

Aquaculture Research Advisory Committee

Annual Report

July 2012 to June 2013

Professor Ian White (Chairperson)
Ms Jo Pickles (Executive Officer)



Title: Aquaculture Research Advisory Committee – Annual Report 2012/13

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Disclaimer

The information contained in this publication is based on knowledge and understanding at the time of writing (July 2013). However, because of advances in knowledge, users are reminded of the need to ensure that information on which they rely is up to date and to check the currency of the information with the appropriate officer of the NSW Department of Primary Industries or the user's independent advisor.

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Chairpersons Report

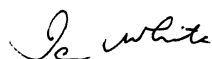
The NSW Oyster Conference 'Catch-up' and Trade show, organised this year by Fisheries NSW with support of NSW Farmers Association, Oysters Australia and the NSW Food Authority, was remarkable in a number of ways. First, despite the many and serious challenges faced by the industry, industry attendees had an amazingly positive attitude and showed exceptional resilience. Attendees were eager to find out the latest research results and the number of younger farmers was notable as was their obvious pride in the industry. Overall, the number of highly trained and experienced farmers present indicated progression in the industry and the rapport between the industry, researchers and agencies was clearly evident. Finally, the research results presented were drawn from a range of areas and were of direct relevance to the long-term sustainability of industry. Linking the Conference to gourmet food presentations demonstrated the wide range of future potentials for the industry. The Conference marked a transition from an attitude of 'them and us' to one of 'we'.

One lesson that has become increasingly apparent over the past two decades in the NSW Aquaculture Industry is that industry resilience to major challenges has relied on ready access to sound, reliable, locally-relevant applied research results. Often the time-scale for research is longer than the time-scale over which emergencies arise. The challenges we face are also dynamic. For those reasons, continuing to invest in targeted research and research support is a rational and pragmatic strategy. Australia is a land of environmental extremes. Predictions are that both their frequency and intensity may increase in the future. Having a sound knowledge base and a skilled and experienced industry is a sound adaptation strategy to address future challenges.

New web-based and electronic methods to transfer research into practice and to attract and support new entrants to aquaculture are very useful. ARAC, however, continues to believe that investment in a professional extension officer would be a strategic opportunity.

I again want to highlight the contribution of ARAC members. The farmer members have been outstanding and tireless representatives of their industries, and at personal cost to themselves and their businesses. I am also extremely grateful to NSW Primary Industry staff who have contributed to ARAC. Their professionalism, dedication, energy, commitment and organisational skills continue to be outstanding. I also want to thank the FRDC and the AS-CRC for their support for the NSW aquaculture industry. Finally I am extremely grateful to the Minister and NSW Primary Industries for their strategic initiatives in and support for aquaculture.

ARAC is committed to increasing the sustainability, profitability and growth of the aquaculture in NSW through applicable, targeted research. I have great pleasure in presenting this report on activities of the NSW Aquaculture Research Advisory Committee.



Professor Ian White FTSE
CHAIR ARAC

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This report was compiled in August 2013

Preamble

This is the sixth Annual Report for the Aquaculture Research and Advisory Committee (ARAC). The Minister for Primary Industries approved the formation of the Aquaculture Research Advisory committee in October 2005 to provide advice on industry contributions and R&D expenditure for all aquaculture industries in NSW. Confirmation for ARAC's establishment was confirmed in 2006 after the completion of a NSW Government review of Boards and Committees. ARAC has replaced the Oyster Research Advisory Committee (ORAC) and the former Advisory Council on Aquaculture (ACoA).

ORAC was formally disbanded after its meeting in December 2005.

The Committee

The Aquaculture Research Advisory Committee (ARAC) was established in October 2006 and held its inaugural meeting on 31 January 2007.

ARAC is a statutory committee that advises the Minister on the amount of contributions payable by the NSW aquaculture industries into trust accounts for aquaculture research and development and the expenditure of those trust funds. The NSW prawn aquaculture industry is not included as it pays research levies directly to the Commonwealth.

ARAC is established under Section 157 of the *Fisheries Management Act 1994*.

Terms of Reference

- 1 Investigate and evaluate the requirement for aquaculture research and development in NSW, after consultation with NSW aquaculture industries and with reference to NSW, Australian and overseas experience, and whether funded by the Fisheries Research and Development Corporation or otherwise;
- 2 Revise as appropriate research and development plans for NSW aquaculture research and development and promote it to the wider research community;
- 3 Advise the appropriate NSW Fisheries Research Advisory bodies and the Fisheries Research and Development Corporation on NSW aquaculture research and development matters and priorities;
- 4 Advise the NSW Minister for Primary Industries on the level of funding from industry required for aquaculture research and development in NSW and on its expenditure.
- 5 Oversee the management of annual contributions for aquaculture research collected under Section 156 of the *Fisheries Management Act 1994*, and placed in separate trust accounts under Section 157 of the *Fisheries Management Act 1994*.
- 6 Report on a regular basis, including an Annual Report based on a financial year, to the NSW aquaculture industry, the NSW Minister for Primary Industries and NSW researchers on aquaculture research and development initiatives;
- 7 Facilitate the dissemination, adoption and commercialisation of the results of aquaculture research and development; and
- 8 Promote aquaculture research and development in NSW.

Membership and Selection Process

The *Fisheries Management (Aquaculture) Regulation 2012*, schedule 1 provisions relating to members and procedure of committee, section 2, states:

- 1 The Minister may convene a selection committee (including representatives of the aquaculture industry) for the purpose of recommending persons for appointment as members of a committee.
- 2 The Chairperson of a committee is to be the member of the committee for the time being appointed by the Minister as Chairperson.
- 3 Section 157 (7) of the Act requires the Minister to ensure that a majority of the members of the committee are representatives of the aquaculture industry.

Industry members of ARAC are appointed by the Minister through a competitive selection process from Aquaculture Permit holders who have submitted expressions of interest to join the committee. A selection committee is appointed, comprised of two representatives from the NSW Farmers Association, one representative from the Seafood CRC and the NSW Department of Primary Industries (Fisheries Division). Industry members are selected on merit.

The Chairperson is appointed to the committee by the Minister.

To aid the committee with their function, NSW Department of Primary Industries personnel attend meetings and undertake the role of facilitator and secretariat.

Deputy Members

The *Fisheries Management (Aquaculture) Regulation 2012*, schedule 1 provisions relating to members and procedure of committee, section 3, states:

- 1 The Minister may, from time to time, appoint a person to be the deputy of a member, and at any time revoke any such appointment.

Committee Members in 2012/13

Member	Representing	Date of Appointment	Expiry Date
Prof. Ian White	Independent Chair	Oct 2006	Sept 2015
Ms Milada Safarik	Industry	Oct 2009	Sept 2015
Mr Tony Troup	Industry	Oct 2006	Sept 2015
Mr Geoff Diemar	Industry	Oct 2006	Oct 2012
Mr Michael Wright	Industry	Oct 2009	Oct 2012
Mr Ewan McAsh	Industry	Oct 2009	Sept 2015
Mr Russell Sydenham	Industry	Mar 2012	Sept 2015
Mr Matthew Wassnig	Industry	Sept 2012	Sept 2015
Mr John Stubbs	Industry	Sept 2012	Sept 2015

There are six members on ARAC, four lease-based (oyster) representatives and two land-based (non-oyster) representatives, which reflects the relative sizes of the industry sectors in NSW. All members of ARAC, including the independent Chairperson, are appointed for a term of three years.

In September 2012, all seven terms of appointment were due to expire. NSW DPI mailed expressions of interest to all aquaculture permit holders in NSW, seeking to fill these vacancies. A selection panel was convened to consider the applications and recommend suitable candidates to the Minister for NSW Primary Industries. Mr Michael Wright did not seek re-appointment and has now left the oyster industry. Mr Geoff Diemar was a long serving member on ARAC and the Committee thank him for his contributions and wise council. Unfortunately, Mr John Stubbs has resigned from his appointment to ARAC due to the impact of POMS on his business in the Hawkesbury River, which has forced him to exit the oyster industry. NSW DPI has sought advice from the Minister's Office as to whether we can create an eligibility list from the very good applications that were received in 2012 or whether we need to conduct a new round of EOI.

Dr Wayne O'Connor (A/Research Leader, Aquaculture), Mr Ian Lyall (Manager, Aquaculture) and Ms Debra Doolan (Aquatic Biosecurity Officer, Aquatic Biosecurity and Risk Management) from NSW Department of Primary Industries sat as observers on the Committee for 2012/13. Ms Jo Pickles from NSW Department of Primary Industries is the Executive Officer. Mr Anthony Zammit (NSW Food Authority) also sat as an observer.

Meetings

Two meetings were held during the financial year 2012/13:

Member	30 August 2012	21 February 2013
Prof. Ian White	✓	✓
Mr Tony Troup	✓	✓
Mr Geoff Diemar	x	n/a
Ms Milada Safarik	✓	✓
Mr Michael Wright	✓	n/a
Mr Ewan McAsh	x	✓
Mr Russell Sydenham	x	✓
Mr Matthew Wassnig	n/a	✓
Mr John Stubbs	n/a	x
NSW Department of Primary Industries		
Dr Wayne O'Connor	✓	✓
Mr Ian Lyall (or rep)	✓	x
Ms Debra Doolan (or rep)	✓	✓
Mr Anthony Zammit	x	x
Ms Jo Pickles	✓	✓

Disclosure of Pecuniary Interests

Schedule 1 of the *Fisheries Management (Aquaculture) Regulation 2012* sets out provisions relating to members and committee procedure. Clause 8, sub clause 1 states a member of a committee:

- a who has a direct or indirect pecuniary interest in a matter being considered or about to be considered at a meeting of the committee, and
- b whose interest appears to raise a conflict with the proper performance of the member's duties in relation to the consideration of the matter

must, as soon as possible after the relevant facts have come to member's knowledge, disclose the nature of the interest at a meeting of the committee.

No pecuniary interests were declared in this financial year.

