaging techniques (project 2003/409)

The best procedures for prolonging the survival times of blue swimmer crab using conventional live packaging techniques were developed. Fishermen now know how to maximise the survival time of blue swimmer crabs and develop the most appropriate packaging techniques. This will enable fishermen to access Asian markets and gain an improved price for their product.

continued over

Promote best practice and skill development in the seafood industry by conducting a demonstration project at the national WorldSkills event in 2004 (project 2004/406)

This report has provided some very valuable information for the future conduct of a World Skills completion for seafood. The organisation of any future World Skills seafood competition will be easier through the development of a set of templates which are included in the project report. Forty-seven thousand visitors to the 2004 WorldSkills event received exposure to the seafood industry and to its potential career paths.

Developing environmental management standards for the Australian seafood industry (project 2000/146)

The second edition of the Seafood EMS Chooser is now available — incorporating a huge amount of advice from industry people who have been developing their own seafood environmental management systems.

The Seafood EMS Chooser is the "front-end" book that demystifies environmental management systems. Developed with the benefit of industry case studies, it helps in choosing the EMS and sets out an easy-to-follow, eight-step process that results in an EMS tailored to the exact needs of the business or fishery.

Seafood Services Australia — www.seafoodservices.com.au

CASE STUDY

Hopes high for shift to SIFTS

There's a lot riding on project 2004/241 — for FRDC, for Fremantle's Challenger TAFE, for major investor McRobert Aquaculture Systems, for a full field of supporting investors and, possibly, for the future of Australian aquaculture.

The innovation carrying the hopes and the money is SIFTS (an acronym of Semi-Intensive Floating Tank System), a radical concept for inland saline, freshwater and marine aquaculture. Its ability to oxygenate and remove nutrients promises unique benefits in each environment.

The name may well confirm that science and marketing should remain worlds apart.

Nevertheless, SIFTS effortlessly penetrated the consciousness of more than a million Australians, including potential new investors, when Ian McRobert and Principal Investigator and Challenger TAFE scientist Gavin Partridge were handed the award for invention of the week on the ABC-TV program *The New Inventors*.

Off-the-shelf

The serious stuff now for Challenger TAFE Manager of Aquaculture R&D Greg Jenkins and his team is to use the three-year FRDC project that began this month to design and prove a fully commercial, off-the-shelf product for Australia and the world.

FRDC funding of $660,000 has been leveraged to $1.4 million. The practical work is taking place on a broadacre farm at Northam, in the West Australian wheat belt, about two hours inland from Perth, where owner Stan Malinowski has also kicked $100,000 into the kitty.

Challenger TAFE has signed over its intellectual property rights in return for a royalty on sales. And though $1.4 million may sound a lot of money for the commercialisation phase of a TAFE-driven project that already has swallowed double that amount, Greg Jenkins says financial management will have to be tight to deliver a commercial product on time and on budget.

But he is confident his team can do it — a confidence boosted by two years of tightly-funded prototyping, tedious analysis of inland saline water on site and, in bigger batches, at Fremantle; finfish species selection and eventual successful growout of rainbow trout, barramundi and mulloway. All funded locally, with the exception of a minor grant or two — minor, but gratefully accepted.

"So now we have technology that works, the spreadsheet and proven ability to budget, great determination and what I think is TAFE's deserved reputation for delivering practical commercial outcomes."

20 tonnes per hectare

The projected outcome of this second phase is an off-the-shelf SIFTS module that will produce 20 tonnes of fish per hectare each year from a pond of saline groundwater — which means managing the pond as a total ecosystem.

"To achieve this we intend to run the FRDC project as a hard-nosed business development with a good commercialisation strategy. The FRDC has already agreed to release our milestone reports to industry every six months," Greg Jenkins said.

CASE STUDY (continued)

"Inland saline pond aquaculture is potentially very important to Australia and WA in particular. SIFTS is the key. But interested landowners must understand that managing a pond indefinitely on a total ecosystem basis is an intensive discipline."

"As for the sea, if our concept is a commercial success inland, adapting it to a marine environment should be comparatively easy."

Greg Jenkins believes SIFTS will deliver three major benefits for sea cage culture:

- because it oxygenates and creates its own current, SIFTS can be used in shallow, sheltered water previously unsuited to finfish aquaculture;
- because it removes faecal waste and other farm nutrients it will eliminate a major site problem and remediation costs; and
- its clean, green attributes will make marine culture more acceptable to local communities and environmentalists.

The big unknown for marine use is whether or not the SIFTS system can be scaled up to commercial size. "But just imagine SIFTS being used in the horizon-to-horizon sea cage systems of Asia. It could remove 90 per cent of the solids that currently are allowed to build up in those massive developments," he said.

Infrastructure is inland

For inland WA, the picture is more sharply defined. "SIFTS inland saline systems won't raise the same concerns as would developments on high-priced, contentious, coastal sites."

"Their inland application is clear because suitable saline groundwater is available there, roads and other infrastructure are well-developed and they will complement existing inland land use, such as grain growing."

New crop synergies are possible too on saline land. The development team intends to trial its nutrient waste in an aqua-agri bio-remediation project in the wheat belt, where an imported plant species promising significant environmental and economic benefits requires both extremely salty soil and added nutrient to make growing sites more productive.

For FRDC, funding the SIFTS project is a significant new push for a no-holds-barred commercial outcome. For the Challenger TAFE team, its CY O'Connor TAFE and Murdoch University colleagues and SIFTS private investors, it's a case of today — Northam. Tomorrow — quite possibly — the world.

More: Greg Jenkins, tel: 08 9239 8030, e-mail: greg.jenkins@challengertafe.wa.edu.au, www.maritime.challengertafe.wa.edu.au

Social indicators

R&D Program 3: People Development

Projects funded under Program 3 primarily address the FRDC's planned outcome for people development. However, this outcome is also addressed, as a secondary but very important element, by projects within Programs 1 and 2.

Summary of completed projects in 2004–05 for Program 3

Strategic challenge	No. of projects completed in 2004–05	FRDC investment in these projects
Challenge 4: People development Develop people who will help the fishing industry to meet its future needs.	20	$1.1 m
Key performance indicator		
Two seafood industry leaders to complete the Australian Rural Leadership Program annually.		
Minimum of ten fishing industry participants annually to attend the Advance in Seafood Leadership Development Program.		
Challenge 5: Community and consumer support Increase community and consumer support for the benefits of the three main sectors of the fishing industry.	3	$0.2 m
Key performance indicator		
Ten per cent improvement in recreational fisher capacity to release all fish in good condition.		
Ten per cent increased consumption of seafood.		
Aquaculture ventures are able to access new sites.		
Total	**23**	**$1.3 m**

Summary of Program 3 performance

Quantitative measures of how our investment in people development impacts on the fishing industry is difficult to prescribe and report against. For more detail see the performance matrix on page 16. Notwithstanding this, the FRDC is confident, on an aggregated basis, that:

ALL AOP PERFORMANCE MEASURES WERE MET

Principal inputs

During 2004–05, $0.5 million (about 2 per cent of the FRDC's R&D investment) was invested in R&D activities within this program, through 18 projects on the FRDC website.

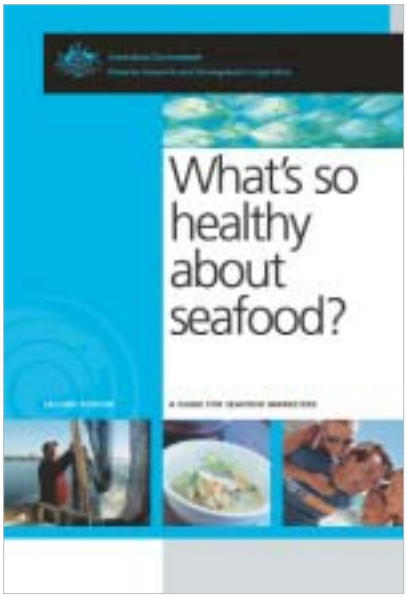
Social indicators

R&D Program 3: People Development

People are the cornerstone of any industry. For the fishing industry it is vital that it continues to produce 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 providing management training for all levels of industry. The following projects outline some of the key investment areas in 2004–05.

What's so healthy about seafood? Second edition

It is pleasing to see that many Australian's are now finding out the facts about what's really so healthy about seafood. The first edition of the publication was launched in 2001 and around 5,000 copies were distributed through fishing industry councils and at various conferences and meetings.



Following the release of the findings from Food Standards Australia New Zealand on mercury levels in fish, the FRDC set about revising the publication, updating it with the latest information (project 2003/306). The second edition was launched last August in Brisbane at the World Congress of Clinical Nutrition by Professor Mark Wahlqvist AO. Both editions are an equally informative read even if you are in the industry.

However, the real difference between the first and second edition has been the incredible response by industry (mainly retailers), health professionals and the public. Since the launch in August 2004 over 5,000 copies have been distributed, and a second print undertaken. This is an amazing effort given the first 5,000 took almost three years to get out to the public.

In addition the FRDC printed a special edition called "What's so healthy about *Australian* seafood?" for use at the 2005 European Seafood Exposition in Brussels (www.euroseafood.com/). This provides the Australian contingent, represented through the efforts of WAFIC and Austrade, another tool to help educate the world about Australian produce.

Weighing the worth of fishing: The Social Assessment Handbook

ESD Reporting and Assessment Subprogram: A social assessment handbook for use by Australian fisheries managers in ESD assessment and monitoring (project 2003/056)

The Social Assessment Handbook: A guide to methods and approaches for assessing the social sustainability of fisheries in Australia was written by the Bureau of Rural Sciences. It shows managers, social scientists and others how to carry out a social assessment effectively, starting with the types of information needed and how to collect, use and evaluate it.

The guide was launched by the Australian Fisheries Minister Ian Macdonald who said "understanding the fishing industry's social and economic contributions was essential for people considering resource access or management changes".

The book is a valuable guide to understanding communities that directly and indirectly depend on fishing and to identify what they value and believe about the sector.

It shows how important the fishing industry is to our economies and way of life and can improve public understanding of how people working in the industry contribute to their communities. This does not just include the importance of their industry but also the support they provide for local services, businesses and social networks.

The Social Assessment Handbook is available in hard copy from BRS, telephone 02 6272 3933 for $40, or may be downloaded from www.brs.gov.au/socialsciences.

Further information: Jacki Schirmir, BRS, tel: 02 6272 3382; e-mail: jacki.schirmir@brs.gov.au

Telling kids our seafood story

The Workboot Series — Seafood: The story of the seafood in Australia (project 2001/311)

2004–05 was a big year for the Workboot series "Story of Seafood". More than 1000 copies of it and the teachers' resource kit were sent to schools (primarily in Tasmania and Western Australia) to help educate children about the fishing industry and the sustainability of natural resources.

The resource kits, predominantly distributed in Tasmania and Western Australia were donated by the Tasmanian Aquaculture Council and the WA Fishing Industry Council (WAFIC). The goal was to provide teachers in schools across Australia the facts on the fishing industry. By providing each school a copy, teachers now have that information and resource at their fingertips.

The resource kit provides a concise term's work on the seafood industry, with suggested activities for seven of eight key learning areas, comprehensive background information, answers and extra activities, all linked to national educational outcome profiles. The kits also give teachers the flexibility to use the seafood story across all subject areas, including maths.

Developing our people

The FRDC contributed significantly to developing the capacities of people in the industry and the R&D community by supporting people involved directly in R&D projects. In addition, staff were employed on FRDC projects through in-kind contributions of project partners. The Corporation has also continued to involve end-users directly in research projects, increasing their ability to undertake research and to maximise their utilisation of R&D results.

The FRDC also sponsored a PhD student in the Department of Agriculture, Fisheries and Forestry-funded *Science Awards for Young People*.

Some of the people the FRDC has helped to develop in 2004–05

Grant Leeworthy — FRDC prize winner, Science and Innovation Awards for Young People in Agriculture, Fisheries and Forestry

Last year we reported on Grant Leeworthy of Tasmanian Seafoods, Victoria as the FRDC prize winner in the Science and Innovation Awards for Young People in Agriculture, Fisheries and Forestry. This year we can report that Grant has completed his final report meeting the objectives of the project.

Grant said an increasing amount of information was available on fisheries stock assessments, but much of it was complex and based on mathematical models. His goal was to develop a booklet that explains the key points of stock assessment modelling in plain language.

As part of the work he has undertaken on the project he is pleased to report that the beche de mer industry in Queensland has gone form being threatened with closure to being congratulated as a world leader in the field in just 18 months. Grant acknowledges he is just part of that process and that Rob Lowden of Seafresh P/L and Richard Torelli of Tasmanian Seafoods have been the key drivers.

Tim Mirrabella — graduate of the Australian Rural Leadership Program

Tim is a fifth-generation commercial fisherman, operating in Port Phillip and Western Port Bays, Victoria. He has a small-scale retail outlet where he sells his catch on an as-he-catches-it basis. Tim is currently chair of the Victorian Bays and Inlets Fisheries Association and chair of Seafood Industry Victoria.

Tim confesses that he began the program expecting to be delivered an arsenal of skills, which he could apply to himself like a suit of armour, which would then enable him to enter any battlefield and emerge unscathed and victorious.

He quickly came to the realisation that the program was about dismantling the parts that go to making oneself, analysing them and then rearranging them to hopefully make the individual a more effective person. This process of self-analysis has no end point and the program provides an introduction to some key tools to use, and the environment in which to begin learning how to use these tools.

If he simplified all the learnings from the past 18 months he would have to say that the word 'relationship' is what comes to mind. Directly or indirectly relationships will determine the outcomes of all the major issues in our lives.

The program gave Tim an insight into how he could relate more effectively with people through using experiences both first hand and some set by key industry and community leaders.

It reinforced some of his previously held beliefs and increased his awareness for the need to honestly assess and at times modify his behaviour.

Advance in Seafood Leadership Development Program

Fifteen participants from five states and the Northern Territory representing nine sectors took part in the Leading Industries *Advance in Seafood* program in 2004. The graduates celebrated their involvement at a graduation dinner in Canberra in September joined by industry, community and political leaders.

The intensive six month program included three residential sessions in Brisbane, Sydney and Canberra. Over the six months participants focused on individual development, team development and industry development through strategically designed sessions of the program.

Graduates worked with a mentor to design and implement an industry project. This provided a new model of learning for many as they gained insights into how to work and deliver outcomes from a different perspective. The diversity within the group provided an opportunity for those involved to develop skills in working with a team of people from diverse backgrounds, which in turn resulted in the ability to work as a team.

Industry projects undertaken by the participants resulted in a range of outcomes including; policy change at a national level; a business plan to market seafood on the domestic market; increased awareness of threats to the marine environment and strategies to respond appropriately; alliances formed across strategic sectors and states; training programs implemented; education of young people regarding career opportunities within the industry; export markets identified; food safety promoted; an emergency plan drafted for the industry and a network formed for graduates of leadership programs.

There are now 60 graduates of the *Advance in Seafood* Program since its commencement in 2001. This is a significant contribution to the leadership capacity of the industry, however, it is essential that these and future graduates are strategically involved and resourced into the future.

The 2004 *Advance in Seafood* Program was supported by FRDC as well as Australian Fisheries Management Authority, Queensland Department of Primary Industries, Victorian Department of Primary Industries, New South Wales Department of Fisheries, the Sydney Fish Market and the Seafood Council (SA) Ltd.

Dianah Mieglich — graduate of *Advance in Seafood* Leadership Development Program and the DAFF *Corporate Governance for Rural Women* Program

Dianah Mieglich of Napperby, near Port Pirie, South Australia, won the FRDC-sponsored scholarship to attend an Australian Institute of Company Directors course, followed by 12-months' mentoring. Part of a family prawn fishing operation, she also is chair of the South Australian Women's Industry Network Seafood Community.

Dianah has been involved in the seafood industry for approximately five years. Primarily, as a fisher's wife who has taken a keen interest in the South Australian fishing industry, in particular the Spencer Gulf and West Coast Prawn Fishery.

Since 2002, Dianah has steadily been following a path to become an industry leader. She was selected to participate in, and successfully completed, the South Australian Seafood Industry Leadership Development Program. The industry project Dianah undertook during this program was the development of an education package for primary school aged children focusing awareness on the SA prawn industry and SA seafood as a whole.

Following on from successfully completing the SA leadership course Dianah undertook the FRDC-funded Advance in National Seafood Leadership Development Program along with 11 other industry members all with aspirations of contributing to the industry. In September 2004 she graduated from the 6-month program in Canberra.

Dianah, speaking at the inaugural Australian Women in Agriculture and Women's Industry Network for the Seafood Community combined conference in Hahndorf in September last year, said that she recognised and acknowledged the difficulties women face with balancing family and industry commitments.

In February 2005 Dianah was selected by the FRDC as their candidate for the Industry Partnerships — Corporate Governance for Rural Women initiative.

Following completion of the Company Directors Course, Dianah will spend the next 12 months working with her mentor to build on the skills acquired and look for opportunities to broaden her horizons.

Developing our industry

During 2004–05 the FRDC sponsored a number of significant conferences and workshops around Australia. A big change for the FRDC this year was to provide the events' host state industry council with a number of sponsored registrations at each event. The goal was to get the state to send a representative from another part of the industry in order to broaden the industry's overall awareness. Key events undertaken this year include:

Australasian Aquaculture Conference (project 2003/304)

Thirteen hundred people, from over 40 countries, attend the first Australasian Aquaculture Conference in Sydney.

ASFB 2004 Workshop entitled the "National Symposium on Ecosystem Research and Management of Fisheries" (project 2004/303)

The symposium and conference was held in Adelaide during September 2004 and was attended by over 120 delegates that included six international speakers with expertise in fisheries ecosystem research and management.

15th International Pectinid Workshop (project 2004/305)

Around 100 people from 15 countries attended the workshop in Mooloolaba during April 2005. The program took a more commercial focus on management and culture issues than previous workshops. For this reason, the workshop had good representation from industry members such as the Bass Strait Scallop Management Advisory Committee and the NZ Challenger Scallop Enhancement and Management Company.

Fourth Australian Technical Workshop on Fishways (project 2005/311)

The workshop had strong representation from all states and provided a valuable opportunity to discuss the current technological and biological advancements in the field of restoring fish passage. The workshop location provided the opportunity to examine a case study of one of Australia's more iconic recreational fisheries on the Ord River.

Spatial management — conservation and sustainable fisheries workshop (project 2004/102)

This workshop was convened to enhance the national recognition of spatial management to assist in the managing of harvested natural resources. The workshop provided recommendations to address the changes needed to current stakeholder arrangements that would aid integration of individual activities.

4th International Fisheries Observer Conference (project 2004/306)

The 4th conference was held in Sydney in November 2004 and was attended by almost 200 participants from 26 nations and formed a broad cross-section of stakeholders. Among the issues discussed were alternative technologies other than human observers, costs, training, observing roles and methods for observing small scale fisheries.

Third National Prawn Fisheries Conference (project 2004/304)

Australian Fisheries Minister Ian Macdonald opened the conference with a call for industry to develop a united approach in dealing with industry issues, and in communicating with governments.

The conference employed a different way of ensuring the active participation of delegates by forming diverse breakaway discussion groups on the completion of each session. This took participants out of their natural groupings, and out of their comfort zones.

The conference program covered management, environment, community perception and marketing/promotion. The speakers included Ian Sutton, Chief Executive Wine Makers Federation of Australia, and Michelle Beckett, Chief Executive Officer Wine Marlborough Ltd, providing examples of how industries, coming from a similar position to that of the wild catch prawn sector, had turned those industries' fortunes around.

A positive outcome of this conference was the establishment of a national wild catch prawn industry advocacy group.

Following the Third National Prawn Fisheries Conference, the FRDC ran a prawn fisheries R&D workshop. The workshop was attended by 28 delegates from management, research and industry.

The workshop addressed the growing needs to: increase researcher awareness of current R&D across jurisdictions; identify best R&D practice; and identify future R&D needs. Discussion ranged across management, the environment and performance frameworks. Several presentations were made, including an FRDC project on reducing the benthic impact of trawling, which generated interest from industry and managers alike.

Third International Symposium on Fish Otolith Research and Application (project 2004/312.90)

This symposium, held in Townsville 11–16 July 2004, attracted 280 delegates from over 30 countries, 60 of which were students. Eight presentations related to FRDC funded projects were given. Presentations included the movement from direct ageing to otolith chemistry and research on the Atlantic ocean area where the validation of the age of orange roughy was tested by injecting oxytetracyclin into fish captured at depth with a submergible.

Of particular note was the international impact of the research undertaken by Dr John Kailish on bomb radiocarbon. The FRDC project [1993/109 "Use of the bomb radiocarbon chronometer to validate fish age"] used the testing of atomic bombs in the Pacific as a time stamp to validate a fish's age. This research, and indeed the FRDC final report, is considered a "bible" for all radiocarbon research around the world.

Profiling our partners

The "Innovative Solutions for Aquaculture Planning and Management" Program brings together seven research projects aimed at developing tools to ensure a sustainable and competitive aquaculture industry for South Australia. These tools will:

- identify more effective ways to manage aquaculture,
- minimise the regulatory burden on industry, and
- ensure that environmental considerations for South Australian aquaculture remain a clear priority.

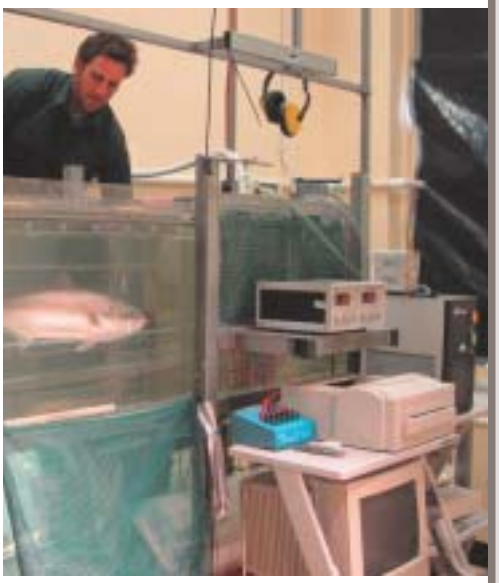
INNOVATIVE SOLUTIONS FOR AQUACULTURE PLANNING AND MANAGEMENT

The Program, a joint initiative of Primary Industries and Resources SA and the Fisheries Research and Development Corporation, commenced in 2004 and is expected to be completed over 3–5 years. Major highlights of 2005 include the following.

Flume tank first

Development of the world's largest fish oxygen measuring tank by the University of Adelaide with research on the flume tank being undertaken under the careful eye of PhD student Quinn Fitzgibbon.

The tank provides a controlled simulated marine environment and offers an excellent opportunity for research in aquaculture — particularly on the metabolic rates of fish.



Quinn's "Innovative Solutions" project involves researching spatial impacts and carrying capacity of coastal finfish, particularly with respect to the metabolic rates (oxygen requirements) of Yellowtail Kingfish. By knowing how much oxygen fish need under different growing conditions, such as feeding or not feeding or hot or cold temperatures, a farmer can estimate the amount of oxygen they would need to provide the fish in a farming situation.

The wider finfish project aims to develop, refine and validate existing models of the environmental effects of finfish farming. It will also improve the understanding of how many fish can be responsibly farmed in a given area and the factors affecting this, and to minimise the impacts of fish farming on both an individual and spatial basis.

Information on maximum metabolic rates and the effects of environmental factors is important for aquaculture planning and management to provide a measurement tool against which best farming practices can be carried out. This may also provide benefits to industry through more efficient feeding regimes. Quinn says that the flume tank has also opened up avenues for further research in aquaculture and he is also working on other Aquafin CRC projects focusing on Southern Bluefin Tuna.

Kingfish Parasite Interaction project — preliminary results

- Over 120 wild kingfish have been collected from sites exposed to sea cage farming, away from farming and where no farming occurs. Forty farmed fish have also been sampled. In addition over 231 wild kingfish and 73 samson fish have been tagged and released with 11 recaptures to date.
- Crustaceans, cestodes, trematodes, nematodes and acanthocephalans have been detected on wild kingfish but have not been detected in sea caged South Australian kingfish.
- Wild kingfish in New South Wales host a gill fluke and gill crustacean that has not yet been detected or documented in Victorian or South Australian waters.
- When comparisons between farmed and wild fish were made for each of inner and outer Spencer Gulf using elemental signatures, aquaculture fish could be distinguished from wild fish and classified correctly with a high degree of accuracy (82–100%).
- Comparisons of elemental transects showed considerable variability among locations with no features distinguishing aquaculture or wild-caught fish.

Innovative Solutions for Aquaculture Planning and Management — www.innovativeaquaculture.com

CASE STUDY

The challenge to scientists from the recreational fishing sector

"Come and talk to us. In plain English. Respect and use our expertise. Involve us in your projects. Tap into our massive support base."

This is the message from three of Western Australia's recreational flag-bearers:

- Allan Bevan, who has made his hobby his business and now, runs recreational charters for local and overseas fishers.
- Garry Lilley, inventor of the release weight that is improving the survival of released reef fish.
- Andrew Rowland, who is translating his love of the ocean and fishing into a PhD in fisheries science at Murdoch University.

All three played major roles in a recent collaborative, FRDC-funded, R&D exercise in which more than 270 recreational fishers worked with WA scientists to catch and tag almost 2,600 samson fish from spawning aggregations off Rottnest Island.

They believe scientists and managers know enough about depletion of important WA recreational target species such as dhufish and snapper to educate the recreational sector and enlist its support for a recovery program.

"Rec fishers are eager to help and involvement instils a sense of stewardship and responsibility for the resource," said Andrew Rowland.

"And on issues such as survival of line-caught fish, the scientific knowledge exists."

"The pressing need is for scientists — and managers too — to get out of their comfort zone to communicate it, face to face. It should be put on the job description.

"Our samson fish tagging succeeded because it was well organised and communicated by Principal Investigator Mike Mackie and his team from the Department (of Fisheries WA)."

"I won't have a scientist on my boat who's not prepared to talk to my clients in plain English," said Allan Bevan who, colleagues report, has collected and delivered countless otolith and other biological samples — supporting, along the way, at least six FRDC projects.

"The scientists who do communicate are usually still on-board long after we're back in port because my clients keep them there, absorbing their knowledge like sponges."

So if that is the challenge to researchers and managers, what do recreational fishers see when they look in the mirror?

Garry Lilley: "Let's start by acknowledging that rec fishing is a privilege. Not a right. That recreational licences instil a sense of responsibility. That this privilege is worth $150 a year to me. That we should be prepared to buy tags to kill fish that might have lived for 50 years or more."

"That fish must be respected, whether they are killed to eat, or measured and released to improve knowledge and management."

He continues: "If we insist its 'a right', what will be the right of my 10 year old daughter or Allan's 11 year old son when they're our age?"

Garry Lilley's passion is undisguised. With his family's forbearance, it drives him to abandon his trade of ceramic tiling every summer to deckie for Allan Bevan on a survival wage.

"It's that simple," agrees Allan Bevan. "We want a sustainable resource for our kids and that puts the responsibility squarely on my generation."

"So I ask myself: 'Am I doing the right thing?' "

"We have to know the mortality rate of fish we release," said Garry Lilley.

"Plus the stock assessment — if we can safely catch and release — play with them, but not hurt them too much," said Allan Bevan.

"My R&D covers handling protocols," said Andrew Rowland, "how to take a photo of the fisher with the trophy fish and still release it knowing it will survive".

"For our generation it's stark. Doing the right thing by the fish, or letting the resource go under. Denying the next generation what we have enjoyed, or driving a resource recovery," said Garry Lilley.

"We have serial depletion of our demersal finfish in WA — things really are pretty bad."

"Quotas? Has to be done."

CASE STUDY (continued)

"As part of this process, scientists and managers must plug into the knowledge of people like Allan and Garry," Andrew Rowland said.

"In the west the key point is that Allan and Garry's input has delivered new knowledge and the scientific questions are half-answered."

"This has to be exploited. We need scientists to ask guys on the water if they know the reasons for things that science shows are occurring."

"It's not a question of where the knowledge comes from. Applying it is the thing. WA recreational fishers now number in the hundreds of thousands and, as Allan and Garry have said, many of us want to pass on a viable fishery to our kids."

"So it's worth repeating: scientists need to talk to us in English — not jargon — and ensure our cooperation. And managers need to educate fishers more."

Project 2004/051 — Management and monitoring of fish spawning aggregations within the West Coast Bio-region of Western Australia

More: Dr Mike Mackie, Department of Fisheries Western Australia, tel: 07 3826 7200, e-mail: mmackie@fish.wa.gov.au or Allan Bevan, e-mail: shikari@optusnet.com.au or Andrew Rowland, e-mail: andrew@recfishwest.org.au

REPORT OF OPERATIONS

Part 3: Management and accountability

TABLE 6: PERFORMANCE INDICATORS FOR MANAGEMENT AND ACCOUNTABILITY

Performance indicators	Performance measure	Achieved	Details
Influence over the development, improvement and implementation of strategic plans for fisheries R&D at federal, state, regional, fishery and species levels	Existence of R&D strategies	Partially achieved — R&D Plans established for a number of fisheries	www.frdc.com.au
Effectiveness of the FRAB network and other FRDC-supported structures with respect to their participation in, and contribution to, the R&D planning, investment and management process	Evidence of FRAB influence on research providers — minimum 80% of applications submitted through FRABs	Achieved — total number of applications via FRAB 101 or 83% of total applications	
	All applications submitted through the FRABs being consistent with fisheries R&D strategies	Achieved	
Influence over the R&D expenditure of other funding entities	The value of leverage resulting from FRDC funding (target: more than 1:1.5); extent of FRDC involvement in collaborative R&D; evidence of FRDC managing programs on behalf of other entities; and the establishment of strategic alliances with stakeholders	Not achieved	Pages ii and iv
Influence over the development of infrastructure that supports the sustainable development of the fishing industry	Evidence of FRDC-influenced infrastructure being developed	Achieved	Pages 37 and 63
Regard for the views and priorities of stakeholders and research providers in the development of R&D programs	Evidence of consultation with stakeholders and research providers and Ministerial approval of the annual operational plan	Achieved	Pages 15, 64 and 77
Investment in high-priority R&D as identified by stakeholders through FRABs, managed subprograms and other mechanisms	Proportion of high-priority applications submitted through the FRABs etc that are approved — minimum 75%	Not achieved — number high priority submitted via FRAB 56; the number approved was 35, amounting to an approval rate of 63%	

Performance indicators	Performance measure	Achieved	Details
Return on investment for nominated high-cost projects	Average greater than 5:1 in benefit–cost ratios; at least five projects subjected to benefit–cost analyses	Not completed	Pages 5 and 65
Dissemination of R&D results, and their availability	Evidence of R&D results disseminated in *R&D News*, the World Wide Web, the Australian Natural Resources Online databases and other media	Achieved	Page 64
	Evidence of researchers complying with project agreements with respect to implementation of communication and extension plans, and the distribution of final reports.	Achieved — final reports received in 2004–05 indicate a high level of dissemination. Beneficiary responses supported this	Page 66
Influence over the adoption of R&D results by stakeholders, especially potential beneficiaries	Evidence of adoption taken from post-project evaluations, benefit–cost analyses and other sources	Partially achieved	Pages 31, 43, 56 and 66
	Evidence of adoption of R&D results, such as evidence gained through other forms of meetings with beneficiaries	Achieved	Pages 31, 43, 56 and 66
	Workshops and other activities aimed at facilitating adoption of R&D results	Achieved	Page 52 and 66
	Patents and other forms of protection of intellectual property as a precursor to commercialisation	Yes — co-ownership with WA Fisheries – Automatic Feeding System (patent pending)	
Contributions from fishers and aquaculturists above that which will be matched by the Australian Government	Minimum of 80% of the contributions paid by industry to the FRDC that can be matched by the Australian Government	Achieved — industry contributions totalled 114%	Pages iv, vii and 67
	A minimum of four sub-sectors contributing more than the maximum matchable contribution	Achieved — eight sectors contributed more than 100%	Pages iv and 67

Performance indicators	Performance measure	Achieved	Details
Contributions from other parties with an interest in fisheries and the fishing industry	Evidence of other parties' contributions	Achieved	Pages iv and 67
Definition of AGVP expanded to recognise the economic value of the natural resources used by the recreational and indigenous sectors	Evidence of work being undertaken to expand the definition of AGVP	Not achieved	Page 67
The level of revenue received for other services and products	Value of revenue received through interest on investments, sales and other sources — minimum of $200,000	Achieved	Page iv
Compliance with all acts, regulations, ordinances and by-laws of federal, state, territory and local governments and with government policies and FRDC policies/procedures	Minimal non-compliance	Achieved	Pages 79–84
Maximum FRDC expenditure on R&D programs	Proportion of expenditure on R&D programs, communications and programs support — respectively minimum 85%, minimum 3% and maximum 8%	Partially achieved — 88% on R&D programs 9% spent on programs support and 3% on communications	Page vii
Results of external quality and financial audits	Unqualified audits by the Australian National Audit Office; certification to AS/NZS ISO 9001:2000 maintained; favourable comparisons with other procedures and systems, e.g. benchmarking	Achieved	Pages 79, 80, 86 and 87
Accountability to industry, governments and other stakeholders	Acceptance of the annual report by the Minister or Parliamentary Secretary and the FRDC's representative organisations	Achieved	Page 67
Regard for the views and priorities of stakeholders and research providers in the development of R&D program management.	Evidence of consultation with stakeholders and research providers	Achieved.	Pages 15 and 64

Management and accountability

Note: In the interests of improved accountability, some minor modifications have been made to the reporting structure of this program that were not incorporated into the AOP for 2004–05 when it was prepared in early 2004. However, the program's coverage remains the same.

Principal inputs

During 2004–05, $3.5 million was invested in activities within this program, including $0.8 million on communications.

Principal outputs

Planned outputs for this program are continually improving management and accountability activities. Each year, information on explicit planned outputs is provided in the AOP. Since these outputs contribute to the planned outcomes of the three R&D programs, they are crucial to the FRDC's effectiveness and efficiency.

Selected outputs achieved by the Management and Accountability program during the year were as follows, under headings of strategies specified in the R&D plan and against key performance indicators nominated in the AOP:

1. To provide leadership in fisheries R&D.
2. To invest in high-priority R&D that has the potential to deliver the highest benefits.
3. To make R&D results widely known, and to facilitate their adoption and (if appropriate) commercialisation.
4. To expand the FRDC revenue base to increase investment in fisheries R&D.
5. To develop and maintain effective, efficient, open and accountable management procedures and systems.