Trust Accounts for the 2012/13 Financial Year

Advice on Level of Contribution

Section 156 of the *Fisheries Management Act 1994* states a permit holder is required to contribute to the cost of administration or research or to other industry costs. Under section 157(4) of the *Fisheries Management Act 1994* the Minister is to appoint a committee of persons to advise the Minister on the amount of contributions payable into any trust account. Research contributions made by the aquaculture community (excluding the prawn industry) are reported to the Minister by ARAC.

Research contributions from the oyster industry have been set at \$37.00/ha/year. The amount of research contributions billed for 2012/13 was \$122,109.00.

Research contributions from the non-oyster aquaculture industry have been set at \$28/ha/year or \$134 for a minimum of 5 ha/year. The amount of research contributions billed for 2012/13 was \$22,643.00.

The required annual contribution to the Fisheries Research Development Corporation is calculated at 0.25% average gross value of production (AGVP), based on three year rolling calculations. The contribution from the oyster industry for 2012/13 was \$80,736.00 (\$90,576.00 less the fee waiver of \$9,840.00). The contribution from the non-oyster aquaculture industry for 2012/13 was \$16,710.00 (\$18,165.00 less the fee waiver of \$1,455.00).

Advice on Level of Expenditure

Section 156 of the *Fisheries Management Act 1994* states a permit holder is required to contribute to the cost of administration or research or to other industry costs. Under section 157(4) of the same Act the Minister is to appoint a committee of persons to advise the Minister on the expenditure of money in the trust account.

Expenditure Purpose and Level

The allocated expenditures for the 2012/13 financial year are outlined below:

ARAC REVENUE AND EXPENSES – 1 July 2012 to 30 June 2013		
*Note: this is an accrual accounting report for WBS 116-1 (Oyster Research Levy)		
Revenue:	Credit	Debit
Balance carried forward 30.06.2012	\$39,265.09	
Research Contributions billed 01.07.2012 to 30.06.2013 (with fee waivers deducted)	\$112,831.75	
Total Revenue	\$152,096.84	
Expenses:		
Internal Transfer to Committee Account		\$3,342.30
Newcastle University – Oyster Aquaculture Seagrass research		\$4,545.45
Freight & Cartage		\$513.68
Bad Debts		\$96.46
FRDC Contribution (reduced by fee waivers for research)		\$80,736.00
Total Expenses		\$89,233.89
Balance of Cost Centre as at 30.06.2013	\$62,862.95	

ARAC Committee expenses – 1 July 2012 to 30 June 2013		
*Note: this is an accrual accounting report for WBS 2492-1		
Revenue:	Credit	Debit
Balance carried forward 30.06.2012	\$0.00	
Transferred from NSW Department of Primary Industries funds	\$0.00	
Total Revenue	\$0.00	
Operating Expenses:		
Travel		\$3,187.18
Committee Fees		\$1,126.14
Consumables		\$700.13
Total Expenditure		\$5,013.45
Balance of Cost Centre as at 30.06.2013	\$0.00	

ARAC REVENUE AND EXPENSES – 1 July 2012 to 30 June 2013		
*Note: this is an accrual accounting report for WBS 119-1 (Aquaculture [non-oyster] Research Levy)		
Revenue:	Credit	Debit
Balance carried forward 30.06.2012:	\$40,560.55	
Research Contributions billed 01.07.2012 to 30.06.2013 (with fee waivers deducted)	\$22,473.75	
Total Revenue	\$63,034.30	
Expenses:		
Internal Transfer to Committee Account		\$1,671.15
Bad Debts		\$28.83
FRDC Contribution (reduced by fee waivers for research)		\$16,710.00
Total Expenses		\$18,409.98
Balance of Cost Centre as at 30.06.2013	\$44,624.32	

Levy Collection

Billing is conducted on the financial year and permit holders have the option of paying in full by 30 September or by quarterly instalments at 30 September, 31 December, 31 March and 30 June of that year.

Money held in the NSW Department of Primary Industries Crown Trust Account does not receive interest.

Forward Budget

ARAC REVENUE AND EXPENSES – 1 July 2013 to 30 June 2014 (Oyster Research Levy)		
Revenue:	Credit	Debit
Balance carried forward 30.06.2013	\$62,862.95	
Research Contributions billed 01.07.2013 to 30.06.2014	\$124,320.00	
Total Estimated Revenue	\$187,182.95	
Expenses:		
FRDC Contribution (estimate)		\$100,000.00
ARAC Committee Expenses (Internal transfer)		\$8,000.00
Total Estimated Expenses		\$108,000.00
Estimated Balance as at 30.06.2014	\$79,182.95	

ARAC REVENUE AND EXPENSES – 1 July 2013 to 30 June 2014 (Aquaculture [non-oyster] Research levy)		
Revenue:	Credit	Debit
Balance carried forward 30.06.2013:	\$44,624.32	
Research Contributions billed 01.07.2013 to 30.06.2014	\$23,034.00	
Total Estimated Revenue	\$67,658.32	
Expenses:		
FRDC Contribution (estimate)		\$20,000.00
ARAC Committee Expenses (Internal transfer)		\$4,000.00
Total Estimated Expenses		\$24,000.00
Estimated Balance as at 30.06.2014	\$43,658.32	

COMMITTEE REVENUE AND EXPENSES – 1 July 2013 to 30 June 2014		
Revenue:	Credit	Debit
Balance carried forward 30.06.2013	\$0.00	
Internal transfers	\$12,000.00	
Total Estimated Revenue	\$12,000.00	
Expenses:		
Consumables		\$1,500.00
Travel		\$6,000.00
Committee fees		\$4,500.00
Total Estimated Expenses		\$12,000.00
Estimated Balance as at 30.06.2014	\$0.00	

Recommendation on Level of Contribution

On 31 January 2007, the Committee agreed the oyster research levy should increase to \$35.00/ha/yr from \$29.00 as this amount was insufficient to maintain the contribution to FRDC at 0.25% of AGVP and operate ARAC. Letters were then written to lease-based farmers explaining the reasons for the increase. An amendment in the Regulation Review was prepared and approved to raise the levy to be in effect 2008/09. The Committee has agreed that levies be reviewed on an annual basis at the first meeting in the calendar year.

Aquaculture Permit Holders in NSW

In NSW, aquaculture occurs in fresh, estuarine and marine waters. There are several classes of aquaculture permits that are issued for the different types of aquaculture, with some farms having more than one permit. Most forms of aquaculture include Intensive farming; when the species being grown is given specially prepared feeds and Extensive farming; when the natural ecosystem of the water provides feed for the species grown.

As at June 2012 there were 318 oyster farming permits and 148 non-oyster businesses that have 224 permits between them authorising extensive and intensive (leases), fishout, hatchery and intensive land based activities.

List of Activities

- In August 2012, the Aquatic Biosecurity team advised NSW DPI has drafted a new risk-based management option which is proposed to replace the existing Section 8 Pacific oyster Fishing Closure by December 2013. It aims to simplify management rules, reflect current levels of risk and also current oyster culture techniques used by industry.
- In August 2012, Tony Troup provided an update on Oysters Australia which has now replaced the Oyster Consortium. ARAC provides in principle support for the formation of Oysters Australia and has requested two things before a specific recommendation of financial support could be made - more information on the structure of Oysters Australia and confirmation of industry support.
- ARAC terms of membership are for three years, and in September 2012, all positions were due to expire. Four lease-based positions, two land-based positions and the Chair's position were due for renewal. EOIs were mailed to all aquaculture permit holders and aquaculture associations in April 2012. A selection panel was convened in June to discuss applications and recommend suitable applicants to the Minister for Primary Industries. The Chair's position is a direct appointment nominated by the Minister. A brief was issued seeking approval from the Minister for Primary Industries and then final approval by the NSW Department of Premier and Cabinet (ARAC being a Statutory Committee). Appointments have now been approved with new members; Dr Matthew Wassnig and Mr John Stubbs (see note on page 8) and re-appointed members; Professor Ian White, Mr Tony Troup, Ms Milada Safarik, Mr Ewan McAsh and Mr Russell Sydenham.
- NSW DPI has two key projects underway to strengthen aquaculture investment in marine waters of NSW. Two State Significant Infrastructure applications have been lodged with the Department of Planning and Infrastructure for 1) a Marine Finfish Research Lease in Providence Bay, Port Stephens which seeks to establish a 20 hectare lease off Hawks Nest for a five year period to extend the successful marine finfish research undertaken at PSFI to include species such as Yellowtail Kingfish and mullet, and 2) Commercial Shellfish Aquaculture Leases in Jervis Bay which seeks to establish 50 hectares of commercial shellfish leases that if successful, would be tendered to industry. The application included mussels, oysters, scallops and algae. This would be for surface longline shellfish aquaculture – not raft aquaculture and would be one 10 hectare lease and two 20 hectare leases being available for tender. This environmental assessment and research will benefit prospective farmers and address issues confronting investors in making applications for offshore aquaculture research leases. For more info:
<http://www.dpi.nsw.gov.au/fisheries/aquaculture/info/research-lease> and
<http://www.dpi.nsw.gov.au/fisheries/aquaculture/info/commercial-shellfish-aquaculture-leases-jervis-bay,-nsw>
- In July 2010, Steve McOrrie prepared an invitation and registration form that was mailed to all oyster farmers in NSW seeking historical material. ARAC has created a register and is collating this information. It is hoped items such as photos, oral histories or equipment will be used to document the History of the NSW Oyster Industry. Information is coming in intermittently. NSW DPI will continue to encourage farmers to reply and continue to follow-up with articles in the Aquaculture Newsletters etc.