Strategy 1: To provide leadership in fisheries R&D

During the year the FRDC continued to support a number of organisations in the pursuit of building a solid base of infrastructure for the fishing industry. In particular:

- the Corporation continued to provide support for its two representative organisations.
- continued support was provided to Seafood Services Australia Ltd, the company limited by guarantee that the FRDC established in conjunction with the Australian Seafood Industry Council to be a catalyst for sustainable development of the seafood industry.
- through Australian Seafood Industries — the company the FRDC recently helped to establish — the Corporation continued to ensure that the intellectual property resulting from research to improve Pacific oysters through genetic selection is managed by the industry.
- comparable work in relation to Sydney rock oysters, the FRDC also assisted with the establishment of the Select Oyster Company.
- FRDC continued to support the Australian Seafood Co-products (ASCo), a company whose goal is to sustainably use fish and fish co-products not traditionally utilised or marketed, through the SESSF and Post Harvest Subprogram.

Strategy 2: To invest in high-priority R&D that has the potential to deliver the highest benefits

The FRDC sought the advice of its two representative organisations in drafting the recently published R&D Plan for 2005–10. In addition, comments were sought from all sectors of industry on the draft copy. Over 100 responses were received and incorporated into the plan.

In February 2005 a R&D planning workshop was held in Canberra with over 40 key stakeholders, representing all sectors of industry. The Minister for Fisheries, Forestry and Conservation and Parliamentary Secretary to the Minister for Agriculture, Fisheries and Forestry were also a key to the success of this event.

The Parliamentary Secretary to the Minister for Agriculture, Fisheries and Forestry approved the FRDC's 2004–05 annual operational plan. The plan incorporates the R&D priorities of the Australian Government and the FRDC's two representative organisations.

Strategy 3: To make R&D results widely known, and to facilitate their adoption and (if appropriate) commercialisation

Principal publications released during the year are listed on pages 149 and 150. All FRDC publications, including research can be accessed via the FRDC's website — www.frdc.com.au

A stand out success this year in disseminating information on R&D has been the FRDC's approach of developing case studies based on successful research projects — three have been used in this report. The response by the sectors of the industry involved has been one of pride and satisfaction. Over the next 12 months the FRDC will build upon the case studies undertaken and showcase them via the FRDC newsletter — *R&D News*.

The FRDC website is one of the Corporation's key communication tools, providing users with access to a comprehensive array of information on fisheries R&D. During 2004–05 the biggest change to the website was the establishment of an image library. FRDC, in partnership with CSIRO, now can provide access to one of the largest collections of Australian fish images. The objective over the next 12 to 18 months is to expand the collection to include an image of every Australian species — over 4,000 images.

In addition to the image library FRDC improved access to final reports through making a number of changes to how its online bookstore operates. Short non-technical summaries on all completed projects are now available and can be viewed or if the reader wants, the full final report can be purchased and downloaded.

The *R&D News* continues to be the central mechanism for the FRDC to provide an update on R&D activities. Four editions of the FRDC's *R&D News* were published during 2004–05, each achieving an average circulation of 28,000 copies. The publication continued to be distributed as an insert in the major industry magazines, with further copies being disseminated at trade events, conferences and workshops; and direct mail. During the year the FRDC undertook a survey of industry to gain an understanding of what readers thought of the publication and how to improve it. In 2005–06 the FRDC will implement a number of changes based on these findings.

Future

Each year a sample of research projects are subject to benefit–cost-analyses, but it is recognised that by itself this approach is not sufficient basis to make judgements about the achievement of the programs' objectives. There is however an intention, expressed in the 2005–10 research and development plan, to work with other R&D corporations to identify ways to measure non-market benefits of R&D. This will entail developing a Monitoring and Evaluation Framework that will help identify, connect and prioritise key performance issues at different scales and locations within the FRDC.

FRDC research online

Our R&D programs benefit the commercial, recreational and customary sectors of the fishing industry and Australia's economic, environmental and social resources. Through making available the latest research we are working towards a well-informed industry and community supportive of the industry and natural resources from which it depends

Accessing our final reports and publications has never been easier with out new online facilities. This means that you can now view and purchase electronic copies of final reports or you can place an order for a hard copy. Our new bookshop is also equipped with a secure payment facility so you can shop with confidence.

www.frdc.com.au/bookshop

Beneficiary responses

We have explained how we communicate our R&D results but we feel it is important to highlight a few areas where our stakeholders have provided some feedback…

Mr Vince Castle (a landowner on one of the drainage systems studied) —
When this project (1998/215) started everyone was pretty sceptical because of the possibility of salt getting on our land, but the consultation process has been good. The tidal gates have had a dramatic effect on water quality in the drain.

Mr David Carter, Chief Executive Officer, Newfishing Australia —
In my view the Northern Prawn Fishery Turtle Exclusion Device (TED)/Bycatch Reduction Device (BRD) project (2000/173) is an absolute standout piece of results-focused FRDC-sponsored research. There is no doubt that the project was critical to the Northern Prawn Fishery, making a smooth transition to the mandated use of TEDs and BRDs, and that without this work the Northern Prawn Fishery would have been floundering with the new gear requirements.

Neil MacDonald, General Manager, South Australian Fishing Industry Council —
Having examined the report (project 1998/137) and the method for economic assessment it proposes, I consider it will be invaluable in guiding future investment in economic research in Australia's fisheries.

Frank Prokop, President, Recfish Australia —
Most importantly, the National Strategy for the Survival of Released Line Caught Fish (project 2002/099) has been able to clearly demonstrate that information and extension programs that are specifically designed to meet the needs of the wider community can be adopted, supported and result in a significant change to recreational fishing practices.

Graham Short, Chief Executive Officer, Western Australian Fishing Industry Council —
I write to congratulate you and the team that worked on the "Seafood Resource Kit" (project 2001/311) published by Kondinin Group. It makes a great companion to the "Story of Seafood" and will help both teachers and students learn more about the seafood industry. There is no doubt that one of the greatest challenges facing the industry is communicating to the community how the industry works, its commitment to sustainable fishing and the important role it plays in not only generating income but also in supplying fresh seafood. Your publication will assist greatly by its provision of accurate and objective information in an entertaining format.

Martin Breen, (Executive Officer, Australian Prawn Farmer's Association) —
I feel a lot richer as a person for having participated in Course 10... The program has well exceeded my expectations, particularly concerning personal development, my understanding of 'leadership' and how I may become a more effective leader.

Shane O'Donoghue, Senior Commercial Fisheries Manager, Department of Fisheries, Government of Western Australia —
The outcomes of project 2000/38 were instrumental in avoiding a potential total commercial closure for the Shark Bay Pink Snapper Managed Fishery.

Strategy 4: To expand the FRDC revenue base to increase investment in fisheries R&D

The biggest potential area to impact on the FRDC's revenue base is the definition of the Australian Government Value of Production (AGVP). This figure impacts directly on the FRDC bottom line and in late 2004–05 the FRDC commenced research to examine the current structure and definition of AGVP. During 2005–06 further work will be undertaken to analyse options for the AGVP model.

The FRDC has continued to build partnerships with individual industry sectors. We currently have a number of industry partners, such as Southern Rock Lobster Ltd, Tasmanian Salmon Growers Association, Tuna Boat Owners Association and prawn and barramundi farmers. These partnerships offer both parties a number of advantages. For industry they provide more involvement in determining and undertaking R&D. For FRDC they provide a more certain flow of industry funds and ultimately a greater understanding of the fishing industry.

An overview of the sectors that have contributed more than the maximum matchable contribution, as shown in Table 1: Industry contributions, maximum matchable contributions by the Australian Government and returns on investment, 2004–05.

In addition the FRDC during 2004–05 continued to manage $0.7 million of aquatic animal health investment, with $0.4 million spent in 2004–05.

A further $1.3 million was managed on behalf of the Department of Primary Industries and Resources South Australia. In 2004–05 funds allocated to the Innovative Solutions for Aquaculture initiative totalled $0.4 million.

Strategy 5: To develop and maintain effective, efficient, open and accountable management procedures and systems

The 2003–04 annual report was presented to the Minister before the legislative stipulated deadline and the Minister tabled it in Parliament.

The FRDC's two representative organisations (the Australian Seafood Industry Council and Recfish Australia) accepted the FRDC's 2003–04 annual report at their respective annual meetings on 20 October 2004 and 28 October 2004.

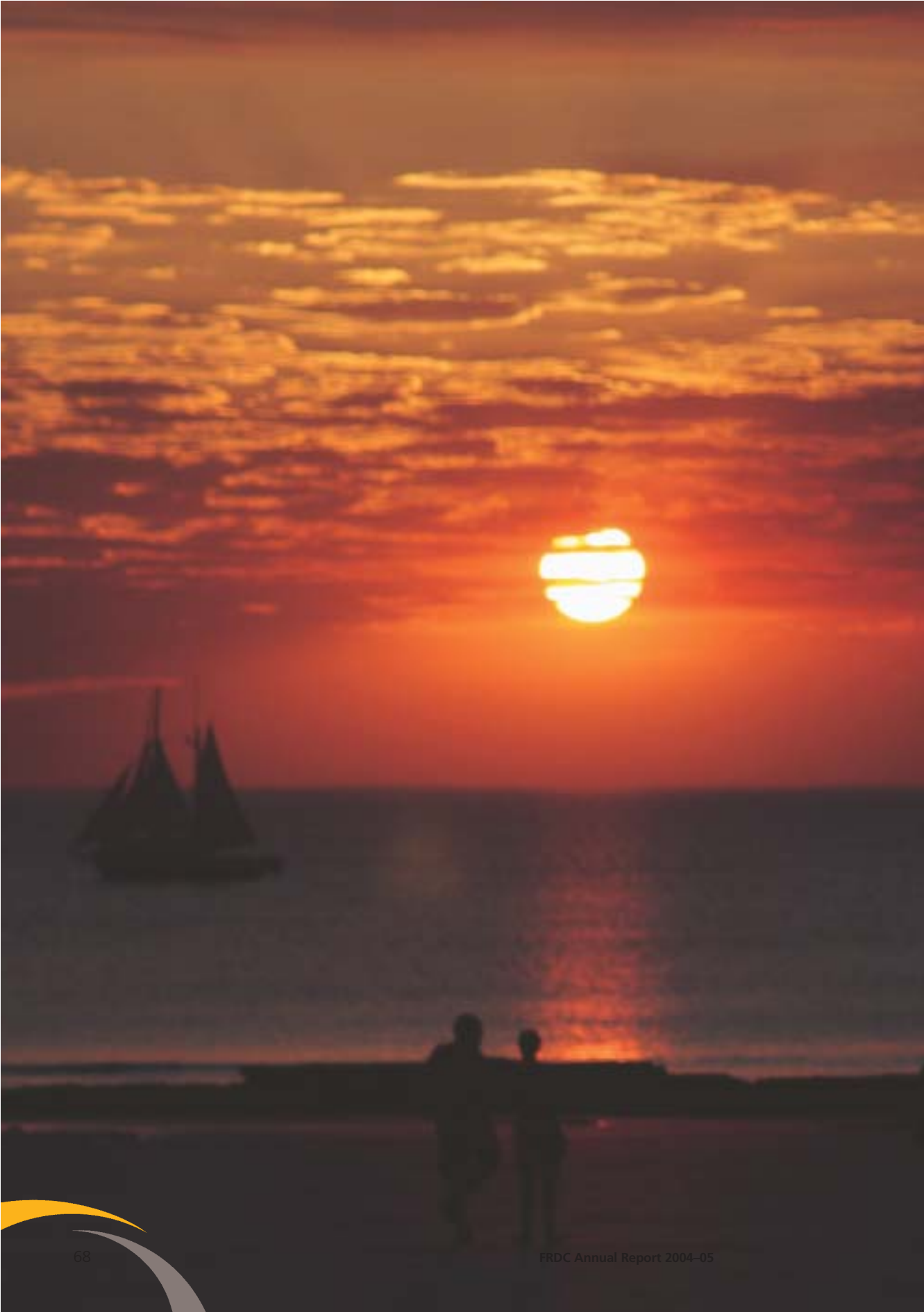
All FRDC programs management and administrative procedures have been documented. They were audited on 10 October 2004 by an external quality auditor, Quality Assurance Services Pty Ltd.

The FRDC's quality management system remained certified to AS/NZS ISO 9001:2000.

The 9 August 2005 audit report by the Australian National Audit Office confirmed that the FRDC's 2003–04 financial statements gave a true and fair view of the financial position of the FRDC.

The Australian National Audit Office conducted an on-site audit of the FRDC's aquatic animal health activities.

The FRDC collaborated with all other R&D corporations in a project to identify best practice in the corporations' "triple bottom line" reporting, coordinated by Land & Water Australia.



REPORT OF OPERATIONS

Part 4: Corporate governance

The FRDC's commitment to good corporate governance

"Governance" refers to processes by which organisations are directed and controlled — including, among others, 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 Board and staff are strongly committed to ensuring good corporate governance of the FRDC. In doing so, the focus is on structures, processes, controls and behaviour, as follows.

Structures

Key elements of the FRDC's legislative foundation (the PIERD Act) are summarised in appendix C (page 132).

The FRDC 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 visions, mission and planned outcomes. As reflected in table 5 on page 18, the FRDC's three R&D 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 R&D planning, implementation and reporting, and that of many of the organisations with which it does business. Importantly, the alignment ensures that the R&D outputs resulting from the Corporation's investments fully address the legislative objects.

The FRDC has no fully owned subsidiaries. Its major activities and facilities are located in Canberra.

The Board

The Board comprises nine directors who are appointed in accordance with sections 17 and 77 of the *Primary Industries and Energy Research and Development Act 1989* (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, except for the Government Director and the Executive Director. All directors except the Executive Director are appointed on a part-time basis.

A finance and audit committee and a remuneration committee, and other ad hoc committees of the Board as deemed necessary from time to time, act on the Board's behalf.

The Board ensures that FRDC staff are provided with strong leadership, and that their qualifications, skills and experience are enhanced with formal, and on-the-job, training.

Details of the directors who held office during the year are shown on the following pages. Dr Patrick Hone (as with his predecessor for part of the year, Mr Peter Dundas-Smith) is the only Executive Director.

Directors' biographies

Mr Denis Byrne: Chairman (non-executive)

Appointed as Chairman from 1 January 2002; re-appointed in July 2004 for another 3-year term.
Chairman of the Remuneration Committee and the Business Development Committee.

Denis Byrne is a commercial lawyer with wide corporate, infrastructure and resources experience. He was formerly Managing Partner of Freehill Hollingdale & Page, Brisbane and President of the Queensland Law Society and the Law Council of Australia. Denis is a director on a number of boards. Also, Denis is a member of the Australian and New Zealand Takeovers Panels both of which adjudicate on disputes in takeovers of publicly listed companies.

Mr Stuart Richey, AM: director (non-executive), Deputy Chairman

Appointed as a director from 1 September 2003 until 31 August 2006.
Member of the Remuneration Committee and Business Development Committee.

Stuart Richey has been actively involved in the fishing industry for more than 30 years and has considerable experience in most fishing methods. Stuart is also Chairman of the Northern Prawn Management Advisory Committee (NORMAC) and a Director of Marine and Safety Tasmania. He holds Skipper Class 1 (fishing) and Master Class 4 (trading) qualifications.

Dr Patrick Hone: Executive Director from 21 April 2005

Member of the Business Development Committee from December 2004.

Patrick Hone has extensive knowledge of all sectors of the fishing industry. Over the last eight years he has played a key role in the planning, management and funding of fisheries related research and development in Australia. He has PhD in the development of Aquaculture feed for Abalone and has been involved in the development of several significant aquaculture industry developments including Southern Bluefin Tuna, Pacific oyster, abalone and mussel aquaculture.

Mr Simon Bennison: director (non-executive)

Appointed from 1 January 1998; re-appointed in 2001 and 2003.
Chairman of the Finance and Audit Committee.

Simon Bennison has extensive experience in the aquaculture industry gained through 20 years industry experience. He is the Executive Director National Aquaculture Council, a director of Seafood Service Australia and Chairs the FRDC Aquatic Animal Health Subprogram. Previously Simon held the position of Executive Director of the Aquaculture Council of Western Australia and was a director of the Western Australian Fishing Industry Council.

A science graduate from Curtin University, Simon maintains a strong interest in the development and management of the Australian Seafood Industry. He also has ten years experience as an environmental manager for the mining industry. He has a Diploma of Company Directorship and is a fellow of the Australian Institute of Company Directors.

Mr Ian Cartwright: director (non-executive)

Appointed from 1 January 2001; re-appointed in 2003.
Member of the Finance and Audit Committee.

Ian Cartwright has had a lifetime association with the fishing industry with experience in inshore fishing and, after coming ashore, through a career in fisheries education and management. Underpinning this association is an honours degree in fisheries science and a master's degree in economics.

Professor Tor Hundloe, AM: director (non-executive)

Appointed from 1 September 2003.
Member of the Business Development Committee.