- ARAC supported an investigation into the interaction of oyster farming and seagrass communities in NSW. Information to date was anecdotal with many reports of positive impacts. However, it is likely that oyster farming activities in seagrass areas will require a more rigorous assessment under NSW State planning legislation. To assist the oyster industry to mitigate potential negative impacts of existing oyster farming activities on seagrasses, and to assist in the development of best practice for farming activities undertaken in seagrass areas, it is essential that independent research is encouraged that a) describes the impact of existing individual cultivation methods (e.g. longline, floating, tray etc.) on seagrass communities, and b) assists the development of oyster farming practices that reduce any demonstrated oyster farming impacts on seagrass communities. Mitchell Burrows (an Honours student from Newcastle University) conducted this research and will provide his findings at the ARAC meeting on 30 July 2013. Mitchell also gave a presentation 'The ecological effects of oyster cultivating practices on seagrass health' at the NSW Oyster Conference, 'Catch-up' & Tradeshow held over 31 July and 1 August 2013. ARAC contributed \$5,000 from the Lease-based Research Trust Account for this research.
- In October 2011, Anthony Zammit advised of an Inquiry into the Regulation of Domestic Wastewater by NSW Parliament. This inquiry is a current Legislative Assembly inquiry conducted by the Environment and Regulation Committee. The terms of reference are:
 - a) The adequacy of safeguards to ensure food safety, and to protect against the risk of localised contamination, in food production areas;
 - b) The appropriateness of current regulatory arrangements in relation to the management of domestic wastewater;
 - c) The adequacy of inspection procedures and requirements to report incidents; and
 - d) Any other related matter.
 The report was published (November 2012) on the Committee's web site, together with transcripts of evidence and other documents associated with the Inquiry. NSW DPI, the NSW Food Authority and NSW Farmers Association all gave evidence and many growers made a written submission to the inquiry. The Government is required to respond to the Committee's recommendations within six months. See: <http://www.parliament.nsw.gov.au/environmentandregulation>
- Research into means to manage OSHV outbreaks continue. NSW DPI, ASI and CSIRO have continued collaborative trials to assess the potential to breed for OSHV resistance. Breeding offers an opportunity to deal with OSHV, but field testing has its limitations. NSW DPI, ASI and CSIRO are working towards the development of a lab based infectivity model to accelerate progress.
- In February 2013, the Aquatic Biosecurity team advised researchers at EMAI and PSFI have been looking further into the causative agent for Winter Mortality. The Committee agreed that ongoing Winter Mortality research could have the added benefit of contributing to a monitoring program for environmental parameters.
- The new ARAC RD&E Strategic Plan (2012-2017) was forwarded to the NSW FRAB for the 2013/14 funding round. Strategic RD&E planning assists industry and funding agencies to understand the issues that constrain profitability and industry growth. It helps identify what projects are needed to address those constraints

- The Committee was informed of the 'Review of Australian breeding programs for Pacific Oysters, Sydney Rock Oyster, Barramundi and prawns' which was prepared for the Seafood CRC by Dr Morten Rye of Akvaforsk Genetics Center in Norway (October 2012). ARAC agreed the creation of a SOCo Manager position to coordinate the breeding program activities was just one of the positive suggestions of the report.
- In February 2013, Tony Troup provided an update on Oysters Australia which has now replaced the Oyster Consortium. ARAC previously provided in principle support for the formation of Oysters Australia. The Committee discussed the successful results of the Oyster Benchmarking program and also agreed it would be worthwhile to have a benchmarking project on finfish. Several members commented on the success of 'Oysters in the Vines' in Port Macquarie recently. The event was arranged by Armstrong Oysters and Cassegrain Wines and did a great job of promoting the product. Seafood CRC has released nutritional information about oyster species and a trial is underway with De Costi Seafoods with branded oyster merchandising. A new report is out and summarises what we know about POMS and recommends plans and actions for the industry. More information on Oysters Australia can be found at <http://oystersaustralia.org.au/> and <http://oystersaustraliablog.org.au/>
- NSW DPI is continuing to support a range of post-graduate students investigating Aquaculture related questions in 2013. Projects include:
 - a) Stephan O'Connor (PhD UTAS) Improved rearing and settlement technology for flat oysters (Wayne O'Connor).
 - b) John Wright (PhD UWS) climate change and predator prey interactions with Pacific oysters (Wayne O'Connor).
 - c) Vu Van In (PhD USC) Transcriptomic changes during reproductive development of Sydney rock oysters (Wayne O'Connor).
 - d) Nicole Ertly (PhD USC) Transcriptomic responses to stress in Sydney rock oysters.
 - e) Thanvapon Yingprasertchai (PhD UNewc) Metals impacts on Sydney rock oysters (Wayne O'Connor).
 - f) Mitchell Burrows (Hons UNewc) Oyster Seagrass Interactions (Wayne O'Connor).
 - g) Lucia Mesarosova (MSc UTS) Climate change and fish (Stewart Fielder).
 Information on any of these projects can be obtained by contacting the appropriate supervisor at the PSFI.
- The NSW Oyster Conference, Catch Up and Tradeshow 2013 is an initiative of NSW DPI, NSW Farmers Association and Oysters Australia. It will be held at Port Stephens 31 July and 1 August with a social evening planned. Key outcomes are; to draw the NSW industry together at one NSW event, rather than a north and south coast field day; invite Tas, SA, NZ and Qld representatives; consider the future direction of the industry; support industry leadership initiative like Oyster Australia; and provide a venue for a large social evening for oyster farmers and their partners. The program is being finalized and organization is progressing well.
- ARAC was asked to support continued funding of the SRCMA Oyster Monitoring Program; monitoring oyster performance and associated environmental parameters. The Committee praised the program and recognised the importance of collecting data, particularly when coupled with research questions. It was acknowledged that a data set collected over several years would be beneficial and that the larger number of estuaries involved the better. However, the Committee raised several issues such

as the number of estuaries that are currently sampled, funding, dissemination of information, industry participation, and this is a monitoring program and not a research program. ARAC has given 'in principle' support with a number of suggestions.

- The Shoalhaven Marine and Freshwater Centre sought ARAC support for a project proposal that concerns the development of a spatial map framework to establish the patterns of estuary condition and fisheries and aquaculture productivity. ARAC has given 'in principle' support.

Aquaculture Research and Development currently being undertaken by NSW Department of Primary Industries

For the most up-to-date information on oyster research and development currently being undertaken by NSW Department of Primary Industries, please refer to its web site: www.dpi.nsw.gov.au/research/areas/production-research/aquaculture. The web site contains non-technical summaries of all research projects, scientific outputs and final reports.

Oyster Research and Development currently being undertaken in Australia

1	Project Title	Australian Oyster Industry Benchmarking Program Development
	Principal Investigator	Shane Comiskey/Rachel King
	Time Frame	2009 – 2012
	Funding Sources	Seafood CRC (2009/701)
2	Project Title	Differential accumulation of algal biotoxins within diploid and triploid Pacific oysters and Sydney rock oysters
	Principal Investigator	Dr Shauna Murray
	Time Frame	2011
	Funding Sources	UNSW, NSW DPI, ARC (LP1110516)
3	Project Title	Using genomic information to understand and improve the quality of the Australian South Sea Pearl
	Principal Investigator	Degnan, B.
	Time Frame	2009-2014
	Funding Sources	UQ, ARC, Autore Pearling Pty Ltd, Pearl Oyster Propagators
4	Project Title	Reproductive condition, marketability and survival in oyster breeding strategies
	Principal Investigator	Graham Mair
	Time Frame	2009-2013
	Funding Sources	Seafood CRC (2009/743)
5	Project Title	Quality, shelflife and value adding of Australian Oysters
	Principal Investigator	Tom Madigan
	Time Frame	2009 - 2012
	Funding Sources	Uni SA and Seafood CRC (2008/763)
6	Project Title	Development of tools for the sustainable management of genetics in polyploid Pacific oysters, <i>Crassostrea gigas</i>
	Principal Investigator	Anthony Koutoulis
	Time Frame	2010
	Funding Sources	University of Tasmania and Seafood CRC (2010/724)
7	Project Title	Aquatic Animal Health Subprogram: understanding and planning for the potential impacts of OHsV1 on the Australian Pacific oyster industry
	Principal Investigator	Dr Tom Lewis
	Time Frame	2011 - 2012
	Funding Sources	RDS Partners Pty Ltd and FRDC (2011/043)
8	Project Title	Adapting to climate change: does enhanced metabolism provide heritable protection against ocean acidification and increasing temperature in oysters?
	Principal Investigator	Prof Hans O. Portner
	Time Frame	2012
	Funding Sources	ARC (DP1211946) and Macquarie University

9	Project Title	Pearl Consortium IPA: Control of reproduction of the silver-lip pearl oyster, <i>Pinctada maxima</i> .
	Principal Investigator	David Mills
	Time Frame	2012 - 2016
	Funding Sources	FRDC (2011/248) and Paspaley Pearling Company
10	Project Title	Aquatic Animal Health Subprogram: Development of a DNA microarray to identify markers of disease in pearl oysters (<i>Pinctada maxima</i>) and to assess overall oyster health
	Principal Investigator	Brian Jones
	Time Frame	2008 - 2012
	Funding Sources	FRDC (2008/030) and Fisheries WA
11	Project Title	Aquatic Animal Health Subprogram: Investigation of Chlamydiales-like organisms in pearl oysters, <i>Pinctada maxima</i>
	Principal Investigator	Brian Jones
	Time Frame	2008 - 2012
	Funding Sources	FRDC (2008/031) and Fisheries WA
12	Project Title	PIRSA Initiative II: carrying capacity of Spencer Gulf: hydrodynamic and biogeochemical measurement modelling and performance monitoring
	Principal Investigator	John Middleton
	Time Frame	2009 - 2013
	Funding Sources	FRDC (2009/046), PIRSA, Flinders University, UNSW, CSIRO
13	Project Title	FRDC-DCCEE: ensuring that the Australian Oyster Industry adapts to a changing climate: a natural resource and industry spatial information portal for knowledge action and informed adaptation frameworks
	Principal Investigator	Pia Winberg
	Time Frame	2011 - 2012
	Funding Sources	FRDC (2010/534), University of Wollongong, Bega Valley Shire Council, Hornsby Council, Hastings Council, Shoalhaven City Council, UTAS and NCCARF
14	Project Title	Aquatic Animal Health Subprogram: development of improved molecular diagnostic tests for <i>Perkinsus olseni</i> in Australian molluscs
	Principal Investigator	Nick Gudkovs
	Time Frame	2011 - 2014
	Funding Sources	FRDC (2011/004) and Fisheries WA
15	Project Title	Tactical Research Fund: Developing a dynamic regional brand – focus on flavour
	Principal Investigator	Heather Smyth
	Time Frame	2011 - 2013
	Funding Sources	FRDC (2010/228), Uni of Qld, Eyre Peninsula Regional Development Board

16	Project Title	Aquatic Animal Health Subprogram: Pacific oyster mortality syndrome (POMS) - understanding biotic and abiotic environmental and husbandry effects to reduce economic losses
	Principal Investigator	Richard Whittington
	Time Frame	2011 - 2012
	Funding Sources	FRDC (2011/053), University of Sydney, Hornsby Shire Council, Sydney Metro CMA
17	Project Title	Pearl Consortium IPA: improving reliability and efficiency of spat nursery and growout for the silver-lip pearl oyster (<i>Pinctada maxima</i>)
	Principal Investigator	David Mills
	Time Frame	2011 - 2015
	Funding Sources	FRDC (2011/236) and Paspaley Pearling Company
18	Project Title	People Development Program: Aquatic Animal Health Training Scheme – KBBE workshop on diagnostics for mollusc diseases
	Principal Investigator	Mark Crane
	Time Frame	2009 - 2014
	Funding Sources	FRDC (2009/315.24) and CSIRO
19	Project Title	Aquatic Animal Health Subprogram: Pacific oyster mortality syndrome (POMS) risk mitigation, epidemiology and OsHV-1 biology
	Principal Investigator	Richard Whittington
	Time Frame	2012 - 2015
	Funding Sources	FRDC (2012/032) and University of Sydney
20	Project Title	Workshop to facilitate epidemiological analysis of unexplained mortality of South Australian Pacific oysters
	Principal Investigator	Charles Caraguel
	Time Frame	2012 - 2013
	Funding Sources	FRDC (2012/051) and SAORC
21	Project Title	Aquatic Animal Health Subprogram: Development of a laboratory model for infectious challenge of Pacific oysters (<i>Crassostrea gigas</i>) with ostreid herpesvirus type-1
	Principal Investigator	Peter Kirkland
	Time Frame	2012 - 2014
	Funding Sources	FRDC (2012/052) and NSW DPI
22	Project Title	Tactical Research Fund: Assessment of heavy metals in tropical rock oysters (blacklip and milky) and implications for placement into the Australian seafood market and for Indigenous enterprise development in the NT
	Principal Investigator	Ann Fleming
	Time Frame	2013 - 2014
	Funding Sources	FRDC (2012/223) and NT Government

23	Project Title	Tactical Research Fund: Development and validation of effective and affordable oyster production systems in the face of POMS disease of Pacific oysters and QX disease of Sydney rock oysters – evaluation from a production, research and economic perspective
	Principal Investigator	Steven Jones
	Time Frame	2012 - 2013
	Funding Sources	FRDC (2012/229) and Aglign Consulting Pty Ltd
24	Project Title	PhD: Human enteric viruses in Australian bivalve molluscan shellfish
	Principal Investigator	Lynne Cobiac
	Time Frame	2008 - 2013
	Funding Sources	CRC (2008/741) and Flinders University
25	Project Title	National Oyster R&D – strategic R&D project commissioning, management and path to commercialisation
	Principal Investigator	Rachel King
	Time Frame	2012 - 2014
	Funding Sources	CRC (2010/747) and Oysters Australia Pty Ltd
26	Project Title	Oyster Product Development Innovation – Oyster Opening
	Principal Investigator	Karen McNaughton
	Time Frame	2011 - 2014
	Funding Sources	CRC (2011/727) and SARDI
27	Project Title	Development of an efficient diagnostic tool for assessing antiviral resistance in abalone and oysters
	Principal Investigator	Peter Speck
	Time Frame	2012 - 2014
	Funding Sources	CRC (2011/758) and Flinders University
28	Project Title	Masters: Impacts and predictive modelling of coastal upwelling on the SA Oyster Industry
	Principal Investigator	Clinton Wilkinson
	Time Frame	2012 - 2014
	Funding Sources	CRC (2011/772), University of Tasmania and Oysters Australia Pty Ltd
29	Project Title	Development and commercialisation of an oyster TTI system
	Principal Investigator	Mark Tamplin
	Time Frame	2012 - 2013
	Funding Sources	CRC (2012/703), University of Tasmania and Oysters Australia Pty Ltd
30	Project Title	Understanding how to condition the Sydney rock oyster
	Principal Investigator	Abigail Elizur
	Time Frame	2012 - 2013
	Funding Sources	CRC (2012/713), University of Sunshine Coast and Oysters Australia Pty Ltd

31	Project Title	Oysters Australia: Developing and facilitating regional grower groups to extend and build on SCRC outputs
	Principal Investigator	Tom Lewis
	Time Frame	2012 - 2014
	Funding Sources	CRC (2012/732), RDS Partners and Oysters Australia Pty Ltd
32	Project Title	Evaluating the impact of an improved retailing concept for oysters in Fishmongers
	Principal Investigator	Meredith Lawley
	Time Frame	2012 - 2013
	Funding Sources	CRC (2012/740), University of Sunshine Coast and Oysters Australia Pty Ltd
33	Project Title	Market development funding options for the Australian oyster industry
	Principal Investigator	Ewan Colquhoun
	Time Frame	2013
	Funding Sources	CRC (2012/757), Ridge Partners and Oysters Australia Pty Ltd
34	Project Title	Genetic selection for resistance to Pacific Oyster Mortality Syndrome
	Principal Investigator	Peter Kube
	Time Frame	2012
	Funding Sources	CRC (2012/760) and CSIRO
35	Project Title	Oyster breeding program transition to full commercialisation
	Principal Investigator	Rachel King
	Time Frame	2012 - 2014
	Funding Sources	CRC (2012/773) and Oysters Australia Pty Ltd
36	Project Title	Safe spat rearing experiment
	Principal Investigator	Rachel King
	Time Frame	2013 - 2015
	Funding Sources	CRC (2013/708) and Oysters Australia Pty Ltd
37	Project Title	Piloting commercial scale supply of mass selected Sydney rock oysters
	Principal Investigator	Jane Clout
	Time Frame	2013
	Funding Sources	CRC (2013/709) and SOCo
38	Project Title	Tackling microbial related issues in cultured shellfish via integrated molecular and water chemistry approaches
	Principal Investigator	Sharon Appleyard
	Time Frame	2011 - 2014
	Funding Sources	CRC (2011/729), CSIRO and Oyster Consortium
39	Project Title	RTG: Laboratory visit to be trained to analyse oyster (Sydney rock oysters) histology sections, Elizabeth Macarthur Agricultural Institute, NSW
	Principal Investigator	Nicole Ertl (PhD student)
	Time Frame	2012
	Funding Sources	CRC (2012/752) and University of Sunshine Coast

Aquaculture Research and Development currently being undertaken in Australia



Australian Centre for International Agriculture Research (ACIAR)

Active and Pipeline ACIAR Aquaculture Projects. NB. All ACIAR-funded Projects have an Australian component with the Commissioned Organisation [responsible for administering the funds] being an Australian University or State or Commonwealth Government Department or other Statutory Organisation. *More information visit www.ACIAR.gov.au*

Active projects	
FIS/2010/101	Improving fish health management and production protocols in marine finfish aquaculture in Indonesia and Australia
FIS/2011/038	Scoping study for fish health-mariculture and rabbitfish aquaculture development in Indonesia
FIS/2009/059	Developing research capacity for management of Indonesia's pelagic fisheries resources
FIS/2007/124	Diversification of smallholder coastal aquaculture in Indonesia
FIS/2006/142	Developing new assessment and policy frameworks for Indonesia's marine fisheries, including the control and management of Illegal, Unregulated and Unreported (IUU) fishing
SMAR/2008/021	Spiny lobster aquaculture development in Indonesia, Vietnam and Australia
FIS/2011/068	Strategy for investment in fisheries in East Timor
FIS/2012/037	Preliminary trials on giant grouper maturation, spawning and juvenile production in Vietnam, the Philippines and Australia
FIS/2011/031	Coral Reef Restoration using Mass Coral Larval Reseeding
FIS/2010/042	Expansion and diversification of production and management systems for sea cucumbers in the Philippines, Vietnam and northern Australia
FIS/2010/042	Expansion and diversification of production and management systems for sea cucumbers in the Philippines, Vietnam and northern Australia
SMCN/2010/083	Adaptation to climate change in rice-aquaculture farming systems in the Mekong Delta
SMAR/2008/021	Spiny lobster aquaculture development in Indonesia, Vietnam and Australia
FIS/2006/141	Improving feed sustainability for marine aquaculture in Vietnam and Australia
FIS/2011-013	Culture-based fisheries development in Lao PDR and Cambodia
FIS/2009/041	Development of fish passage technology to increase fisheries production on floodplains in the lower Mekong and Murray-Darling River basins
FIS/2010/058	Assessing economic and welfare values of fish in the lower Mekong basin
FIS/2011/052	Improving research and development of Myanmar's inland and coastal fisheries
FIS/2010/057	Developing inland aquaculture in Solomon Islands
FIS/2010/055	Improving fisheries based livelihoods in Western Province, PNG
FIS/2011/049	Evaluation of the potential for commercial aquaculture of the freshwater prawn <i>Macrobrachium rosenbergii</i> in PNG
FIS/2010/054	Mariculture development in PNG
FIS/2010/017	Building mariculture capacity in Papua New Guinea