Tor Hundloe wrote his PhD on fisheries economics and is one of very few people in Australia with this qualification. He has been involved in researching the economics of commercial and recreational fishing for more than 25 years and has written three books on fisheries economics and fisheries management. Tor has first hand experience in many complex fisheries issues from marine park zoning of the Great Barrier Reef to resource sharing in the Bay and Inlets fisheries.

Dr Nick Rayns: director (non-executive)

Appointed from 1 September 2003.
Member of the Remuneration Committee and Business Development Committee from May 2005

Nick Rayns has accumulated a great deal of knowledge of Australasian fisheries. In addition to his PhD in rock lobster aquaculture, he has worked for fisheries agencies in New Zealand and Australia, managing commercial, recreational and indigenous fisheries from cool temperate to tropical latitudes.

Mr Glenn Hurry:
Government Director (non-executive) from 13 September 2002

Holds office during the Minister's pleasure.

Glenn is the General Manager Fisheries and Aquaculture in the Department of Agriculture, Fisheries and Forestry. He holds a master's degree in aquaculture from Deakin University.

Outgoing directors

Mr Peter Dundas-Smith:
Executive Director to 20 April 2005

The Corporation's inaugural Executive Director, appointed in 1992 resigned 20 April 2005.
Member of the Business Development Committee until December 2004.

Peter Dundas-Smith through his roles as a senior manager with Telecom Australia and as a RAAF Wing Commander has provided him a great deal of experience in the areas of large-scale project management, logistics, human resource management, and strategic planning. He has also an extensive knowledge of the operations and interests of the commercial and non-commercial components of the fishing industry, and of the research sector.

Mr John Harrison:
director (non-executive)

Appointed from 1 September 2003.

Resigned on 30 April 2005 as a result of assuming the position of Chief Executive Officer of Recfish Australia, one of the FRDC's two representative organisations, which rendered him ineligible to be a director.

Member of the Remuneration Committee and the Business Development Committee until 30 April 2005.

John Harrison has a wealth of experience in recreational and sport fishing and its management. As Executive Officer of the Amateur Fishermen's Association of the Northern Territory for many years, John managed the business of the recreational and sport fishing sector in the Northern Territory since 1998. He is a member of a number of advisory, management, technical and consultative bodies relating to fisheries.

Board meetings and visits

During 2004–05 the Board held six meetings as follows:

Date	Location and main activities
9 August 2004	Port Lincoln
	Appraised R&D applications Directors undertook self assessment of performance The Chair evaluated individual director, and board, performance The Finance, Audit & Risk Management Committee met The board met with Port Lincoln based stakeholders The board visited the Arno Bay tuna and kingfish operations, and SA Mariculture.
2–4 November 2004	Darwin
	Selected a new Executive Director Appraised R&D applications Directors undertook self assessment of performance The board met with NT Minister Kon Vatskalis The board met with Darwin based stakeholders The board visited Charles Darwin University, Marine Harvest barramundi farm, and Paspaley Pearls' Darwin operations.
14–15 December 2004	Launceston
	Appraised R&D applications Directors undertook self assessment of performance The board met with the SSA board, and Tasmanian stakeholders The board visited the Australian Maritime College, George Town Seafoods, Van Dieman Aquaculture, Petuna.
2–3 March 2005	Canberra
	Appraised R&D applications Directors undertook self assessment of performance The Finance, Audit & Risk Management Committee, the Remuneration Committee, and the Business Development Committee met The board held strategic meetings with: • the AFMA board • Canberra based stakeholders (Australian Government (DAFF, DEH, DoFA, NOO)), ASIC, Recfish Australia.
26–27 April 2005	Canberra
	Appraised R&D applications Directors undertook self assessment of performance.

Board meetings and visits

continued

Date	Location and main activities
7–8 June 2005	**Brisbane**
	Appraised R&D applications Directors undertook self assessment of performance The Business Development Committee and the Remuneration Committee met The board held strategic meetings with: • Australian Fisheries Minister Ian Macdonald • AFMF (John Pollock) • CSIRO (Tony Haymet and John Gunn) • QDPIF, QSIA, QAIF, Sunfish • SSA directors The board visited Watermark Seafoods.

Currently the Board has three committees:

- *The Finance, Audit and Risk Management committee*.
- *The Remuneration Committee*.
- *The Business Development Committee*.

For details of these committees terms of reference and activities during 2004–05 visit the FRDC website www.frdc.com.au

As with their other roles as directors, members of the Board committees retain their rights to gain access to all information held by the FRDC and to seek independent third-party advice.

Directors' and officers' attendance at Board meetings held in 2004–05 was as follows.

TABLE 7: ATTENDANCE BY DIRECTORS AND OFFICER

	Board meetings						Finance, Audit and Risk Management Committee meetings		Remuneration Committee meetings			Business Development Committee meetings	
No. of meetings held during directors' tenure ⇛	6						01/03/2005	08/08/2004	07/06/2005	30/05/2005	01/03/2005	06/06/2005	01/03/2005
	A	B	C	D	E	F							
Mr Denis Byrne † §	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Mr Simon Bennison *ƒ*	✓	✓	✓	✓	✓	✓	✓	✓				✓	✓
Mr Ian Cartwright	✓	✓	✓	✓	✓	✓	✓	✓					
Mr Peter Dundas-Smith	✓	✓	✓	—	—	—							
Mr John Harrison	✓	✓	✓	✓	✓	—			✓	—			
Dr Patrick Hone	—	—	—	✓	✓	✓	✓					✓	✓
Prof. Tor Hundloe	✓	✓	✗	✓	✓	✓							
Mr Glenn Hurry	✗	✓	✗	✓	✓	✗							
Dr Nick Rayns	✓	✓	✓	✓	✓	✓				✓	✓		
Mr Stuart Richey	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓
Mr John Wilson (Corporate Secretary)	✓	✓	✓	✓	✓	✓	✓	✓				✓	✓

Key to table showing attendance

A August 2004
B November 2004
C December 2004
D March 2005
E April 2005
F June 2005

✓ Attended meeting.
✗ Did not attend meeting.
— Not eligible to attend meeting.
† Chair of Business Development Committee.
§ Chair of Remuneration Committee.
ƒ Chair of Finance and Audit Committee.

The Chairman approved all absences from Board meetings in accordance with section 71(2) of the PIERD Act.

Directors' interests

The FRDC's policy on directors' interests, of which the following is a summary, 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.

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.

Representative organisations and other stakeholders

The FRDC reported to ASIC at the Council's annual general meeting on 20 October 2004, ASIC directors expressed an interest in continuing dialogue with the FRDC to ensure maximum feedback on, and involvement with, the broad range of matters covered in the report.

The FRDC also reported to Recfish Australia at the organisation's annual meeting on 28 October 2004.

Under section 15(2) of the PIERD Act and the *Guidelines on Funding of Consultation Costs by Primary Industries 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 2004–05 the FRDC incurred $15,664 in such expenses; planned expenditure during 2005–06 is $10,000.

Fisheries Research Advisory Bodies (FRABs)

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.

The FRABs represent all sectors of the fishing industry, fisheries managers and researchers; most also include environmental and other community interests. Their Chairs at 30 June 2004 were as follows. For further information on the FRABs visit www.frdc.com.au

CHAIRS OF FRABs AT 30 JUNE 2005

Commonwealth	Mr Ian Cartwright
New South Wales	Professor Derek Anderson
Northern Territory	Mr Richard Sellers
Queensland	Dr Burke Hill
South Australia	Mr Richard Stevens
Victoria	Associate Professor John Sherwood
Western Australia	Mr Angus Callander
Tasmania	Mr Tony Ibbott

Other structures

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

To increase their effectiveness at the strategic level and to share information the rural R&D corporations — including the FRDC — collaborate through a committee of their Chairs, supported by a part-time secretariat. The Chairs Committee also provides continuity and consistency in communication about the role and contribution of RDCs, and in representation, networking and participation in formulation of policy.

Organisational structure and staff

The manner in which the FRDC operates has been likened to a "virtual organisation". Setting strategic directions, with key stakeholders, then directly engages partner organisations from all over Australia to undertake the (R&D) activities. As can be seen from the cover, the FRDC spans the continent via its partners. This innovative approach to project management provides the FRDC a great deal of flexibility, but at the same time gives us the capacity of an organisation many times its size.

To put this into perspective the FRDC currently has over 60 partner organisations that employ over 200 principal investigators, and many more researchers, communicators and technicians. Not to mention the hundreds of industry people who work on the various projects.

Staff

Without doubt the single most important part of the FRDC is the staff. It is surprising to know that the FRDC has only ten staff members. Yes ten! At 30 June 2005, the FRDC had 9.6 full-time-equivalent staff members. This is why you keep seeing the same faces at all the meetings.

All staff are employed under terms and conditions determined by the FRDC. No staff member is employed under the *Public Service Act 1999*.

During the year, Matt Barwick joined FRDC as a project manager. He previously worked in the Australian Fisheries Management Authority's fisheries branch, dealing with management issues in the South East Trawl and Great Australian Bight Trawl fisheries.

Before that, in the NSW Fisheries Office of Conservation, he was involved in assessing and minimising the impacts on aquatic habitats and fish communities of acid sulfate soil drainage, drainage barriers to fish passage, alteration of environmental flows and other influences.

FRDC staff. **Back row, left to right**: Peter Horvat (Communications Manager), Tara Ryan (Communications Officer), Crispian Ashby (Programs Manager), Dr Patrick Hone (Executive Director), Matt Barwick (Projects Manager — Research). **Front row, left to right**: John Wilson (Business Development Manager), Annette Lyons (Projects Manager — Finance and FRDC Quality Manager), Debbie Bowden (Corporate Services Manager) and Cheryl Cole (Office Administrator).

Inset: Jane Graham (Projects Manager — Research).

Staff development

The FRDC recognises that excellent performance by staff and directors is essential to fulfilment of the Corporation's mission.

During 2004–05, one staff member continued fisheries management studies at Master level, one continued studies of fishing gear selectivity at Master level, and one completed a Bachelor of Business degree. One director and two staff members completed the Australian Institute of Company Directors diploma course. One staff member commenced a graduate diploma in marketing communications and another a diploma of government financial management. Staff undertook job-related training, attended conferences relevant to FRDC activities and the fishing industry, and worked with researchers and industry people on various aspects of project management.

Staff members are also encouraged to maintain professional affiliations. They have memberships of the Australian Institute of Company Directors, the Australian Society of Certified Practising Accountants, the Australian Society of Fish Biologists, the Public Relations Institute of Australia, the Institute of Public Administration Australia, the Australian Institute of Management, the Data Management Association and the World Future Society.

Controls

Risk management

The FRDC participated in Comcover's annual benchmarking survey of risk management. For the 2005 benchmarking program the FRDC rated a four out of a possible five.

The FRDC incorporates risk management in all activities in accordance with its risk management policy, which is integrated into the FRDC'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, May 2002, which seeks to minimise the likelihood and impact of fraud.

No incidence of fraud was detected during 2004–05.

The Board reviewed and approved a revised 2004–05 risk management policy and risk register in March 2005.

Training of staff in risk management was provided by Neill Buck and Associates Pty Ltd. As part of this training all staff were updated to the latest ISO Standard on risk management.

All new directors and staff undergo comprehensive induction training, which includes a briefing on the requirements of the CAC Act. This Act, which significantly influences the conduct of the FRDC's affairs, is the basis for much of the corporate governance that is addressed in this annual report. All directors also received appropriate updates of a book, published by the Australian Institute of Company Directors, on the duties and responsibilities of directors. Eight people (the Executive Director and four other directors, and three senior staff) have completed the Diploma Course of the Australian Institute of Company Directors.

Commitment to quality

The FRDC is AS/NZS ISO 9001:2000 certified. The FRDC aims to meet or exceed the expectations of stakeholders and other people and organisations with which it does business. To do this, the FRDC has adopted Total Quality Management as its operating philosophy. The FRDC integrates a "quality approach" into all its work. The FRDC's quality management system also encompasses the features of a *Service Charter*.

Indemnities and insurance premiums for officers

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

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.

Liabilities to staff

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

See also note 1.5 of the financial statements (page 99).

Consultancy services and selection of suppliers

During the year, the FRDC engaged three 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:	Blake Dawson Waldron Lawyers
Nature and purpose of consultancy:	Legal advice — particularly in relation to development of best-practice project agreements and project management agreements, employment contracts and contracts with the Department of Agriculture, Fisheries and Forestry and CSIRO.
Cost:	$244,961.00
Name of consultant:	Deacons
Nature and purpose of consultancy:	Legal advice in relation to general employment conditions.
Cost:	$11,252.16
Name of consultant:	Duesburys Nexia
Nature and purpose of consultancy:	Accounting advice particularly in relation to compliance with Australian equivalent of the International Reporting Standards.
Cost:	$14,483.00
Name of consultant:	Fisheries Economics Research and Management Specialists
Nature and purpose of consultancy:	Benefit-cost analysis of five completed FRDC projects.
Cost:	$30,250.00

When selecting suppliers of goods and services, the FRDC 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.

The following processes apply to FRDC procurement:

More than $100,000	Open tender.
$30,000 to $100,000	Selective tender, with at least three written quotations.
Less than $30,000	Competitive tender is not required.

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 CAC Act, to which all directors and staff are required to adhere. New directors and staff are briefed comprehensively on the code during induction training.

Enabling legislation

The FRDC was formed as a statutory corporation on 2 July 1991 under the provisions of the *Primary Industries and Energy Research and Development Act 1989* (the PIERD Act). Information about the FRDC's legislative foundation is in appendix C, from page 132.

Responsible ministers and exercise of ministerial powers

The Ministers responsible for the FRDC are: the Minister for Agriculture, Fisheries and Forestry; the Parliamentary Secretary to the Minister; and the Minister for Fisheries, Forestry and Conservation. All three ministers exercise ministerial powers in their own right.

During the 2004–05 financial year, the portfolio was overseen by the Minister for Agriculture, Fisheries and Forestry, the Hon. Warren Truss MP, the Minister for Fisheries, Forestry and Conservation, Senator the Hon. Ian Macdonald and the Parliamentary Secretary to the Minister for Agriculture, Fisheries and Forestry, Senator the Hon. Richard Colbeck. Senator Colbeck replaced Senator the Hon. Judith Troeth as Parliamentary Secretary on 22 October 2004.

Ministerial directions

The 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. The FRDC has received no such direction during 2004–05.

Under the CAC Act, the Minister may notify the Board of any general Australian Government policies that apply to the Corporation. At the date of this report, the following notifications have been received:

- In May 1995, the Minister issued a directive in accordance with the CAC Act that spending of industry contributions is to be of direct relevance, within a 5-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.

Policy and administration

Minimisation of administration

To increase its production of outputs in the face of greatly increasing demand for fisheries R&D, 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 R&D programs by minimising the cost of administration. However, the FRDC faces ever increasing cost pressures due to the higher levels of compliance reporting required by the Australian Government.

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 Resource 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.

Equal employment opportunity

The FRDC has a policy of equal employment opportunity. Merit-based principles are applied in recruitment and promotion to ensure that discrimination does not occur. Of the FRDC's staff of ten, five are female and one has a non-English speaking background.

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 (page 80) and the attendant emphasis on continual improvement.

Occupational health and safety

No injuries occurred on FRDC premises during 2004–05.

FRDC staff undertook fire safety training with a specialist provider, covering basic fire safety (emergency evacuation and fire control techniques), emergency control and warden awareness.

Three staff members completed Red Cross first aid training during the year.

The FRDC working environment is reviewed periodically by occupational health and safety consultants. This year, a workplace safety and injury management company made an ergonomic assessment of each staff member's immediate working environment and provided training in workplace health and prevention of injury.

Disabilities

The FRDC implements the Commonwealth Disability Strategy on two levels: as a provider of services resulting from R&D and as an employer. During the year the FRDC implemented the Strategy to an extent appropriate to the functions and size of the Corporation.

The FRDC website meets the Australian Government accessibility guidelines for presentation of documents via the Internet.

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 practice, recognising that 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.

Energy efficiency

The policy for *Improving Energy Efficiency in Commonwealth Government Operations* seeks to improve energy efficiency in relation to vehicles, equipment and building design.

The FRDC follows the policy with respect to factors relevant to the Corporation. 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.

Privacy of information

The FRDC manages personal information in accordance with the *Privacy Act 1988*. In keeping with the Privacy Principles the FRDC's privacy policy covers soliciting, collecting, storing, gaining access to, altering and using personal information. The policy is accessible via the FRDC website — www.frdc.com.au

Freedom of information

During 2004–05, the FRDC did not receive any inquiry pursuant to the *Freedom of Information Act 1982*.

A statement in accordance with the *Freedom of Information Act 1982*, giving information about the FRDC and about making a Freedom of Information request, is in appendix D (page 135).

AUDITOR-GENERAL'S REPORT

Australian National Audit Office

INDEPENDENT AUDIT REPORT

To the Minister for Agriculture, Fisheries and Forestry

Scope

The financial statements and Directors' responsibility

The financial statements comprise:

- Statement by Directors;
- Statements of Financial Performance, Financial Position and Cash Flows;
- Schedules of Commitments and Contingencies; and
- Notes to and forming part of the Financial Statements

of the Fisheries Research and Development Corporation, for the year ended 30 June 2005.