FIS/2008/023	Increasing production from inland aquaculture in Papua New Guinea for food and income security
FIS/2010/057	Developing inland aquaculture in the Solomon Islands
FIS/2010/056	Scaling-up innovation in marine fisheries governance in Solomon Islands, Kiribati and Vanuatu
FIS/2012/074	Community-based fisheries management in Pacific Island countries
FIS/2009/057	Support of pearl industry recovery in Tonga
Pipeline projects	
FIS/2010/097	Improved food and nutritional security through sustainable fisheries production in Timor-Leste
FIS/2012/101	Development of mariculture technology for giant grouper in the Philippines, Vietnam and Australia
FIS/2012/101	Development of mariculture technology for giant grouper in the Philippines, Vietnam and Australia
FIS/2010/100	Enhancing mollusc production in northern Vietnam and NSW
FIS/2012/100	Increasing uptake and application of fish passage technology in lower Mekong countries
FIS/2012/102	Shark fisheries of PNG: socioeconomic and fishery characteristics and the relationship to Australian and PNG resources
FIS/2012/076	Aquaculture development in Pacific Island Communities
FIS/2010/098	Further development of aquaculture based livelihoods in the Pacific Islands region and tropical Australia
FIS/2010/096	Removing bottlenecks for Sea Cucumber in PICs
Recently completed projects	
FIS/2011/030	Strategic plan for ACIAR engagement in developing Indonesia's marine fisheries research and management capacity
FIS/2010/016	Application of aquaculture planning tools in Indonesia
FIS/2009/054	Refinement and application of Cage Aquaculture Decision Support Tool (CADS_Tool) for freshwater systems in the Philippines
FIS/2012/037	Preliminary trials on giant grouper maturation, spawning and juvenile production in Vietnam, the Philippines and Australia
FIS/2011/072	Pilot study for development of fish friendly irrigation and mini hydro design criteria for application in the Mekong and Murray-Darling Basins Laos
FIS/2011/071	Scoping potential livelihood benefits and costs of sport fisheries in PNG

New and ongoing research projects and fellowships funded by the Australian Research Council. *For more information visit www.arc.gov.au*

Project ID	Project Title
DE130101089	Understanding masculinity, the crustacean way
DP130102859	Understanding fish-killing mechanisms by harmful algal blooms: towards the design of effective mitigation strategies
DE120102459	The effects of sea-level rise on the feeding ecology of coral-reef fishes in shallow water, and the implications for reef-flat food webs
DE120102614	Monitoring coral reef health from space: how herbivore behaviour alters reef structure
DP120101946	Adapting to climate change: does enhanced metabolism provide heritable protection against ocean acidification and increasing temperature in oysters?
DP120101993	Warming up predator-prey interactions
DP120102415	What happens to coral reefs without cleaner fish?
DP120104133	Effects of invasive macrofauna on marine biodiversity and ecosystem function
IH120100032	Commercial development of rock lobster culture systems: the cutting edge of aquaculture
LP120100592	The trophic ecosystem of a purpose-built, offshore artificial reef: do coastal currents supply sufficient nutrients for the local production of fish?
LP120100652	Seascape genetics for shark management: an innovation in sustainable fisheries modelling
LP120200164	Understanding the stock-recruitment relationship to reverse the decline in the southern rock lobster
DP110100592	Stress transcriptomics: development of tests to reduce the incidence of summer mortality in abalone
DP110100695	Orientation in the pelagic environment: how do larval marine fish find their way home?
DP110100716	Changing perspective: using fish ear bones to counteract the shifting baseline syndrome
DP110104750	Can consistent individual differences in metabolic rate explain animal personality? Implications for fish and aquaculture in a warming climate
FT110100724	Understanding phenotypes: contributions from studying mutations in a model organism
FT110100990	Decoding the rules of fate, attraction and cell migration in perciform fish
LP110100516	Differential accumulation of algal biotoxins within diploid and triploid Pacific Oysters and Sydney Rock Oysters
LP110200017	Genomics for persistence of Australian freshwater fish
LP110200211	Assessing the impact of habitat restoration on the rates of recovery of four native fish species using advanced statistical models
LP110200572	Immediate and delayed changes to survival, physiology, reproduction and movement of chondrichthyans following capture stress
LP110200793	Genomic tools for the emerging tropical rock lobster aquaculture industry

LP110200825	Closing the loop: understanding the relationships between recreational fishing surveys, fishing regulations and fisheries management objectives
LP110201008	Automation of species recognition and size measurement of fish from underwater stereo-video imagery
DP1093395	Investigations of Australian Hematodinium species (sp.): a dinoflagellate parasite damaging major crustacean fisheries in Australia and worldwide
DP1093444	More than mud: how will disruption of soft-sediments threaten coastal biodiversity?
DP1093510	Ocean-reef interactions as drivers of continental shelf productivity in a changing climate
DP1093570	Triggering the dormant capacity of fish to make omega 3 fatty acids
DP1094932	A mechanistic understanding of coral reef recovery
FS100100088	Resilience of Coral Reef Ecosystems to Climate Change
FT100100767	Using ancient fish ear bones to overcome the shifting baseline syndrome in freshwater fish populations
LP100100069	Enzymatic synthesis, microencapsulation and biological evaluation of a new class of omega-3 derived functional food ingredients.
LP100100367	Feeding and breeding: Rainfall effects on connectivity and fidelity of iconic coastal fishes
LP100200409	Restoration genetics of five endangered fish species from the Murray-Darling Basin
FL0992179	Adapting the sustainable exploitation of coral reef resources to provide for climate change
FT0990835	Enhancing coral reef resilience to climate change
FT0991722	The resilience of marine ecosystems and fisheries to climate change: exploring adaptation strategies
FT0992310	Linkages between productivity and consistent behavioural traits in fish: implications for harvesting, climate impacts, and selective breeding for aquaculture.
DP0877742	Global climate change and the future for coral reef fishes

Notes

1. Relevant projects were identified using relevant Field of Research and Socio-Economic Objective codes and selected keywords (fish, oyster) and vetted for relevance.
2. The information shown was current at the time the research proposals were approved for funding and excludes any post-award variations that may have been approved.

Fisheries Research and Development Corporation (FRDC)

The Fisheries Research and Development Corporation plans, invests in and manages fisheries research and development throughout Australia. It is a federal statutory authority jointly funded by the Australian Government and the fishing industry. *For more information visit: www.frdc.com.au*

Project ID	Project Title
2006/235	Rocklobster Propagation Subprogram: commercially viable production of temperate rocklobster (<i>Jasus</i> spp.) puerulus from eggs
2007/319	Implementation of FRDC People development program
2008/031	Aquatic Animal Health Subprogram: Investigation of Chlamydiales-like organisms in pearl oysters, <i>Pinctada maxima</i>
2008/039	Aquatic Animal Health Subprogram: Strategic planning, project management and adoption
2008/041	Aquatic Animal Health Subprogram: Tools for investigation of the nodavirus carrier state in marine, euryhaline and freshwater fish and control of NNV through integrated management
2008/202	Towards reliable hatchery-produced quality blue mussels: an integrated approach to optimising supply
2008/218	Atlantic Salmon Aquaculture Subprogram: extension funding application- AGD Vaccine phase III
2008/227	ASBTIA: SBT Research Program - Coordination, facilitation and administration
2008/228	ASBTIA: Maintaining SBT High Health Status - understanding SBT parasites and investigating ways to mitigate their influence on SBT production
2008/314.29	People development program: 2012 FRDC International Travel Bursaries - Dr Joy Becker
2008/318.15	People development program: 2012 FRDC governance scholarship for women - Claire Webber
2009/032	Aquatic Animal Health Subprogram: Characterisation of abalone herpes-like virus infections in abalone
2009/044	Aquatic Animal Health Subprogram: surveys of ornamental fish for pathogens of quarantine significance
2009/046	PIRSA Initiative II: carrying capacity of Spencer Gulf: hydrodynamic and biogeochemical measurement modelling and performance monitoring
2009/055	El-Nemo SE: adaptation of fishing and aquaculture sectors and fisheries management to climate change in South Eastern Australia Work Area 4, Project 1 Development and testing of a national integrated climate change adaptation assessment framework
2009/206	Development of octopus aquaculture
2009/208	Developing clam aquaculture in Australia: a feasibility study on culturing <i>Donax deltoides</i> and <i>Katelsysia</i> sp on intertidal and subtidal leases in South Australia
2009/303	Australasian Aquaculture 2010 to 2014
2009/303.20	People Development Program: Australasian Aquaculture 2010 to 2014 (Bursary Sponsorships)

2009/315.12	People development program: 2011 Aquatic Animal Health Training Scheme - Cassandra Ypelaan
2009/315.15	People development program: Aquatic animal health training scheme - workshop on aquatic animal disease surveillance
2009/315.22	People development program: Aquatic Animal Health Training Scheme - Josiah Pit
2009/315.23	People development program: Aquatic animal health training scheme - Visiting Expert Dr Teruo Miyazaki
2009/322	People Development Program: Building seafood industry representational capacity
2010/036	Aquatic Animal Health Subprogram: Improved fish health management for integrated inland aquaculture through Better Management Practices (BMPs)
2010/051	PIRSA Innovative Solutions 3: biosecurity risk assessment and development of standardised mitigation for tuna and finfish aquaculture
2010/063	Atlantic Salmon Aquaculture Subprogram: evaluation of approaches to improve sediment remediation (rate & function) under salmonid fish cages
2010/201	Feasibility study for integrated multitrophic aquaculture in southern Australia
2010/202	Tackling a critical industry bottleneck: developing methods to avoid, prevent and treat biofouling on mussel farms
2010/212	Further development of commercialization of Artemia culture
2010/219	Tactical Research Fund: Establishing regional indicators of social sustainability in the Tasmanian aquaculture industry - a pilot study
2010/233	PIRSA Innovative Solutions: Investigations to address key policy gaps associated with the development of clam farming in South Australia: genetic and health issues aligned to translocation and stock identification
2010/234	PIRSA Innovative Solutions 3: Feasibility study on the establishment of harlequin fish (<i>Othos dentex</i>) aquaculture in South Australia
2010/305	Extension of OH&S and Quality Index project outputs to seafood industry across Australia
2011/003	Aquatic Animal Health Subprogram: Investigations into the genetic basis of resistance to infection of abalone by the abalone herpes-like virus
2011/005	Aquatic Animal Health Subprogram: Investigation of inclusions in Australian prawns
2011/041	Atlantic Salmon Aquaculture Subprogram: assessment of the environmental impacts & sediment remediation potential associated with copper contamination from antifouling paint and associated recommendations for management
2011/042	Atlantic Salmon Aquaculture Subprogram: clarifying the relationship between salmon farm nutrient loads and changes in macroalgal community structure/ distribution (Existing Student Support)
2011/046	Tactical Research Fund - Aquatic Animal Health Subprogram: Disease risk assessment for abalone stock enhancement program
2011/069	Atlantic Salmon Aquaculture Subprogram: The effects of AGD on gill function - use of a perfused gill model
2011/070	Atlantic Salmon Aquaculture Subprogram: Comparative susceptibility and host responses of endemic fishes and salmonids affected by amoebic gill disease in Tasmania
2011/071	Atlantic Salmon Aquaculture Subprogram: AGD resistance - learning from other species to bolster the natural Atlantic salmon response