The Directors of the Fisheries Research and Development Corporation are responsible for preparing financial statements that give a true and fair view of the financial position and performance of the Fisheries Research and Development Corporation, and that comply with accounting standards and other mandatory financial reporting requirements in Australia, and the Finance Minister's Orders made under the *Commonwealth Authorities and Companies Act 1997*. The Directors are also responsible for the maintenance of adequate accounting records and internal controls that are designed to prevent and detect fraud and error, and for the accounting policies and accounting estimates inherent in the financial statements.

Audit approach

I have conducted an independent audit of the financial statements in order to express an opinion on them to you. My audit has been conducted in accordance with the Australian National Audit Office Auditing Standards, which incorporate the Australian Auditing and Assurance Standards, in order to provide reasonable assurance as to whether the financial statements are free of material misstatement. The nature of an audit is influenced by factors such as the use of professional judgement, selective testing, the inherent limitations of internal control, and the availability of persuasive, rather than conclusive, evidence. Therefore, an audit cannot guarantee that all material misstatements have been detected.

While the effectiveness of management's internal controls over financial reporting was considered when determining the nature and extent of audit procedures, the audit was not designed to provide assurance on internal controls.

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

I have performed procedures to assess whether, in all material respects, the financial statements present fairly, in accordance with the Finance Minister's Orders made under the *Commonwealth Authorities and Companies Act 1997*, including accounting standards and other mandatory financial reporting requirements in Australia, a view which is consistent with my understanding of the Fisheries Research and Development Corporation's financial position, and of its performance as represented by the statements of financial performance and cash flows.

The audit opinion is formed on the basis of these procedures, which included:

- examining, on a test basis, information to provide evidence supporting the amounts and disclosures in the financial statements; and
- assessing the appropriateness of the accounting policies and disclosures used, and the reasonableness of significant accounting estimates made by the Directors.

Independence

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

Audit 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*; and

(b) give a true and fair view of the Fisheries Research and Development Corporation's financial position as at 30 June 2005 and of its performance and cash flows for the year then ended, in accordance with:

(i) the matters required by the Finance Minister's Orders; and

(ii) applicable accounting standards and other mandatory financial reporting requirements in Australia.

Australian National Audit Office

Michael White
Executive Director

Delegate of the Auditor-General

Canberra
9 August 2005

FINANCIAL STATEMENTS as at 30 June 2005

STATEMENT BY DIRECTORS AND EXECUTIVE DIRECTOR

In our opinion, the attached financial statements of the Fisheries Research and Development Corporation (FRDC) for the year ended 30 June 2005 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.

In our opinion, at the date of this statement, there are reasonable grounds to believe that the FRDC 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..... 9 / 9 / 2005

Denis Byrne
Chairman

Signed..... 9 / 9 / 2005
Simon Bennison
Chairman Finance, Audit and Risk Management Committee

Signed..... 9 / 9 / 2005
Patrick Hone
Executive Director

STATEMENT OF FINANCIAL PERFORMANCE

for the year ended 30 June 2005

	Notes	30 June 2005 $	30 June 2004 $
REVENUE			
Revenues from ordinary activities			
Revenues from Government	6A	**16,897,381**	17,719,893
Contributions	6B	**11,198,597**	11,552,834
Goods and services	6E	**62,237**	53,150
Reversals of previous asset write-downs	6F	**24,584**	0
Interest	6C	**242,075**	304,150
Other	6D	**2,159**	293
Revenues from ordinary activities		**28,427,033**	29,630,320
EXPENSE			
Expenses from ordinary activities (excluding borrowing costs expense)			
Employees	7A	**1,568,231**	1,333,569
Suppliers	7B	**919,856**	812,741
Depreciation and amortisation	7C	**202,867**	165,184
Projects expenditure	8	**25,569,422**	25,127,430
Write-down and impairment of assets	7D	**0**	23,180
Other	9	**800,366**	642,875
Expenses from ordinary activities (excluding borrowing costs expense)		**29,060,742**	28,104,979
Borrowing costs expense	10	**0**	199
Operating surplus/(loss) from ordinary activities		**(633,709)**	1,525,142
Net profit/(loss)	15	**(633,709)**	1,525,142
Net credit/(debit) to asset revaluation reserve	15	**71,423**	0
Total revenues, expenses and valuation adjustments recognised directly in equity		**71,423**	0
Total changes in equity other than those resulting from transactions with the Australian Government as owner		**(562,286)**	1,525,142

The above statement should be read in conjunction with the accompanying notes

STATEMENT OF FINANCIAL POSITION

as at 30 June 2005

	Notes	30 June 2005 $	30 June 2004 $
ASSETS			
Financial assets			
Cash	16B	**294,604**	881,140
Receivables	11A	**1,502,519**	2,181,343
Other Investments	11B	**5,001**	5,001
Total financial assets		**1,802,124**	3,067,484
Non-financial assets			
Infrastructure, plant and equipment	12A,C	**199,011**	137,381
Intangibles	12B,C	**1,146,944**	963,698
Other non-financial assets	12D	**0**	25,137
Total non-financial assets		**1,345,955**	1,126,216
Total assets		**3,148,079**	4,193,700
LIABILITIES			
Provisions			
Employees	13A	**312,006**	344,888
Total provisions		**312,006**	344,888
Payables			
Suppliers	14A	**66,815**	66,842
Projects	14B	**188,306**	111,404
Other payables	14C	**763,882**	1,291,210
Total payables		**1,019,003**	1,469,456
Total liabilities		**1,331,009**	1,814,344
NET ASSETS		**1,817,070**	2,379,356
EQUITY			
Parent entity interest			
Reserves	15	**71,423**	0
Accumulated profits	15	**1,745,647**	2,379,356
Total parent entity interest		**1,817,070**	2,379,356
Total equity		**1,817,070**	2,379,356
Current assets		**1,797,123**	3,087,620
Non-current assets		**1,350,956**	1,106,080
Current liabilities		**1,165,571**	1,683,673
Non-current liabilities		**165,438**	130,671

The above statement should be read in conjunction with the accompanying notes

STATEMENT OF CASHFLOWS

for the year ended 30 June 2005

	Notes	30 June 2005 $	30 June 2004 $
Operating activities			
Cash received			
Revenues from			
Government		**16,897,381**	17,719,893
Contributions		**12,188,096**	10,079,963
Goods and services		**62,237**	53,150
Interest		**242,075**	312,265
GST received from ATO		**1,944,115**	1,989,586
Other		**2,159**	293
Total cash received		**31,336,063**	30,155,150
Cash used			
Employees		**(1,601,113)**	(1,253,682)
Suppliers		**(894,746)**	(853,374)
Project expenditure		**(28,274,638)**	(27,889,972)
Borrowing costs		**0**	(190)
Other		**(800,366)**	(642,875)
Total cash used		**(31,570,863)**	(30,640,102)
Net cash used by operating activities	16A	**(234,800)**	(484,952)
Investing activities			
Cash used			
Purchase of investments		**0**	(5,001)
Purchase of infrastructure, plant and equipment		**(50,264)**	(47,789)
Purchase of intangibles		**(301,472)**	(384,872)
Total cash used		**(351,736)**	(437,662)
Net cash (used by) investing activities		**(351,736)**	(437,662)
Net decrease in cash held		**(586,536)**	(922,614)
Cash at the beginning of the reporting period		**881,140**	1,803,754
Cash at the end of the reporting period	16B	**294,604**	881,140

The above statement should be read in conjunction with the accompanying notes

SCHEDULE OF COMMITMENTS

as at 30 June 2005

	Notes	30 June 2005 $	30 June 2004 $
By Type			
Other commitments			
Operating leases[1]		**7,127**	88,490
Other commitments[2]		**69,776,136**	62,729,699
Total other commitments		**69,783,263**	62,818,189
Commitments receivable		**(6,343,933)**	(5,710,744)
Net commitments		**63,439,330**	57,107,444
By Maturity			
Operating lease commitments			
One year or less		**7,127**	80,446
From one to five years		**0**	8,044
Over five years		**0**	0
Total operating lease commitments		**7,127**	88,490
Other commitments			
One year or less		**47,259,950**	33,594,459
From one to five years		**22,505,186**	28,895,207
Over five years		**11,000**	240,033
Total other commitments		**69,776,136**	62,729,699
Commitments receivable		**(6,343,933)**	(5,710,744)
Net commitments by maturity		**63,439,330**	57,107,444
The amount of rental expense recognised in the category 'Supplier expenses' in the reporting period is as follows:		**75,240**	73,132

NB: All commitments are GST inclusive where relevant.

1. Operating leases are effectively non-cancellable and comprise:

- lease for office accommodation on premises at 25 Geils Court Deakin, which expires 31 July 2005.

2. Other commitments comprise the future funding of approved projects that is contingent on achievement of agreed milestones over the life of the projects (project agreements are exchanged prior to release of the first payment on a project). Projects for which an amount was payable but that 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 Government policy. If the FRDC were to terminate a project agreement, it would only be liable to compensate the research provider for reasonable costs in respect of unavoidable loss incurred by the research provider and directly attributable to the termination.

The above schedule should be read in conjunction with the accompanying notes

SCHEDULE OF CONTINGENCIES
as at 30 June 2005

At 30 June 2005, the FRDC had no contingent assets or liabilities.

The above schedule should be read in conjunction with the accompanying notes

Notes to and forming part of the financial statements for the year ended 30 June 2005

Note	Description
1	Summary of significant accounting policies
2	Adoption of Australian Equivalents to International Financial Reporting Standards from 2005-2006
3	Reporting of outcomes
4	Economic dependency
5	Events occurring after reporting date
6	Operating revenues
7	Operating expenses
8	Projects expenditure
9	Operating expenses – other
10	Borrowing costs expense
11	Financial assets
12	Non-financial assets
13	Provisions
14	Payables
15	Analysis of equity
16	Cash flow reconciliation
17	Director remuneration
18	Related party disclosures
19	Remuneration of officers
20	Remuneration of auditors
21	Average staffing levels
22	Financial instruments
23	Other related parties
24	Contingent liabilities and assets

Notes to and forming part of the financial statements for the year ended 30 June 2005

Note 1: Summary of significant accounting policies

1.1 — Basis of accounting

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

The statements have been prepared in accordance with the:

- Finance Minister's Orders *(being the Commonwealth Authorities and Companies Orders (Financial Statements for reporting periods ending on or after 30 June 2005))*;
- Australian Accounting Standards and Accounting Interpretations issued by the Accounting Standards Board; and
- Urgent Issues Group.

The Statements of Financial Performance and Financial Position have been prepared on an accrual basis and are in accordance with the historical cost convention, except for certain assets which, as noted, are at valuation. Except where stated, no allowance is made for the effect of changing prices on the results or the financial position of the FRDC.

Assets and liabilities are recognised in the FRDC`s Statement of Financial Position when and only when it is probable that future economic benefits will flow and the amounts of the assets or liabilities can be reliably measured. Assets and liabilities arising under agreements equally proportionately unperformed are not, however, recognised unless required by an Accounting Standard. Liabilities and assets that are unrecognised are reported in the Schedule of Commitments and the Schedule of Contingencies.

Revenues and expenses are recognised in the FRDC`s Statement of Financial Performance when, and only when, the flow or consumption or loss of economic benefits has occurred and can be reliably measured.

1.2 — Changes in accounting policy

The accounting policies used in the preparation of these financial statements are consistent with those used in 2003-04.

1.3 – Revenue

The revenues described in this note are revenues relating to core operating activities of the FRDC.

Revenue from the sale of goods is recognised upon delivery of the goods to customers.

Interest revenue is recognised on a time proportionate basis that takes into account the effective yield on the relevant asset.

Revenue from the disposal of non-current assets is recognised when control of the asset has passed to the buyer.

Refunds from research organisations are taken into account when received.

Revenues from Government – output revenue

The full amount of the revenue from government for agency outputs for the year is recognised as revenue.

Notes to and forming part of the financial statements for the year ended 30 June 2005

1.3 – Revenue (cont'd)

Resources received free of charge

Services received free of charge are recognised as revenue when and only when a fair value can be reliably determined and the services would have been purchased if they had not been donated. Use of those resources is recognised as an expense.

Contributions of assets at no cost of acquisition or for nominal consideration are recognised at their fair value when the asset qualifies for recognition.

1.4 – Employee benefits

Benefits

Liabilities for services rendered by employees are recognised at the reporting date to the extent that they have not been settled.

Liabilities for wages and salaries (including non-monetary benefits), annual leave and sick leave are measured at their nominal amounts. Other employee benefits expected to be settled within 12 months of their reporting date are also measured at their nominal amounts.

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

All other employee benefit liabilities are measured as the present value of the estimated future cash outflows to be made in respect of services provided by employees up to the reporting date.

The FRDC has a policy that it will act to ensure its financial assets are greater than its employee provisions.

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, 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.

Long service leave is accrued for all staff, from their commencement date, at the rate of 9 days per year of service with the entitlement generally becoming due after completion of 10 years' service.

All leave provision calculations are based on remuneration packages as at 1 July 2005. See Notes 13 Provisions, 17 Directors' remuneration and 19 Remuneration of officers.

In determining the present value of the liability, attrition rates and remuneration increases have been taken into account.

Notes to and forming part of the financial statements for the year ended 30 June 2005

Separation and redundancy

Provision is made for separation and redundancy benefit payments in circumstances where a separation or redundancy payment is expected to be paid within the financial year and a reliable estimate of the amount of the payments can be determined.

Superannuation

The FRDC is an approved Authority under the *Superannuation Act 1976* and the *Superannuation Act 1990*.

FRDC staff contribute to the Commonwealth Superannuation Scheme (CSS), the Public Sector Superannuation Scheme (PSS) or other elected schemes as appropriate. The liability for their superannuation benefits is recognised in the financial statements of the Australian Government and is settled by the Australian Government in due course.

FRDC makes employer contributions to the Australian Government at rates determined by an actuary to be sufficient to meet the cost to the Government of the superannuation entitlements of FRDC's employees.

No liability for superannuation benefits is recognised at 30 June 2005 as the employer contributions fully extinguish the accruing liability which is assumed by the Australian Government.

1.5 – Leases

A distinction is made between finance leases, which in effect transfer from the lessor to the lessee substantially all the risks and benefits incidental to ownership of leased non-current assets, and operating leases, under which the lessor effectively retains substantially all such risks and benefits.

Operating lease payments are expensed on a basis which is representative of the pattern of benefits derived from the leased assets. The net present value of future net outlays in respect of surplus space under non-cancellable lease agreements is expensed in the period in which the space becomes surplus. FRDC currently has no surplus space under non-cancellable lease agreements.

The FRDC is not currently involved in any finance leases.

1.6 – Projects

The FRDC recognises project liabilities as follows:

project agreements require the research provider 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 provider.

1.7 – Borrowing costs

All borrowing costs are expensed as incurred except to the extent that they are directly attributable to qualifying assets, in which case they are capitalised. The amount capitalised in a reporting period does not exceed the amounts of costs incurred in that period.

FRDC has no qualifying assets.

Notes to and forming part of the financial statements for the year ended 30 June 2005

1.8 – Cash

Cash means notes and coins held and any deposits held at call with a bank or financial institution. Cash is recognised at its nominal amount. Interest is credited to revenue as it accrues.

For the purposes of the Statement of Cash Flows, cash is net of any outstanding bank overdrafts.

In accordance with section 42 of the *Primary Industries and Energy Research and Development Act 1989* (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.

1.9 – Financial instruments

Accounting policies for financial instruments are stated at Note 22.

1.10 – Acquisition of assets

Assets are recorded at the cost of acquisition except as stated below. The cost of acquisition includes the fair value of assets transferred in exchange and liabilities undertaken.

Assets acquired at no cost, or for nominal consideration, are initially recognised as assets and revenues 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 entity's accounts immediately prior to the restructuring.

1.11 – Infrastructure, plant and equipment

Asset recognition threshold

Purchases of infrastructure, plant and equipment are recognised initially at cost of acquisition in the Statement of Financial Position, 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 significant in total).

Revaluations

All infrastructure, plant and equipment were revalued as at 30 June 2005 by the Australian Valuation Office.

Infrastructure, plant and equipment are carried at valuation. Revaluations are done on a fair value basis. Fair value is determined to be depreciated replacement cost.

Under fair value, assets which are surplus to requirement are measured at their net realisable value. At 30 June 2005 FRDC held no surplus assets. (30 June 2004: $0)

Notes to and forming part of the financial statements for the year ended 30 June 2005

Depreciation and amortisation

Depreciable infrastructure, plant and equipment assets are written-off to their estimated residual value over their estimated useful economic lives using, in all cases, the straight line method of depreciation. Leasehold improvements are depreciated on a straight line basis over the the lesser of the estimated useful life of the improvements or the unexpired period of the lease.

Depreciation and amortisation rates (useful lives) and the methods used are reviewed at each balance date and necessary adjustments are recognised in the current period, or current and future periods, as appropriate. Residual values are re-estimated for a change in price only when an asset is revalued.

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

	2004-05	2003-04
Infrastructure, plant and equipment	**3–5 years**	3–5 years
Computer software developed in-house	**10 years**	10 years
Leasehold improvements	**Term of lease**	Term of lease

The aggregate amount of depreciation and amortisation allocated for each class of asset during the reporting period is disclosed at Note 7C.

1.12 – Impairment of non-current assets

Non-current assets carried at up-to-date fair value at the reporting date are not subject to impairment testing.

Non-current assets carried at cost and held to generate net cash inflows have been tested for their recoverable amounts at the reporting date. The test compared the carrying amounts against the net present value of future net cash inflows.

No write-down to recoverable value was required (30 June 2004: nil).

The non-current assets carried at cost, which are not held to generate net cash inflows, have been assessed for indications of impairment. Where indications of impairment exist, the carrying amount of the asset is compared to its selling price and depreciated replacement cost and is written down to the higher of the two amounts, if necessary.

1.13 – 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 where the amount of GST incurred is not recoverable from the Australian Taxation Office; and
- except for receivables and payables.

1.14 – Comparative figures

Comparative figures have been adjusted to conform to changes in presentation in these financial statements where required.

1.15 – Insurance

The FRDC has insured for risks through the Australian Government's Comcover. Workers compensation is insured through the Australian Government's Comcare.

Notes to and forming part of the financial statements for the year ended 30 June 2005

1.16 – Intangibles

The FRDC's intangibles are made up of internally developed software for internal use. The assets are carried at cost.

Software is amortised on a straight line basis over its anticipated useful life. Based on historical experience, the useful life of FRDC's software is 10 years. This is unchanged from the previous year.

All software assets were assessed for impairment as at 30 June 2005. None were found to be impaired.

Note 2: Adoption of Australian Equivalents to International Financial Reporting Standards from 2005-2006

The Australian Accounting Standards Board has issued replacement Australian Accounting Standards to apply from 2005-06. The new standards are the Australian Equivalents to International Financial Reporting Standards (AEIFRS). The International Financial Reporting Standards are issued by the International Accounting Standards Board. The new standards cannot be adopted early. The standards being replaced are to be withdrawn with effect from 2005-06, but continue to apply in the meantime, including reporting periods ending on 30 June 2005.

The purpose of issuing Australian Equivalents to IFRSs is to enable Australian entities reporting under the Corporations Act 2001 to be able to more readily access overseas capital markets by preparing their financial reports according to accounting standards more widely used overseas.

For-profit entities complying with AEIFRS will be able to make an explicit and unreserved statement of compliance with International Financial Reporting Standards (IFRS) as well as a statement that the financial report has been prepared in accordance with Australian Accounting Standards.

AEIFRS contain certain additional provisions that will apply to not-for-profit entities, including not-for-profit Australian Government Authorities. Some of these provisions are in conflict with IFRSs, therefore FRDC will only be able to assert that the financial report has been prepared in accordance with Australian Accounting Standards.

Accounting Standard AASB 1047 *Disclosing the Impacts of Adopting Australian Equivalents to International Financial Reporting Standards* requires that the financial report for 2004-05 disclose:

- an explanation of how the transition to AEIFRS is being managed;
- narrative explanations of the key policy differences arising from the adoption of AEIFRS;
- any known or reliably estimable information about the impacts on the financial report had it been prepared using the Australian equivalents to IFRS; and
- if the impacts of the above are not known or reliably estimable, a statement to that effect.

Where an entity is not able to make a reliable estimate, or where quantative information is not known, the entity should update the narrative disclosures of the key differences in accounting policies that are expected to arise from the adoption af AEIFRS.

The purpose of this note is to make these disclosures.

Notes to and forming part of the financial statements for the year ended 30 June 2005

Note 2: Adoption of Australian Equivalents to International Financial Reporting Standards from 2005-2006 (cont'd)

Management of the transition to AEIFRS

- FRDC has taken the following steps for the preparation towards the implementation of AEIFRS:
- FRDC's Finance, Audit and Risk Management Committee is tasked with oversight of the transition to and implementation of AEFIRS. The Business Development Manager is formally responsible for the project and reports regularly to the Committee on progress against the plan approved by the Committee.
- The plan requires the following key steps to be undertaken and sets deadlines for their achievement:
    - All major accounting policy differences between current AASB standards and AEIFRS were identified by 30 June 2004;
    - System changes necessary to be able to report under the AEIFRS, including those necessary to capture data under both sets of rules for 2004-05 were completed by 30 June 2004.

      This included the testing and implementation of these changes;
    - A transitional balance sheet as at 1 July 2004 under AEIFRS was completed and presented to the Finance, Audit and Risk Management Committee;
    - An AEIFRS compliant balance sheet was also prepared during the first half of 2005; and
    - The 2004-05 Balance Sheet under AEIFRS will be reported to the Department of Finance and Administration in line with their reporting deadlines.
- The plan also addresses the risks to successful achievement of the above objectives and includes stratergies to keep implementation on track to meet deadlines.
- Consultants were engaged where necessary to assist with each of the above steps.

Major changes in accounting policy

FRDC believes that the first financial report prepared under AEIFRS ie at 30 June 2006, will be prepared on the basis that FRDC will be a first time adopter under AASB 1 *First-time Adoption of Australian Equivalents to International Financial Reporting Standards.* Changes in accounting policies under AEIFRS are applied retrospectively i.e. as if the new policy had always applied except in relation to the exemptions available and prohibitions under AASB 1. This means that an AEIFRS complaint balance sheet has to be prepared as at 1 July 2004. This will enable the 2005-06 financial statements to report comparatives under AEIFRS.

A first time adopter of AEIFRS may elect to use exemptions under paragraphs 13 to 25E. When developing the accounting policies applicable to the preparation of the 1 July opening balance sheet, no exemptions were applied by FRDC.

Notes to and forming part of the financial statements for the year ended 30 June 2005

Note 2: Adoption of Australian Equivalents to International Financial Reporting Standards from 2005-2006 (cont'd)

Changes to major accounting policies are discussed in the following paragraphs.

Management's review of the quantitative impacts of AEIFRS represents the best estimate of the impacts of the changes as at reporting date. The actual effects of the impacts of AEIFRS may differ from these estimates due to:

- continuing review of the impacts of AEIFRS on FRDC's operations;
- potential amendments to the AEIFRS and AEIFRS Interpretations; and
- emerging interpretation as to the accepted practice in the application of AEIFRS and the AEIFRS Interpretations.

Property, plant and equipment
It is expected that the 2005-06 Finance Minister's Orders will continue to require property, plant and equipment assets to be valued at fair value in 2005-06.

Intangible Assets
FRDC recognises internally developed software assets on a cost basis. This is consistent with AEIFRS.

Impairment of Non-Current Assets
FRDC's policy on impairment of non-current assets is at note 1.13.

Under AEIFRS these assets will be subject to assessment for impairment and, if there are indications of impairment, measurement of any impairment (impairment measurement must also be done, irrespective of any indications of impairment, for intangible assets not yet available for use). The impairment test is that the carrying amount of an asset must not exceed the greater of (a) its fair value less costs to sell and (b) its value in use. 'Value in use' is the net present value of net cash inflows for cash generating units assets of FRDC and depreciated replacement cost for other assets that would be replaced if FRDC were deprived of them.

The most significant changes are that, for FRDC's for-profit assets, the recoverable amount is only generally to be measured where there is an indication of impairment and that assets carried at up-to-date fair value, whether for-profit or not, may nevertheless be required to be written down if costs to sell are significant.

Employee Benefits
The provision for long service leave is measured at the present value of estimated future cash outflows using a discount factor of 0.95 as recommended in Finance Brief 13.

AEIFRS also require that annual leave that is not expected to be taken within 12 months of balance date is to be discounted. After assessing the staff leave profile, FRDC does not expect that any amounts material to FRDC`s net profit will not be taken in the next 12 months. Consequently, there are no adjustments for non-current annual leave.

Notes to and forming part of the financial statements for the year ended 30 June 2005

Note 2: Adoption of Australian Equivalents to International Financial Reporting Standards from 2005-2006 (cont'd)

Financial Instruments

AEIFRS include an option for entities not to restate comparitive information in respect of financial instruments in the first AEIFRS report. It is expected that Finance Minister's Orders will require entities to use this option. Therefore, the amounts for financial instruments presented in the FRDC's 2004-05 primary financial statements are not expected to change as a result of the adoption of AEIFRS.

FRDC will be required by AEIFRS to restate the carrying amount of financial instruments at 1 July 2005 to align with the accounting policies required by AEIFRS. It is expected that the carrying amounts of all of the financial instruments held by FRDC will be unaffected by this requirement.

Reconciliation of Impacts - AGAAP to AEIFRS

The implementation and adoption of AEIFRS is not expected to result in any changes to FRDC's equity as at 30 June 2004 and 2005, or to FRDC's net profit for the years ended 30 June 2004 or 2005.

Notes to and forming part of the financial statements for the year ended 30 June 2005

Note 3: Reporting of outcomes

The FRDC operates primarily in a single industry and geographic segment, namely the Australian fishing industry. It is a federal statutory authority jointly funded by the Australian Government and the fishing industry. It is responsible to its stakeholders to:

- plan, invest in and manage fisheries R&D throughout Australia; and
- facilitate the dissemination, adoption and commercialisation of R&D results.

The FRDC is structured to meet three outcomes:

Outcome 1: The natural resources on which the commercial, recreational and customary sectors of the fishing industry depend are used in an ecologically sustainable way.

Outcome 2: The commercial sector of the Australian fishing industry is profitable and internationally competitive; the commercial, recreational and traditional sectors are socially resilient.

Outcome 3: The knowledge and skills of people in and supporting the Australian fishing industry, and in the wider community, are developed and used so that Australians derive maximum economic, environmental and social benefits from fisheries R&D.

One Output Group is identified for each Outcome.

Output 1: Knowledge, processes and technology that contribute to the use, in an ecologically sustainable way, of the natural resources on which the fishing industry depends.

Output 2: Knowledge, processes and technology that contribute to making the:

- commercial sector of the Australian fishing industry profitable and internationally competitive; and
- commercial, recreational and traditional sectors socially resilient.

Output 3: Knowledge, processes and technology that contribute to developing the knowledge and skills of people in and supporting the Australian fishing industry and in the wider community, so that Australians derive maximum economic, environmental and social benefits from fisheries research and development.

Notes to and forming part of the financial statements for the year ended 30 June 2005

Note 3: Reporting of outcomes

	Outcome Group 1		Outcome Group 2		Outcome Group 3		Total	
	2004-05	2003-04	2004-05	2003-04	2004-05	2003-04	2004-05	2003-04
	$000	$000	$000	$000	$000	$000	$000	$000
Operating revenues								
Revenues from Government	**10,138**	10,632	**5,914**	6,202	**845**	886	**16,897**	17,720
Contributions	**6,719**	6,932	**3,920**	4,043	**560**	578	**11,199**	11,553
Sale of goods and services	**37**	32	**22**	19	**3**	3	**62**	54
Other non taxation revenues	**145**	182	**85**	106	**12**	15	**242**	303
Total operating revenues	**17,039**	17,778	**9,941**	10,370	**1,420**	1,482	**28,400**	29,630
Operating expenses								
Employees	**941**	800	**549**	467	**78**	67	**1,568**	1,334
Suppliers	**552**	488	**322**	284	**46**	41	**920**	813
Depreciation and amortisation	**122**	99	**71**	58	**10**	8	**203**	165
Projects expenditure	**15,342**	15,076	**8,949**	8,795	**1,278**	1,256	**25,569**	25,127
Other	**480**	400	**280**	233	**40**	33	**800**	666
Total operating expenses	**17,437**	16,863	**10,171**	9,837	**1,452**	1,405	**29,060**	28,105
Total assets deployed as at 30 June 2005	**1,889**	2,516	**1,102**	1,468	**157**	210	**3,148**	4,194
Total net assets deployed as at 30 June 2005	**1,090**	1,428	**636**	833	**91**	119	**1,817**	2,380

Notes to and forming part of the financial statements for the year ended 30 June 2005

Note 4: Economic dependency

The FRDC was established on 2 July 1991 under the PIERD Act. The Corporation is responsible to the Minister for Agriculture, Fisheries and Forestry; the Parliamentary Secretary to the Minister for Agriculture, Fisheries and Forestry; and the Minister for Fisheries, Forestry and Conservation.

The FRDC is dependent on appropriations from the Parliament of the Australia for its continued existence and ability to carry out its normal activities.

Note 5: Events occurring after reporting date

There are no events occurring after reporting date to report.

Note 6: Operating revenues

6A – Revenues from Government

	30 June 2005 $	30 June 2004 $
Revenues from Government		
- 0.5% of AGVP *	**11,471,068**	11,956,175
- matching of industry contributions	**5,426,313**	5,763,718
Total revenues from government	**16,897,381**	17,719,893

* AGVP is the average gross value of fisheries production for the three preceding financial years.

The Australian Government's contribution of 0.5 % of AGVP is made on the grounds that it exercises a stewardship role in relation to fisheries resources on behalf of the Australian community.

The matching of the industry contribution (up to 0.25 % of AGVP) by the Australian Government 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.†

† As described on page 18 of the FRDC's R&D Plan 2005 to 2010.

Notes to and forming part of the financial statements for the year ended 30 June 2005

6B – Contributions revenue

	30 June 2005 $	30 June 2004 $
Fisheries managed by:		
Australian Fisheries Management Authority	**1,730,806**	1,757,908
Australian Capital Territory	**9,000**	19,000
New South Wales	**417,417**	335,807
Northern Territory	**107,626**	155,000
Queensland	**700,249**	745,341
South Australia	**1,118,069**	1,145,391
Tasmania	**722,500**	636,000
Victoria	**252,548**	235,470
Western Australia	**1,507,714**	1,511,406
Sub-total	**6,565,929**	6,541,323
Projects		
Project funds received from other parties	**4,543,342**	4,890,630
Project refunds of prior years' expenditure	**89,326**	120,881
Sub-total	**4,632,668**	5,011,511
Total contributions revenue	**11,198,597**	11,552,834

Industry's contribution to the FRDC recognises the need for R&D that will be commercially oriented and that will deliver results that will improve industry performance and profitability.

6C – Interest revenue

	30 June 2005 $	30 June 2004 $
Deposits	**242,075**	304,150
Total interest revenue	**242,075**	304,150

6D – Other revenue

	30 June 2005 $	30 June 2004 $
Other – miscellaneous	**2,159**	293
Total other revenue	**2,159**	293

6E – Sales of goods and services

	30 June 2005 $	30 June 2004 $
Sale of goods to external entities	**62,237**	53,150
Total sales of goods and services	**62,237**	53,150

Cost of Sales

Sales of goods and services includes the sale of reports published as a result of projects and licencing fees for the use of FRDC developed software. No meaningful cost of sales figure can be determined due to the nature of these sales.

Notes to and forming part of the financial statements for the year ended 30 June 2005

6F - Reversal of previous asset write-downs

	30 June 2005 $	30 June 2004 $
Asset revalution increment	24,584	0
Total reversals of previous asset write-downs	24,584	0

Notes to and forming part of the financial statements for the year ended 30 June 2005

Note 7: Operating expenses

7A – Employee expenses

The basis for employee remuneration is detailed at Note 1.5.

	30 June 2005 $	30 June 2004 $
Remuneration (for services provided)		
Wages and salaries (includes leave and other entitlements)	1,127,581	1,082,828
Separation and redundancy	97,212	0
Superannuation	204,468	195,469
Other employee benefits-recruitment costs	134,105	50,003
Total employee benefits expenses	1,563,366	1,328,300
Workers compensation premiums	4,865	5,269
Total employee expenses	1,568,231	1,333,569

FRDC employees contribute to the Commonwealth Superannuation Scheme (CSS), the Public Sector Superannuation Scheme (PSS) or other elected schemes as appropriate, which provide retirement, death and disability benefits to employees.

Contributions to the schemes are at rates calculated to cover existing and emerging obligations. Contribution rates from 1 July 2004 to 30 June 2005 are 25.3% of salary for CSS members and 12.4% of salary for PSS members.

The FRDC also pays an employer productivity superannuation contribution for its employees in accordance with the *Superannuation (Productivity Benefit) Act 1988.*

Notes to and forming part of the financial statements for the year ended 30 June 2005

Note 7: Operating expenses
7B – Supplier expenses

	30 June 2005 $	30 June 2004 $
Audit fees	**9,000**	9,000
External service providers	**374,546**	349,117
Asset purchases less than $5,000	**64,408**	27,549
Insurance	**25,319**	24,690
Office supplies	**68,625**	42,969
Property	**96,808**	88,724
Representation	**26,336**	20,675
Telecommunications	**35,243**	35,825
Training	**35,055**	38,510
Travel	**153,864**	141,579
Other	**30,652**	34,103
Total suppliers expenses	**919,856**	812,741

All supplier goods and services were supplied by external entities.

7C – Depreciation and amortisation

	30 June 2005 $	30 June 2004 $
Amortisation of intangibles	**118,226**	86,510
Depreciation of infrastructure, plant and equipment	**84,641**	78,674
Total depreciation and amortisation	**202,867**	165,184

The aggregate amounts of depreciation or amortisation expensed during the reporting period for each class of depreciable asset are as follows:

Infrastructure, plant and equipment	**84,641**	78,674
Computer software	**118,226**	86,510
Total depreciation and amortisation	**202,867**	165,184

7D – Write-down of assets

	30 June 2005 $	30 June 2004 $
Infrastructure, plant and equipment – revaluation decrement	**0**	10,620
Write down of trademarks	**0**	12,560
Total write-down of assets	**0**	23,180

Notes to and forming part of the financial statements for the year ended 30 June 2005

Note 8: Projects expenditure

	30 June 2005 $	30 June 2004 $
Projects (1)		
Natural Resources Sustainability	**13,855,825**	13,838,321
Industry Development	**10,769,808**	9,610,616
People Development	**544,583**	624,607
Aquatic animal health activities funded by the Australian Government initiative 'Building a national approach to animal and plant health'	**399,206**	1,053,886
Total project expenditure	**25,569,422**	25,127,430

(1) Project expenditure is consistent with the expenditure classification of "Grants" according to Schedule 1 of the Finance Minister's Orders made under the *Commonwealth Authorities and Companies Act 1997*.