2011/086	Atlantic Salmon Aquaculture Subprogram: macroalgal monitoring in Macquarie Harbour, Tasmania
2011/235	Atlantic Salmon Aquaculture Subprogram: design, testing and assessment of seal exclusion systems for salmon (<i>Salmo salar</i>) farm netpens and leases in Tasmania
2011/238	Feasibility study for establishing an APFA model prawn farm in Qld
2011/241	Tactical Research Fund: Development of a commercial control treatment for sepioid tube worm fouling at Port Phillip Bay mussel farms
2011/245	Tactical Research Fund: Research methods to manage pathogenic microbiological and biological organisms within a redclaw (<i>Cherax quadricarinatus</i>) egg incubator hatchery to improve survival and reliability
2011/246	Opportunities and constraints on Australian wild fishing and aquaculture under a carbon economy
2011/253	Innovative Solutions for Aquaculture: development of a sustainable South Australian macroalgal aquaculture industry
2012/001	Aquatic animal health subprogram: Strategic planning, project management and adoption
2012/002	Aquatic Animal Health Technical Forum
2012/024	INFORMD Stage 2: Risk-based tools supporting consultation, planning and adaptive management for aquaculture and other multiple-uses of the coastal waters of southern Tasmania
2012/030	Prawn Superpowers Summit - enhancing awareness of emergency aquatic animal disease response arrangements for the Australian prawn farming industry
2012/031	Australian abalone industry emergency disease response awareness workshop
2012/035	Bio-Security Awareness Workshop
2012/036	Revitalising estuaries and wetlands for carbon sequestration, biodiversity, fisheries and the community
2012/040	Tactical Research Fund: development of a risk management plan for marine biotoxins in Tasmanian abalone
2012/044	Aquatic Animal Health Subprogram: Exercise Sea Fox: testing aquatic animal disease emergency response capabilities within aquaculture
2012/047	Atlantic Salmon Aquaculture Subprogram: characterising benthic pelagic interactions in Macquarie Harbour - organic matter processing in sediments and the importance for nutrient dynamics
2012/048	Atlantic Salmon Aquaculture Subprogram: Culture and cryopreservation of <i>Neoparamoeba perurans</i> (AGD)
2012/053	Atlantic Salmon Aquaculture Subprogram: assessment of Orthomyxo-like virus pathogenicity in Atlantic salmon
2012/060	Review of the 2012 paralytic shellfish toxin non-compliance incident in Tasmania
2012/208	The Tasmanian Freshwater Eel Industry - an industry development and directions plan.
2012/213	Developing jungle perch fingerling production to improve fishing opportunities
2012/217	Atlantic Salmon Aquaculture Subprogram: trial of a stock protection system for flexible oceanic fish pens
2012/220	Tactical Research Fund: sea ranching trials for commercial production of greenlip (<i>Haliotis laevis</i>) abalone in Western Australia

2012/228	Atlantic Salmon Aquaculture Subprogram: UTAS Experimental Aquaculture Facility: Obtaining expert international governance, design and operational advice for the Atlantic salmon partners.
2013/004	Aquatic Animal Health Subprogram: the Neptune Project- a comprehensive database of Australian aquatic animal pathogens and diseases
2013/027	ASBTIA: Optimising the use of praziquantel to manage blood fluke infections in commercially ranched SBT
Oyster Projects	
2008/030	Aquatic Animal Health Subprogram: Development of a DNA microarray to identify markers of disease in pearl oysters (<i>Pinctada maxima</i>) and to assess overall oyster health
2009/315.24	People development program: Aquatic animal health training scheme - KBBE workshop on diagnostics for mollusc diseases
2010/534	FRDC-DCCEE: ensuring that the Australian Oyster Industry adapts to a changing climate: a natural resource and industry spatial information portal for knowledge action and informed adaptation frameworks
2011/043	Aquatic Animal Health Subprogram: understanding and planning for the potential impacts of OsHV1 u Var on the Australian Pacific oyster industry
2011/053	Aquatic Animal Health Subprogram: Pacific oyster mortality syndrome (POMS) - understanding biotic and abiotic environmental and husbandry effects to reduce economic losses
2011/236	Pearl Consortium IPA: improving reliability and efficiency of spat nursery and growout for the silver-lip pearl oyster (<i>Pinctada maxima</i>)
2011/248	Pearl Consortium IPA: Control of Reproduction of the silver-lip pearl oyster, <i>Pinctada maxima</i>
2012/032	Aquatic Animal Health Subprogram: Pacific oyster mortality syndrome (POMS) - risk mitigation, epidemiology and OsHV-1 biology
2012/051	Workshop to facilitate epidemiological analysis of unexplained mortality of South Australian Pacific Oyster
2012/052	Aquatic Animal Health Subprogram: development of a laboratory model for infectious challenge of Pacific oysters (<i>Crassostrea gigas</i>) with ostreid herpesvirus type-1
2012/223	Tactical Research Fund: Assessment of heavy metals in tropical rock oysters (blacklip and milky) and implications for placement into the Australian seafood market and for Indigenous enterprise development in the NT.
2012/229	Tactical Research Fund: development and validation of effective and affordable oyster production systems in the face of POMS disease of Pacific Oysters and QX disease of Sydney Rock Oysters - evaluation from a production, research and economic perspective

The Australian Seafood Cooperative Research Centre is Australia's first entity to stimulate and provide comprehensive seafood-related research and development and industry leadership on a national basis. *For more information visit:* www.seafoodcrc.com.au

Project ID	Project Title
2008/705	PDRS- Quantitative Genetics Scientist
2008/711	Addressing key aquatic animal health issues limiting production of Australian YTK and hatchery reared SBT industries
2008/715	Australian abalone industry R&D planning, implementation and extension
2008/731	PhD: Development of a healthy high Australian-seafood diet that will be acceptable to women of child bearing age: The Australian Seafood Diet for Intergenerational Health
2008/741	PhD: Human enteric viruses in Australian bivalve molluscan shellfish
2008/742	PhD: Processing of Sea cucumber viscera for bioactive compounds
2008/749	PhD: Using the mucosal antibody response to recombinant Neoparamoeba perurans attachment proteins to design an experimental vaccine for amoebic gill disease
2008/763	PhD: Quality, shelf life and value adding of Australian Oysters
2008/765	Higher Education Theme Leader
2008/768	PDRS Seafood Molecular Biologist PDRF: Seafood Innovation through molecular biology
2008/769	Needs analysis for support tools for implementation of genetic improvement programs and development of strategy for a syndicated approach
2008/772	Education and training exchange program with NOFIMA, a world leading aquaculture research institute
2008/793.10	Optimising quality within domestic prawn value chains
2008/794.20	Retail Transformation:-Repositioning Australian farmed Barramundi in the domestic market
2008/902	Aquaculture Innovation Hub (2009/212)
2009/701	Australian Oyster Industry Benchmarking Program Development
2009/708	An abalone quality assurance program
2009/708.01	An abalone quality assurance program
2009/709	Improving the supply chain for selected WA finfish
2009/710	Bioeconomic evaluation of commercial scale stock enhancement in Abalone
2009/712	Future Harvest Theme Leadership
2009/714.10	Decision support tools for economic optimisation of invertebrate fisheries (Part 1 WRL component)
2009/714.20	Decision support tools for economic optimisation of invertebrate fisheries (Part 2 SRL component)
2009/714.30	Decision support tools for economic optimisation of invertebrate fisheries - ACA component
2009/715	Optimising business structures and fisheries management systems for key fisheries
2009/723	Analysis of product differentiation opportunities for Australian wild caught Abalone in China (G2 Group)

2009/723.30	Analysis of product differentiation opportunities for Australian Wild Caught Abalone in China - Stage 2 (ACA component)
2009/723.40	Analysis of product differentiation opportunities for Australian Wild Caught Abalone in China - China Representative Office
2009/724	Genetic technologies to support a transformation to profitability & competitiveness in <i>F. merguensis</i> and <i>P. Monodon</i>
2009/725	PhD: Sustainable aquaculture development through effective policies
2009/727	PDRS: Supply Chain analysis increasing profitability in selected supply chains
2009/728	Sustainable feeds and Feed Management for Yellowtail Kingfish
2009/730	Development of barramundi selective breeding entity II
2009/743	Reproductive condition marketability and survival in oyster breeding strategies
2009/744	Propagation and sea-based growout of sea cucumber stocks in the Northern Territory
2009/744.10	Propagation and sea-based growout of sea cucumber stocks in the Northern Territory
2009/746	Could harvests from abalone stocks be increased through better management of the size limit / quota interaction?
2009/752.10	Communal: Seafood Trade Expert Panel (STEP)
2009/756	PhD: Managing fisheries to maximise profits by understanding and reducing variable costs of fishing
2009/757	PhD: Profiling host-parasite dynamics of AGD using molecular DNA methods – application to vaccine development, selective breeding and offshore aquaculture
2009/761	PhD: The role of inbound Chinese tourists in promoting Australian food products in China
2009/762	PhD: Assessing the costs and benefits of changing shot rotation practices in the Southern Rocklobster fishery
2009/773	WA Dried seafood products - a pilot study (Dried Seafood products for the Asian Market: A pilot Study)
2009/775	Prevention of "muddy" taints in farmed Barramundi
2009/787	The Whole Prawn - Prawn Market Access Defenders
2010/704	Maximising the value by minimising stress in Abalone - Optimising Harvesting strategies
2010/707	Loss minimisation in farmed prawns through improvements in shelf-life and colour
2010/714	Master Class : The Future Harvest
2010/722	PhD: Optimising prawn nutrition for growth performance under suboptimal conditions
2010/724	PhD: Development of tools for the sustainable management of genetics in polyploid Pacific Oysters, <i>Crassostrea gigas</i>
2010/725	PhD: Capturing and maintaining genetic variation when initiating selective breeding programs for aquaculture
2010/727	PhD: Molecular assessment of spawning cues in temperate abalone
2010/728	PhD: Development and optimisation of anaesthetics for use in the abalone aquaculture industry
2010/736	Development of formulated diets for cultured abalone
2010/737	Marine Biotoxins and Market Access for Abalone
2010/740	PDRS - Fisheries Economist
2010/743	Masters: Fresh Prawns: Maintenance of optimum quality for Western King Prawns