Note 9: Operating expenses – other

	30 June 2005 $	30 June 2004 $
Communications		
Annual Report	**53,854**	67,912
ANRO	**32,487**	23,488
Fisheries Research Advisory Bodies	**184,905**	169,992
FRDC initiated project extension	**1,897**	66,338
Joint RDC activities	**14,858**	14,634
Media activities	**34,227**	24,614
Other stakeholder consultation	**71,679**	8,576
R&D News	**174,741**	164,560
R&D Plan	**114,398**	4,440
Representative organisations consultation(1)	**15,664**	7,937
Website	**43,311**	21,497
Other	**58,345**	68,887
Total other expenditure	**800,366**	642,875

(1) Representative organisations consultation relates to expenses incurred by the FRDC in accordance with section 15 of the PIERD Act.

Note 10: Borrowing costs expense

	30 June 2005 $	30 June 2004 $
Interest on overdraft facilities	**0**	199
Total interest expense	**0**	199

Notes to and forming part of the financial statements for the year ended 30 June 2005

Note 11: Financial assets

11A – Receivables

	30 June 2005 $	30 June 2004 $
GST receivable	**208,121**	338,548
Other receivables	**1,294,398**	1,842,795
Total receivables (net)	**1,502,519**	2,181,343
All receivables are current assets.		
Receivables (gross) are aged as follows:		
Not overdue	**1,502,519**	2,181,343
Overdue by:		
Less than 30 days	**0**	0
30 to 60 days	**0**	0
60 to 90 days	**0**	0
More than 90 days	**0**	0
	0	0
Total receivables	**1,502,519**	2,181,343

Included in other receivables are deposits which the FRDC has paid to underwrite conferences. In the event that conference revenues do not exceed conference expenditure, the excess expenditure will be recovered from these deposits. However, the FRDC expects that all conferences will generate sufficient revenues to cover expenditure and that the deposits will be refunded.

11B – Other Investments

	30 June 2005 $	30 June 2004 $
Shares in other company - unlisted	**5,001**	5,001
Total other investments	**5,001**	5,001

Shares in unlisted company

Australian Seafood Co-Products Pty Ltd (ASCO) is an unlisted company in which 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 agricullture fertiliser products and the development of production facilities for those products. The shares are carried at cost.

Notes to and forming part of the financial statements for the year ended 30 June 2005

Note 12: Non-financial assets

12A – Infrastructure, plant and equipment

	30 June 2005 $	30 June 2004 $
Infrastructure, plant and equipment -- at fair value	**464,496**	339,177
Accumulated depreciation	**(265,485)**	(201,796)
Total infrastructure, plant and equipment	**199,011**	137,381

All revaluations are independent and are conducted in accordance with the revaluation policy stated in Note 1.

	30 June 2005 $	30 June 2004 $
Movement in Asset Revaluation Reserve		
Increment for infrastructure, plant and equipment	**71,423**	0
	71,423	0
Increment for infrastructure, plant and equipment reversed and recognised as revenue (note 6F)	**24,584**	0

12B – Intangibles

	30 June 2005 $	30 June 2004 $
Computer software (internally developed in use)	**1,404,640**	1,103,168
Accumulated amortisation	**(257,696)**	(139,470)
	1,146,944	963,698
Total intangibles	**1,146,944**	963,698

Notes to and forming part of the financial statements for the year ended 30 June 2005

Note 12C – Analysis of infrastructure, plant and equipment and intangibles.

		Infrastructure, plant and equipment $	Intangibles $	Total $
Gross value at 1 July 2004		339,177	1,103,168	**1,442,345**
Additions - purchase of assets		50,264	301,472	**351,736**
Write off		0	0	**0**
Net revaluation increment/decrement		75,054	0	**75,054**
Disposals		0	0	**0**
Gross value at 30 June 2005		464,495	1,404,640	**1,869,135**
Accumulated depreciation/amortisation at	**30 June 2004**	201,796	139,470	**341,266**
Adjustment for disposals		0	0	**0**
Depreciation/amortisation expense		84,641	118,226	**202,867**
Adjustment for write-offs		0	0	**0**
Net revaluation increment/decrement		(20,953)	0	**(20,953)**
Accumulated depreciation/amortisation at	**30 June 2005**	265,484	257,696	**523,180**
Net book value at	**30 June 2005**	199,011	1,146,944	**1,345,955**
Net book value at	**30 June 2004**	137,381	963,698	**1,101,079**

In accordance with the FRDC's accounting policy (refer Note 1.12), items under the infrastructure, plant and equipment heading were revalued at their fair value, effective 30 June 2005, by the Australian Valuations Office.

Notes to and forming part of the financial statements for the year ended 30 June 2005

12D – Other Non-Financial Assets

	30 June 2005 $	30 June 2004 $
Prepayments	0	25,137
Total other non-financial assets	**0**	25,137

Note 13: Provisions

13A – Employee Provisions

	30 June 2005 $	30 June 2004 $
Leave	312,006	344,888
Aggregate employee entitlement liability	**312,006**	344,888
Current	**146,568**	214,217
Non-current	**165,438**	130,671
	312,006	344,888

Note 14: Payables

14A – Supplier Payables

	30 June 2005 $	30 June 2004 $
Trade creditors	39,056	35,717
FBT Payable	382	2,504
PAYG payable	27,377	28,621
Total supplier payables	**66,815**	66,842

All supplier payables are current liabilities.

Trade Creditors
Settlement is usually made net 30 days.

14B – Project Payables

	30 June 2005 $	30 June 2004 $
Project creditors	188,306	111,404
Total project creditors	**188,306**	111,404

All project payables are current liabilities.

Project creditors 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 were unpaid at the end of the period. Settlement is usually made within 60 days.

Notes to and forming part of the financial statements for the year ended 30 June 2005

14C – Other Payables

	30 June 2005 $	30 June 2004 $
Unearned revenue:		
DAFF - Aquatic Animal Health	**282,891**	431,661
DAFF - Securing the Future	**43,530**	0
South Australian Government	**433,461**	829,549
Other	**4,000**	30,000
Total unearned revenue	**763,882**	1,291,210

All unearned revenue is recognised as a current liability.

Moneys paid by:
- DAFF (against the Aquatic Animal Health and Securing the Future contracts), and
- the South Australian Government (against "The Initiative to develop outputs relating to the ecological sustainable development of aquaculture")

are initially shown as unearned revenue in the Statement of Financial Position. When project payments are made for milestones achieved, unearned revenue is recognised as project income received from other parties.

Notes to and forming part of the financial statements for the year ended 30 June 2005

Note 15: Analysis of equity

Item	Accumulated profits		Asset revaluation reserve		Total equity	
	2004–05 $	2003–04 $	**2004–05** $	2003–04 $	**2004–05** $	2003–04 $
Opening balance at 1 July 2004	**2,379,356**	854,214	**0**	0	**2,379,356**	854,214
Net surplus/deficit	**(633,709)**	1,525,142	**0**	0	**(633,709)**	1,525,142
Net revaluation increment/(decrement)	**0**	0	**71,423**	0	**71,423**	0
Closing balance at 30 June 2005	**1,745,647**	2,379,356	**71,423**	0	**1,817,070**	2,379,356
Total equity attributable to the Australian Government	**1,745,647**	2,379,356	**71,423**	0	**1,817,070**	2,379,356

Notes to and forming part of the financial statements for the year ended 30 June 2005

Note 16: Cash flow reconciliation

16A – Reconciliation of operating surplus to net cash from operating activities

	30 June 2005 $	30 June 2004 $
Operating surplus before extraordinary items	**(633,709)**	1,525,142
Non-cash items		
Depreciation and amortisation	**202,867**	165,184
Net write down of non-current assets	**0**	23,180
Revaluation of assets	**(24,584)**	0
Changes in assets and liabilities		
(Increase)/decrease in receivables and other non-financial assets	**703,961**	(1,660,017)
Increase/(decrease) in supplier payables	**(27)**	2,951
Increase/(decrease) in other payables	**(527,328)**	(693,360)
Increase/(decrease) in employee provisions	**(32,882)**	40,564
Increase/(decrease) in project payables	**76,902**	111,404
Net cash used by operating activities	**(234,800)**	(484,952)

16B – Reconciliation of cash

	30 June 2005 $	30 June 2004 $
Cash balance comprises:		
Cash at bank	**294,304**	880,840
Cash on hand	**300**	300
Total cash on hand and at bank	**294,604**	881,140
Total cash	**294,604**	881,140
Balance of cash as at 30 June 2005 shown in the Statement of Cash Flows	**294,604**	881,140

Cash

Temporarily surplus funds are placed on deposit at call with FRDC's banker. Interest is earned on the daily balance at the prevailing daily rate for money on call and is paid at month end.

Notes to and forming part of the financial statements for the year ended 30 June 2005

Note 17: Director remuneration

	30 June 2005 $	30 June 2004 $
Other remuneration received or due and receivable by directors of FRDC(1)	724,146	396,618
Total remuneration received, or due and receivable, by directors of FRDC	**724,146**	396,618

The basis for directors' remuneration is detailed at Note 1.5.
The Government Director, Mr G. Hurry, received no remuneration.
(1) The Executive Director, Mr P. Dundas-Smith, retired 20 April 2005 and was paid accrued long service leave, annual leave entitlements and a separation payment. There were no superannuation payments in connection with the retirement of directors.

The number of directors of the FRDC included in these figures are shown below in the annual remuneration bands:

Annual remuneration bands	2004 - 05 Number	2003 - 04 Number
Directors		
0 - 9,999	1	5
10,000 - 19,999	1	4
20,000 - 29,999	5	2
30,000 - 39,999	0	1
40,000 - 49,999	1	0
200,000 - 209,999	1	0
220,000 - 229,999	0	1
330,000 - 339,999	1	0
Total number of directors of FRDC	**10**	**13**

Note 18: Related party disclosures

The Directors of the FRDC during the year were:

Mr S. Bennison	Director (Chair Finance Audit, Risk and Management Committee)
Mr D. Byrne	Chair (Chair Remuneration Committee and Chair Business Development Committee)
Mr I. Cartwright	Director
Mr P. Dundas-Smith	Executive Director (to 20 April 2005)
Mr J. Harrison	Director (to 30 April 2005)
Dr P. Hone	Acting Executive Director (from 24 December 2004 to 20 April 2005) Executive Director (from 21 April 2005)
Prof. T. Hundloe	Director
Mr G. Hurry	Government Director
Dr N. Rayns	Director
Mr S. Richey	Director (Deputy Chair)

The aggregate amount of remuneration of directors is disclosed in Note 17.

Notes to and forming part of the financial statements for the year ended 30 June 2005

Note 18: Related party disclosures (cont'd)
Transactions with director-related parties

Director	Organisation & position held	Nature of interest	Income $	Expenditure $
Mr D.Byrne	Horticulture Australia *Director*	Research projects or work undertaken by the organisation	0	379
Mr I.Cartwright	Australian Fisheries Management Authority *Director*	Research projects or work undertaken by the organisation	2,191,854	528,141
Mr S.Bennison	National Aquaculture Council *Chief Executive Officer*	Research projects or work undertaken by the organisation	24,717	266,486
	Seafood Services Australia Ltd *Director*	Research projects or work undertaken by the organisation	2,115	931,775
Mr P. Dundas-Smith	CRC for Sustainable Aquaculture of Finfish *Director*	Research projects or work undertaken by the organisation	1,519,866	0
	Seafood Services Australia Ltd *Director*	Research projects or work undertaken by the organisation	777	569,584
Mr J.Harrison	Northern Territory Department of Business, Industry and Resource Development *Member of NT Mud Crab MAC, NT SpanishMackerel MAC & NT Barramundi MAC*	Research projects or work undertaken by the organisation	0	8,544
	Recfish Australia *Chief Executive Officer*	Research projects or work undertaken by the organisation	0	225
Dr P.Hone	CRC for Sustainable Aquaculture of Finfish *Director*	Research projects or work undertaken by the organisation	1,978,517	15,265
Prof.T.Hundloe	University of Queensland *Head of Technology Management*	Research projects or work undertaken by the organisation	0	65,284

Notes to and forming part of the financial statements for the year ended 30 June 2005

Note 18: Related party disclosures (cont'd)
Transactions with director-related parties

Director	Organisation & position held	Nature of interest	Income $	Expenditure $
Mr G.Hurry	Department of Agriculture Fisheries and Forestry *General Manager Fisheries and Aquaculture*	Research projects or work undertaken by the organisation	18,680,582	1,629,007
	Bureau of Rural Sciences *General Manager Fisheries and Aquaculture*	Research projects or work undertaken by the organisation	0	222,635
	Deakin University *Member*	Research projects or work undertaken by the organisation	0	0
Dr N.Rayns	NSW Fisheries *Executive Director Aquaculture and Sustainable Fisheries*	Research projects or work undertaken by the organisation	478,373	1,548,062
Mr S.Richey	Australian Fisheries Management Authority *Chairman of Northern Prawn Management Advisory Committee*	Research projects or work undertaken by the organisation	2,191,854	528,141
	Seafood Services Australia Ltd *Spouse of Director*	Research projects or work undertaken by the organisation	2,115	931,775
	Tasmanian Fishing Industry Council *Director*	Research projects or work undertaken by the organisation	0	37,092

All transactions were conducted under normal terms and conditions.

Notes to and forming part of the financial statements for the year ended 30 June 2005

Note 19: Remuneration of officers

The remuneration of officers includes all officers with the exception of the Executive Directors who:

- are concerned with, or took part in, the management of the economic entity during 2004–05; and
- as at 30 June 2005 received total annual remuneration of $100,000 or more.

Details in relation to the Executive Directors are incorporated in Note 17.

	30 June 2005 $	30 June 2004 $
The aggregate amount of total remuneration of officers shown below is	**200,420**	362,852

The basis for officers' remuneration is detailed at Note 1.5.

The number of officers of the FRDC who received remuneration of $100,000 or more:

Annual remuneration bands	2004 - 05 Number	2003 - 04 Number
Officers		
170,000 - 179,999	**0**	1
180,000 - 189,999	**0**	1
200,000 - 209,999	**1**	0
Total	**1**	2

Note 20: Remuneration of auditors

	30 June 2005 $	30 June 2004 $
Amounts received or due and receivable by the Australian National Audit Office as auditors of FRDC	**9,000**	9,000

Deloitte Touche Tohmatsu are contracted by the Australian National Audit Office to provide audit services on the ANAO's behalf. Fees for these services are included above. No other services were provided by the Auditor-General or Deloitte Touche Tohmatsu during the reporting period.

Note 21: Average staffing levels

	2004 - 05	2003 - 04
Average staffing levels during the year	10	10

Notes to and forming part of the financial statements for the year ended 30 June 2005

Note 22: Financial instruments
22A – Terms, conditions and accounting policies

Financial instrument	Note	Accounting policies and methods (including recognition criteria and measurement basis)	Nature of underlying instrument (including significant terms and conditions affecting the amount, timing and certainty of cash flows)
Financial assets		Financial assets are recognised when control over future economic benefits is established and the amount of the benefit can be reliably measured.	
Deposits at call		Deposits are recognised at their nominal amounts. Interest is credited to revenue as it accrues.	Temporarily surplus funds are placed on deposit at call with the Corporation's banker. Interest is earned on the daily balance at the prevailing daily rate of money on call and is paid at the month end.
Receivables for goods and services	11A	Receivables are recognised at the nominal amounts due, less any allowance for bad and doubtful debts. Allowances are made when collection of the debt is judged to be less rather than more likely.	Credit terms are net 90 days.
Financial liabilities		Financial liabilities are recognised when a present obligation to another party is entered into and the amount of the liability can be reliably measured.	
Trade creditors	14A	Creditors and accruals are recognised at their nominal amounts being the amount at which the liabilities will settle. Liabilities are recognised to the extent that goods and services have been received (and irrespective of having been invoiced).	Settlement is normally made 60 days after receipt of an invoice.