2010/744	The Whole Prawn (Stage 1) - Product Development Ideation
2010/745	ACPF R&D planning, implementation, extension and utilisation (a replacement for project 2008/748)
2010/745.01	ACPF R&D planning, implementation, extension and utilisation (a replacement for project 2008/748)
2010/747	National Oyster R&D - strategic R&D project commissioning, management and path to commercialisation
2010/753	Improving hatchery production of Yellowtail Kingfish larvae and juveniles
2010/755	PhD: Development of sperm refrigeration and cryopreservation techniques in greenlip and blacklip abalone
2010/756	PhD: Collaborative competition: Understanding the characteristics, drivers, constraints and advantages of collaboration within the Australian wild-caught abalone industry
2010/757	PhD: Reducing the taint in Barramundi farmed in recirculating freshwater systems
2010/766	Policy shift to risk-based fisheries management - Phase 1 Proof of Concept
2010/767	Prevention and control of maturation to address multiple key abalone production constraints
2010/768	Broodstock and genetic management for SBT and YTK
2010/770	Australian Seafood Apprentice Chef and Commercial Cookery Online Training Series (Curtin University and West Coast Training Institute)
2010/771	Alleviation of Summer Gut Syndrome in Tasmanian Atlantic Syndrome
2010/774	Successful Sardines – post-harvest optimisation and new product development for human consumption
2010/775	New product development for low value, high volume species - WA Sardines
2010/777	Identification of the core leadership group and network structure of East Coast Trawl to develop, implement and evaluate strategic opportunities
2010/778	Optimising harvest practices for Yellowtail Kingfish
2010/779	The SCRC skills audit and articulation into the National Seafood Industry Training Package
2010/780	PhD: Molecular and quantitative genetics studies to improve breeding programs for key Australian aquaculture species
2010/781	PhD: Broodstock conditioning of sandfish, <i>Holothuria scabra</i> and optimisation of spawning induction Techniques
2011/700	PhD: The relevance of Human Resource Practices (HRP) as a driver of aquaculture industry performance
2011/701	PhD: Atlantic salmon gastrointestinal health and productivity
2011/702	PhD: An investigation of pathogenic bacterial populations in Atlantic Salmon (<i>Salmo salar</i> L.)
2011/703	PhD: Tracking methyl mercury contamination pathways in key commercially and recreationally fished species
2011/706	CRC Processor's, Marketer's and Retailer's Magazine
2011/711	PhD: Strategic decision making and business performance in the Australian seafood industry
2011/712	Masters: Strategic Planning practices used by Australian Wild Harvest Fisher
2011/716	Postdoctoral Research Fellow (SARDI)- Quality
2011/717	Postdoctoral Research Fellow (SARDI) - Toxicology
2011/718	PhD: Molecular analysis of the effects of stressors on oysters
2011/721	Understanding and Minimising "Greying" of Farmed Barramundi fillets
2011/723	Delivery of SCRC/WAFIC research outputs to the WA fishing industry

2011/724	The development of an Australian Cobia aquaculture industry
2011/726	Wanted Dead or Alive: Novel Technologies for Measuring Infectious Norovirus Particles
2011/727	Oyster Product Development Innovation - Oyster Opening
2011/728	Enhancing survival in aquaculture (specifically <i>P.monodon</i>) by creating a <i>Heterosigma</i> algal identification unit
2011/730	Development of germ cell transplantation technology for the Australian aquaculture industry
2011/731	Optimising External Colour in Farmed Crustaceans, using <i>Penaeus monodon</i> as a model species.
2011/734	Controlling biofouling of pond aerators on marine prawn farms
2011/735	An evaluation of the options for expansion of salmonid aquaculture in Tasmanian Waters
2011/736	National Prawn Market Category Planning
2011/739	Guideline for quality and safety assessment of novel seafood products
2011/740	Addressing the causes of early mortality in hatchery produced YTK larvae
2011/744	Commercialising translocation of southern rock lobster to improve yield and value
2011/746	Value adding to the school prawn industry: Clarence River case study
2011/747	Maximising the quality of Australian wild-caught prawns (Quality Assurance)
2011/747.01	Maximising the quality of Australian wild-caught prawns (Quality Assurance) - reimbursement of expenses
2011/748	Time-temperature monitoring for maximising returns through the supply chain
2011/749	New funding mechanisms for the future of the ACPF
2011/750	Bio- economic model for SA prawn trawl fisheries
2011/751	PhD: Improvement of abalone nutrition with macroalgae addition
2011/754	Development of finfish aquaculture in Western Australia: Removal of barriers to profitable production
2011/756	Evaluation of the impact of advertising Tassal Atlantic Salmon on growth of sales of the Tassal brand and the whole salmon category.
2011/758	Development of an efficient diagnostic tool for assessing antiviral resistance in abalone and oysters
2011/761	Optimisation of viral clearance from broodstock prawns using targeted RNA interference
2011/762	Recovering a collapsed abalone stock through translocation
2011/764	Corporate membership of the Ehrenberg-Bass Marketing Research Institute
2011/765	Masters: Investigating barriers to Yellowtail kingfish culture in WA: Parasites affecting flesh quality
2011/766.01	Extension Officer - expenses
2011/766.02	Extension Officer - expenses
2011/769.01	Milestone report evaluations by external reviewers
2011/771	Genetic selection for Amoebic Gill Disease (AGD) resilience in the Tasmanian Atlantic salmon (<i>Salmo salar</i>) breeding program
2011/772	Masters: Impacts and predictive modelling of coastal upwelling on the SA Oyster industry
2012/060	Review of the 2012 paralytic shellfish toxin non-compliance incident in Tasmania
2012/700	Professional Fishing Certificate - a CRC legacy
2012/701	Cook in a bag: WA Seafood products development, trial and evaluation

2012/702	Innovation in Traceability for the Australian seafood industry Austral Fisheries/Northern Prawn Fishery case study
2012/703	Development and commercialisation of an oyster TTI system
2012/704	Improving strategies to support intergovernmental negotiations concerning the export of Australian lobster and abalone to China
2012/705	Future options for business structures to optimise Australia/China lobster Trade opportunities.
2012/705.20	China project miscellaneous expenses (meeting room etc)
2012/706	Student mentoring at Flinders University
2012/708	Quantifying physiological and behavioural responses of cultured abalone (molluscs) to stress events
2012/713	Understanding how to condition the Sydney Rock Oyster
2012/714	PDRS: Use of next generation DNA technologies for revealing the genetic impact of fisheries restocking and ranching
2012/716	PhD Extension: RNA interference (RNAi) as a means to control Neoparamoeba perurans, the causative agent of amoebic gill disease (AGD)
2012/719	RTG: Hands-on operational experience and training at the Port Stephens Research Institute (PSRI) marine finfish hatchery, Port Stephens Fisheries Institute, Taylors Beach, NSW (Fisheries Technician: Trevor Borchert, DEEDI)
2012/722	IB: Development of Cobia hatchery capability for Australia, Port Stephens Fisheries Institute (PSFI), Taylors Beach, NSW (Aji [Archie] Bomanatara, Pacific Reef Fisheries)
2012/723	Performance of Barramundi from widespread genetic sources in diverse grow out environments
2012/727	RTG: Visit by Dr. Standish K. Allen Jr. from the Virginia Institute of Marine Science (VIMS) to Australia and fluorescent in situ hybridisation training by SCRC PhD student Penny Miller prior to Dr Allen's visit (PhD student Penny Miller, UTAS)
2012/728	RTG: Visit by Dr. Standish K. Allen Jr. from the Virginia Institute of Marine Science (VIMS) to Australia and fluorescent in situ hybridisation training by SCRC PhD student Penny Miller prior to Dr Allen's visit (Scott Parkinson, Shellfish Culture Ltd)
2012/729	Biofloc research extension project
2012/731	Optimising industry adoption: Case studies on the efficacy of current Australian Seafood SCRC research extension processes.
2012/732	Oysters Australia: Developing and facilitating regional grower groups to extend and build on SCRC outputs
2012/736	Student mentoring at UTAS
2012/738	Determination of the baseline levels of TPH and nutrient levels in a proposed aquaculture zone
2012/739	Defining the legacy from the CRC's research in Future Harvest
2012/740	Evaluating the impact of an improved retailing concept for oysters in Fishmongers
2012/741	Market diversification opportunities for Southern Rock Lobster (SRL)
2012/741.10	Market diversification opportunities for Southern Rock Lobster (McKinna)
2012/741.20	Market diversification opportunities for Southern Rock Lobster (SCRC)
2012/744	The role of seafood (and fish) in disease prevention and management (text for an e-book)
2012/746	Preliminary Investigation of internationally recognised Responsible Fisheries Management Certification