Notes to and forming part of the financial statements for the year ended 30 June 2005

22B – Interest rate risk

Financial instrument	Note	Floating interest rate		Fixed interest rate						Non-interest bearing		Total		Weighted average effective interest rate	
				2004-05			2003-04								
		2004-05	2003-04	1 year or less	1 to 5 years	> 5 years	1 year or less	1 to 5 years	> 5 years	2004-05	2003-04	2004-05	2003-04	2004-05	2003-04
Financial assets															
Cash at bank	16B	**294,304**	880,840									**294,304**	880,840	**1.50%**	1.50%
Cash on hand	16B									**300**	300	**300**	300	**n/a**	n/a
Other receivables	11A									**1,294,398**	1,842,795	**1,294,398**	1,842,795	**n/a**	n/a
Shares (not associate)	11B									**5,001**	5,001	**5,001**	5,001	**n/a**	n/a
Total		**294,304**	880,840	**0**	**0**	**0**	0	0	0	**1,294,698**	1,843,095	**1,594,003**	2,728,936		
Total assets												**3,148,079**	4,193,700		
Financial liabilities															
Trade creditors	14A									**39,056**	35,717	**39,056**	35,717	**n/a**	n/a
Project creditors	14B									**188,306**	111,404	**188,306**	111,404	**n/a**	n/a
Unearned revenue	14C									**763,882**	1,291,210	**763,882**	1,291,210	**n/a**	n/a
Total		**0**	0	**0**	**0**	**0**	0	0	0	**991,244**	1,438,331	**991,244**	1,438,331		
Total liabilities												**1,331,009**	1,814,344		

22C – Net fair values of financial assets

	Notes	2004 - 05 Total carrying amount	2004 - 05 Aggregate net fair value	2003 - 04 Total carrying amount	2003 - 04 Aggregate net fair value
Financial assets					
Cash at bank	16B	**294,304**	**294,304**	880,840	880,840
Cash on hand	16B	**300**	**300**	300	300
Other receivables	11A	**1,294,398**	**1,294,398**	1,842,795	1,842,795
Shares (not associates)	11B	**5,001**	**5,001**	5,001	5,001
		1,594,003	**1,594,003**	2,728,936	2,728,936
Financial liabilities					
Trade creditors	14A	**39,056**	**39,056**	35,717	35,717
Project creditors	14B	**188,306**	**188,306**	111,404	111,404
Unearned revenue	14C	**763,882**	**763,882**	1,291,210	1,291,210
		991,244	**991,244**	1,438,331	1,438,331

Financial assets

The net fair values of cash, deposits at call and non-interest-bearing monetary financial assets approximate their carrying amounts.
The net fair value of the shares cannot be readily determined as there is no active market.

Financial liabilities

The net fair values for trade, project and other payables, all of which are short term in nature, are approximated by their carrying amounts.

Notes to and forming part of the financial statements for the year ended 30 June 2005

22D – Credit risk exposure

The FRDC's maximum exposures to credit risk at the reporting date in relation to each class of recognised financial assets is the carrying amount of those assets as indicated in the Statement of Financial Position.

The FRDC has no significant exposure to any concentration of credit risk.

All figures for credit risk referred to do not take into account the value of any collateral or other security.

Note 23: Other related parties

The FRDC is one of two members of Seafood Services Australia Limited (SSA), a company limited by guarantee. Although the FRDC has significant influence over SSA, the FRDC has no ownership interest in SSA that would require the application of AAS14 "Accounting for Investments in Associates". The constitution of SSA prohibits the distribution of any assets and income to its members, except as bona fide compensation for services rendered or expenses incurred on behalf of SSA. On the winding up of SSA, any amounts remaining after the satisfaction of all debts and liabilities must be transferred to any corporation with similar objectives to SSA that is not carried on for the profit or gain of its individual members.

During the year, the FRDC paid a total of $782,881 to SSA by way of grant funding. As at 30 June 2005 SSA had total assets of $691,039; total liabilities of $681,802; and for the year then ended made a deficit from ordinary activities of $20,895.

Note 24: Contingent liabilities and assets

The FRDC has no contingent liabilities and assets.

Unquantifiable contingencies
Nil
Remote contigencies
Nil

APPENDICES

APPENDIX A:
The FRDC's principal revenue base

As stipulated in the PIERD Act, and as shown in figure 8, the FRDC's primary revenue source is based on:

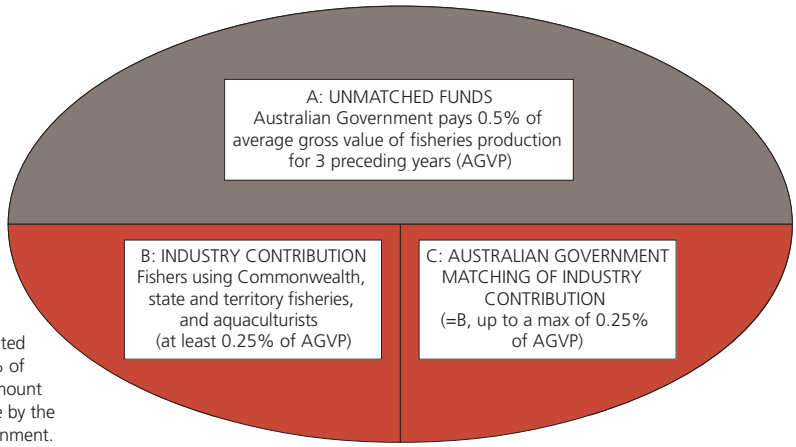
- the Australian Government providing unmatched funds equivalent to 0.5 per cent of the average gross value of Australian fisheries production for the three preceding years (AGVP);
- fishers and aquaculturists providing contributions of at least 0.25 per cent of AGVP; and
- the Australian Government 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 89.

FIGURE 8: PROPORTIONS OF THE FRDC'S PRINCIPAL REVENUE BASE



In 2004–05, the industry contributed more than 114% of the maximum amount that is matchable by the Australian Government.

RATIONALE FOR THE FRDC'S REVENUE BASE

The high component of public good in the operating environment of wild-catch fishing, has significance for the FRDC's revenue base. The Australian Government's contribution of 0.5 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 R&D 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.

APPENDIX B:

Principal legislative requirements for reporting

This annual report complies with many requirements of Commonwealth legislation. The principal reporting requirements of the foremost legislation, 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) to include, among other things:[1]

- 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.

1 The sub-paragraphs are an edited version of clauses 8 to 18 of the CAC (Report of Operations) Orders 2002.

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 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 overleaf, 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 visions and mission, and are the basis for the planned outcomes of the three R&D 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 three R&D programs (pages 24–58) addresses this requirement.
- *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 via this annual report and in more detail in 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 Program 4 — the Management and Accountability Program.

A compliance index (on page 140) shows the page numbers on which the FRDC has reported on matters specified in Australian Government legislation and policies.

APPENDIX C:
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) (the PIERD Act).

The FRDC Board is responsible to the Minister for Agriculture, Fisheries and Forestry; to the Parliamentary Secretary to the Minister; and to the Minister for Fisheries, Forestry and Conservation — and, through them, 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 R&D 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 R&D.

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 Parliamentary Secretary to the Minister; the Minister for Fisheries, Forestry and Conservation; 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 devises 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 following description of ministerial powers 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; the Parliamentary Secretary to the Minister; and the Minister for Fisheries, Forestry and Conservation. They relate to:

- directing the FRDC in writing as to the performance of its functions and the exercise of its powers;
- approving the R&D plan and the annual operational plan;
- requesting and approving variation to the R&D 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 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 and Government Director;
- appointing directors, other than the Chairperson, Government Director 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 *Commonwealth Authorities and Companies Act 1997* relating to corporate governance and reporting are available to the Minister for Agriculture, Fisheries and Forestry; the Parliamentary Secretary to the Minister; the Minister for Fisheries, Forestry and Conservation; and the Finance Minister.

Exercise of ministerial powers during 2004–05 is described on page 82.

APPENDIX D:
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.

The following statement, in conjunction with information contained this annual report, is intended to meet the requirements of section 8 of the FOI Act.

A leaflet about the FOI Act is available from the Attorney-General's Department (Robert Garran Offices, National Circuit, Barton ACT 2600; telephone 02 6250 6666; www.ag.gov.au/foi/foi%5Fact/welcome.html).

Role, structure and functions

The FRDC's role is described on page viii of this annual report; its structure and functions are described respectively on pages 132 and 133. Further information is on pages 9–10 and 18–20 of the FRDC's R&D plan. Both these publications are freely available to the public from the FRDC.

The legislation under which the FRDC is established is the *Primary Industries and Energy Research and Development Act 1989*; further information is in appendix B (page 129) and appendix C (page 132).

Documents available for inspection

The following documents are available for inspection at the FRDC office:

R&D plan (the FRDC's strategic plan)	File, publication and Internet website *
FRDC policy manual	Unpublished document
Operational procedures	Files, unpublished document
Annual operational plan	File, unpublished document
Project details	Database, files
Project agreements	Files
Final project reports	Publications; hyperlinks on FRDC website **
Non-technical summaries of final project reports	Publications and FRDC website *
R&D funding applications	Files
Annual report	File, publications and FRDC website *
R&D News	File, publications and FRDC website *
Administration	Files, unpublished document
Mailing lists	Database

* The FRDC's website address is www.frdc.com.au

** Non-technical summaries of all final reports of FRDC projects are available on the FRDC website. Hyperlinks leading to other websites containing full final reports are also on the FRDC website.

Copies of publications and reports are available on request, generally free of charge except for final project reports and related products. 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.

Sources of information currently available from the FRDC in paper publications and in electronic form are described on page 149.

Access to documents

To seek access to FRDC documents, please contact the FRDC's Business Development Manager: 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.

Unless you are seeking access to personal information about yourself, you will need to pay the standard FOI application fee of $30.00 when making your application. Additional processing charges may also 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 mail (photocopies) to an address specified in your request, or
- at the Information Access Office (established by the Attorney-General) nearest where you live.

Organisation, powers, and decisions made

The FRDC's organisation is shown in Figure 4: The FRDC's organisation and operating context on page x. The FRDC's powers are summarised in appendix C (page 132). The principal decisions made by the FRDC Board during 2004–05 are summarised in the directors' review of operations and future prospects starting on page 12. A ministerial direction is summarised on page 82, followed by ministerial notifications of policies from the Australian Government.

Arrangements for public involvement

The FRDC's relationship with its stakeholders is described on page 77 under the heading 'Representative organisations and other stakeholders'. Other aspects of public involvement are discussed in the directors' review of operations and future prospects (from page 12) and in R&D Program achievements (from page 24).

You are welcome to give your views on current policies, procedures and/or activities of the FRDC to the Executive Director; the Chairman of the FRDC Board; the Minister for Agriculture, Fisheries and Forestry; the Parliamentary Secretary; the Minister for Fisheries, Forestry and Conservation; and to any parliamentary committee that may concern itself with matters relating to the FRDC.

LIST OF ABBREVIATIONS

AFMA	Australian Fisheries Management Authority
AFMF	Australian Fisheries Management Forum
AGD	amoebic gill disease
AGVP	Australian Government Value of Production
ANAO	Australian National Audit Office
AOP	annual operational plan
ASIC	Australian Seafood Industry Council
ASCo	Australian Seafood Co-products
ASI	Australian Seafood Industries
BRD	bycatch reduction device
BRS	Bureau of Rural Sciences
CAC Act	*Commonwealth Authorities and Companies Act 1997*
CRC	cooperative research centre
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DAFF	Australian Government Department of Agriculture, Fisheries and Forestry
DEH	Australian Government Department of the Environment and Heritage
EMS	environmental management system
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
ESD	ecologically sustainable development
ETBF	Eastern Tuna and Billfish Fishery
FRAB	Fisheries Research Advisory Body
FRDC	Fisheries Research and Development Corporation
GBR	Great Barrier Reef
ISO	International Organization for Standardization
NORMAC	Northern Prawn Management Advisory Committee
NPF	Northern Prawn Fishery
NRM	natural resource management
OHS	occupational health and safety
PIERD Act	*Primary Industries and Energy Research and Development Act 1989*
PIRSA	Primary Industries Resources South Australia

QAIF	Queensland Aquaculture Industries Federation
QDPIF	Queensland's Department of Primary Industries and Fisheries
QSIA	Queensland Seafood Industry Association
R&D	research and development
RDC	research and development corporation
SARDI	South Australian Research and Development Institute
SBT	southern bluefin tuna
SESSF	Southern Eastern Scalefish and Shark Fishery
SIFTS	Semi-Intensive Floating Tank System
SOCo	Select Oyster Company P/L
SRL	Southern Rock Lobster Ltd
SRO	Sydney rock oyster
SSA	Seafood Services Australia Ltd
TAFE	Institute of Technical and Further Education
TAFI	Tasmanian Aquaculture and Fisheries Institute
TBL	triple bottom line
TED	turtle exclusion device
WTO	World Trade Organization
WAFIC	Western Australian Fishing Industry Council
VMS	vessel monitoring system
YTK	yellowtail kingfish

INDEXES

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*);
- the *Commonwealth Authorities and Companies Act 1997* (CAC Act) and its supporting Commonwealth Authorities and Companies (Report of Operations) Orders 2002 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.

Commonwealth Authorities and Companies Act 1997 (CAC Act)

CAC Orders for Report of Operations

Primary Industries and Energy Research and Development Act 1989

Other Australian Government reporting requirements

Global Reporting Initiative

The reporting guidelines of the Global Reporting Initiative (GRI guidelines), listed at www.globalreporting.org, are the basis for the criteria developed by Australasian Reporting Awards Inc. (www.arawards.com.au/criteria_a.htm) against which the FRDC volunteers its annual report for assessment each year.

The GRI guidelines recommend that five sections appear in a sustainability report: vision and strategy, profile, governance structure and management systems, GRI content index, and performance indicators. The structure of this annual report is mandated by Australian Government legislation and regulations, and it is not therefore practicable to set out the report explicitly under these GRI headings. However, the report was prepared in accordance with the GRI guidelines (in addition to Australian Government requirements, which share many similarities) and it is particularly strongly focused on triple bottom line and governance reporting. Coverage of content recommended by the GRI is as follows:

ALPHABETICAL INDEX

Q

R

S

PUBLICATIONS AND OTHER INFORMATION

The following information is available from the FRDC:	Printed	Website
• The R&D plan (*Investing in tomorrow's fish: the FRDC's research and development plan, 2005 to 2010*), 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.	✔	✔
• This and the previous annual report.	✔	✔
• R&D plans for Commonwealth, states, NT, regions and industry sectors.	✔	✔
• *R&D News* (published in January, April, July and October, 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.	✔	✔
• Information on completed projects (final reports and other related products).	✔ (see note 1)	✔
• Non-technical summaries of all final reports of FRDC projects.		✔
• Hyperlinks to other websites containing full final reports and fisheries R&D strategies, and to other important websites.		✔
• R&D funding application details.		✔
• Coming events of significance for the industry.		✔
• Research databases.		✔

Note 1: Information on completed projects (final reports and other related products) is 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; and
- for post-harvest projects, Seafood Services Australia, PO Box 2188, Ascot, Queensland 4007 (telephone 1300 130 321, e-mail ssa@seafoodservices.com.au, website www.seafoodservices.com.au).

Details of types of documents and information available on request and under the provisions of the *Freedom of Information Act 1982* are in appendix D, page 135.

www.frdc.com.au

The FRDC's website (www.frdc.com.au) provides easy access to a vast array of information and publications, including the items on this page.

New publications in 2004–05

The FRDC has published, or co-published in partnership with other organisations numerous articles, books and research reports during 2004–05. These include:

- Social assessment handbook, produced by BRS.
- What's so healthy about seafood? — Second edition.
- Environment and Product Management Strategy — On Boat Induction Manual.
- Crossing the Line DVD — Sea turtle handling guidelines for the longline fishing industry.
- On Boat Management System — Spencer Gulf and West Coast Prawn Industry.

Disease watch identification CD-ROM (project 2003/647)

A pictorial guide to help fisheries and aquaculture managers identify significant aquatic animal diseases is out on CD and at www.disease-watch.com. The CD's printable pdf pages allow specific fact sheets to be quickly distributed by e-mail or fax. The CD is free from Department of Agriculture, Fisheries and Forestry, www.disease-watch.com

Best practice handling codes for Australian southern and western rock lobster (project 2002/237)

Best practice handling codes for Australia's southern and western rock lobster fisheries have been distributed to licence-owners in South Australia, Tasmania, Victoria and Western Australia. The western code is in 13 loose-leaf sections, the southern one in 15; each designed to be continuously improved. More than 350 copies of videos showing recommended procedures for each species have been supplied to fishers on request since its release. Copies of the videos and associated manuals are available from WAFIC on 08 9244 2933.

Hoppers in Australian Trawl Fisheries — A handbook for fishers (project 2003/012)

Hoppers in Action, a booklet summarising current knowledge of hoppers for Australia's prawn trawl fisheries, should increase their use and efficiency. It also spells out why there is a need for research to measure hoppers' principal ecological benefit — better bycatch survival. Copies of the handbook are available from Oceanwatch on 02 9660 2262.

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, 2004–05

An electronic version is at www.frdc.com.au/pub/anrep/index.htm

Published by:	Fisheries Research and Development Corporation
Postal address:	PO Box 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

ISSN 1039–3773 (soft cover). ISSN 1448–7810 (online).

Designed by Angel Ink Pty Ltd
Printed by National Capital Printing

Fisheries Research and Development Corporation
PO Box 222, DEAKIN WEST ACT 2600

www.frdc.com.au

tel: 02 6285 0400 / +61 2 6285 0400
fax: 02 6285 4421 / +61 2 6285 4421

On the web, this report is at:
www.frdc.com.au/pub/anrep/index.htm

FRDC is co-funded by our stakeholders, the Australian Government, and the fishing industry.

The FRDC invests strategically across all of Australia in research and development (R&D) activities that benefit all three sectors of the fishing industry — commercial wild-catch to aquaculture, recreational and customary. Our goal is for Australia's fisheries to be sustainable managed.