2012/749	IB: TRAIL (Training Rural Australians in Leadership) Leadership Course
2012/750	RTG: Visit to the laboratory of Professor Douglas Tocher (Institute of Aquaculture, University of Stirling, Scotland) to undertake collaborative research into the lipid and polyunsaturated fatty acid (PUFA) metabolism of Southern Bluefin Tuna (Andrew Scholefield, Flinders University)
2012/753	RTG: Analysis of gene expression and function involved with fat deposition in Yellowtail Kingfish, using RNA-seq data, NOFIMA, Norway (Paul Whatmore)
2012/755	Visiting Expert: Dr John Taylor visit to Tasmania
2012/756	Aquaculture production innovation hub: Phase II - communication, extension and opportunities (formerly 2008/902)
2012/757	Market development funding options for the Australian oyster industry
2012/758	Increase sustainable use of crab fisheries resources by recovering revenue from crabs currently rejected at market
2012/759	Student mentoring at Curtin
2012/760	Genetic selection for resistance to Pacific Oyster Mortality Syndrome
2012/761	China Trade Project Officer (part of 2012/704 & 2012/705)
2012/763	Site visits with international prawn / shrimp industry organisations
2012/764	Communication support for SRL projects involving processors - Stephen Gill
2012/765	SRL Clean Green Business Framework
2012/767	Legacy Project: Aquaculture Genetics Services Unit
2012/767.10	Aquaculture Genetics Services Unit
2012/769	Seafood Executive Program
2012/771.01	Legacy project operating fund
2012/772	Ongoing Salmon research in the new Utas Aquaculture Research Facility
2012/773	Oyster breeding program transition to full commercialisation
2012/774	Commercialising market research outputs
2012/774.10	Implementation of the National Prawn Marketing Campaign
2012/774.20	National Prawn Strategy Implementation - industry stakeholder communication and engagement
2012/774.40	National Prawn Strategy Implementation - industry stakeholder communication and engagement - expenses
2012/774.50	National Prawn Strategy Implementation - industry stakeholder communication and engagement - other expenses
2012/775	Prawn Market Development Commercial Pilot Program Funding and Management Agreement
2013/700	Yellowtail Kingfish genetics: commercialisation strategies
2013/701	Ninth International Conf on Molluscan Shellfish Safety Sponsorship
2013/702	Publicity for ASCRC at the AIFST 2013 Annual Convention
2013/703	Australian Seafood CRC Publication Prize: Josephine Nocillado
2013/704	Australian Seafood CRC Publication Prize: Kellie Anderson
2013/706	IB: Disease Diagnosis and Control in Marine Shrimp Culture Caitlin Ringuet
2013/707.01	Oyster chain market strategy meeting 19 March 2013
2013/708	Safe spat rearing experiment
2013/709	Piloting Commercial Scale Supply of Mass Selected Sydney Rock Oysters
2013/710	Securing the future of SBT propagation R&D
2013/711	Centre of Excellence for Seafood Science and Health: Post Harvest Research Program
2013/712	Know the retailer - strategies for working with specialist seafood retailers
2013/713	Understanding and reducing the risk of paralytic shellfish toxins in Southern Rock Lobster

2013/714	Establishing improved trade access and market development for Australia's Abalone and Rocklobster to China
2013/714.10	Establishing improved trade access and market development for Australia's Abalone and Rocklobster to China
2013/714.20	Establishing improved trade access and market development for Australia's Abalone and Rocklobster to China
2013/714.30	Establishing improved trade access and market development for Australia's Abalone and Rocklobster to China
2013/714.50	Establishing improved trade access and market development for Australia's Abalone and Rocklobster to China
2013/715	Post Doctoral Research Scientist - University of the Sunshine Coast
2013/716	Seafood Post harvest research innovation hub
2013/717	(Sea) Food Marketing Undergraduate and Postgraduate Course (University of the Sunshine Coast)
2013/718	RTG:To learn practical skills in conducting viral disease challenge techniques in Penaeid prawn species using white-spot syndrome virus (WSSV) as a model virus to be conducted at Shrimp Biotechnology Business Unit (BIOTEC), Pathumthani, Thailand. (Applicant: Dan Pountney, PhD Student, UTAS)
2013/719	RTG: To gain hands on experience to determine GSM/MIB (taint causing agents) in Barramundi, The University of Ave, Clarksville, USA (Applicant: Priyantha Indrajith Hathurusingha, PhD Student, The University of Adelaide)
2013/720	To build leadership capacity within the senior members of the Seafood CRC Legacy Post Harvest Research Hub, Peak Performance Development, Sydney
2013/721	VE: Dr Ben Madin and Ms Rachel Gordon, AusVet Animal Health Services (Applicant: South Australia Oyster Research Council and Dr Charles Caraguel, The University of Adelaide)
2013/722	Seafood Executive Program Bursaries, Gail Thiele,Barramundi Gardens; Mark Boulter ,SFM; Stefan Diacos,Raptis
2013/723	Project Officer P1
2013/725.01	SCRC rebid expenses
2013/726	Utilisation of improved varieties of soybean meal and poultry offal meal by barramundi (<i>Lates calcarifer</i>)
2013/728	International prawn and shrimp conference 2014 (ACPF)
2013/729	Promoting marine finfish aquaculture in NSW
2013/730	Refining Yellowtail Kingfish feed management and understanding their dietary requirements
2013/731	Improving Fluke control in YTK and reducing risk through better farm management practices
2013/732	Avoiding the pitfalls of modified atmosphere packaging
2013/733	Interactive seafood packaging Master Class
2013/734	Western Rock Lobster RD&E plan 2013-22
2013/735.01	SafeFish Website
2013/736	Modified atmosphere packaging of shucked abalone meat
2013/737	Propagation of South Bluefin Tuna - Addressing constraints to larval rearing
2013/738.01	Staff Workshop (July 18 & 19, 2013)
2013/739.01	Seafood Directions
2013/740	Australian Seafood CRC Publication Prize: Vijay Reddy (2011)
2013/741	Tourist Visitation to the Sydney Fish Market: Understanding Opportunities and Leveraging

Recently completed projects	
2011/705	SCRC RTG 1.4 – Fish immunology workshop, Wageningen University
2011/707	SCRC RTG1.5 – Physiology and aquaculture of pelagic workshop, Panama, Central America
2011/708	SCRC RTG1.6 – Research training, National Institute of Health Sciences, Japan
2011/709	SCRC IB1.1 – Fish Breeders Round Table Meeting, Norway
2011/710	IB: Study tour of Marine Harvest operations, Scotland
2011/713	SCRC RTG 1.3 - Shrimp pathology course: Disease diagnosis and control, University of Arizona, USA + visit to Shrimp Biotechnology Business Unit, Thailand
2011/714	Investigation of a Company Model for Australian Wild Abalone Trademark
2011/715.01	Planning & Reporting July 2011
2011/720	Visiting expert: stock enhancement - Kai Lorenzen
2011/729	Tackling microbial related issues in cultured shellfish via integrated molecular and water chemistry approaches
2011/732	Market research in developing a new distribution channel for Tassal
2011/733	Evaluation of survival and pathology of juvenile yellowtail kingfish (<i>Seriola lalandi</i>) after injection with an autogenous, killed vaccine for <i>Photobacterium damsela</i> ssp. <i>damsela</i> at the Port Stephens Fisheries Institute
2011/736.10	National Prawn Market Category Planning
2011/737	The SIPP Program - Connecting early career researchers with the Australian seafood industry through meaningful coaching partnerships: Year 3
2011/738.01	Delivery of Seafood Management Development Program Module in Port Lincoln: Effective Business Communication
2011/741.01	China Market Development Manager
2011/741.02	China Market Development Manager (SRL Expenses)
2011/752	Collaboration with Dr Salina Parveen to discuss comparisons of <i>Vibrio parahaemolyticus</i> models for Australian Pacific, Sydney Rock, and American Oysters at the University of Maryland
2011/753	RTG Implementation of PhD research to industry partner Simplot Australia
2011/759	SCRC IB - Visiting existing <i>Seriola</i> seacage operations in Japan.
2011/760.01	Retail Project Manager
2011/763.01	CRC Website - Content and Bookshop Updates
2011/768.01	Economic Evaluation for the SCRC 2011
2011/770.01	Visiting Expert Tiffany White & ors Seafood Directions 2011
2011/773	Abalone Research Forum
2012/709	Participant sponsorship to 2012 National Seafood Industry Leadership Program
2012/710	Webinar Training Software for SCRC Extension and Education Projects
2012/711.01	FRDC/CRC Participants' Workshop on Procedures for Collecting Funds for Marketing and Promotion
2012/712	RTG: Travel to Europe to meet with fish health professionals from Scotland and Ireland to review and analyse recent European AGD outbreak.

2012/715	Preliminary investigation into alternative markets in Asia for Southern Rock Lobster
2012/717	RTG: Attendance at the Economics of Aquaculture course, with a focus on salmonid aquaculture, University of Portsmouth, United Kingdom
2012/718	RTG: Targeted meetings with key research providers and industry personnel in the UK relevant to SCRC projects 2011/703 and 2011/735
2012/720	RTG: Learning the practical aspects of using of clay particles to improve bacterial management during larval culture, University of Miami Experimental Marine Hatchery (Robert Michael, Australian Centre for Applied Aquaculture Research)
2012/721	RTG: Attendance at the Marine and Freshwater Toxins, Third Joint Symposium and the Association of Official Agricultural Chemists (AOAC) Task Force Meeting and participation in the International training workshop on chemical based methods (LCMS/ MS Methods) for detecting diarrhetic and other lipophilic toxins, Tacoma, Washington USA
2012/724	IB: IFGM Seafood Executive Program
2012/726	RTG: Value chain analysis and point of sale opportunities for the Spencer Gulf King Prawn Fishery, Brussels Belgium
2012/730.01	The SIPP Program - Connecting early career researchers with the Australian seafood industry through meaningful coaching partnerships: Year 4
2012/733	Driving Commercialisation - R & D Workshop, Australian Prawn and Barramundi Farmers Conference, Cairns 2012
2012/734	Young Scientists in Aquaculture - Seafood CRC Student Presence at AA2012
2012/735	Consumer Messaging Focus Groups
2012/737	Yellowtail kingfish health workshop and feed analysis
2012/745	Industry adoption - Phase 2 of extension for the seafood compositional profiles project
2012/747	IB: Study tour to Chile
2012/748	IB: Study tour to South Korea
2012/751	RTG: "R" Basic and Design and Analysis of Experiments Workshop The University of Western Australia, Perth
2012/752	RTG: Laboratory visit to be trained to analyse oyster (Sydney Rock Oysters) histology sections, Elizabeth Macarthur Agricultural Institute, NSW
2012/754	Visiting Expert: Weaning of SBT larvae; training of CST Hatchery staff
2012/761	China Trade Project Officer - reimburse expenses (part of 2012/704 & 2012/705)
2012/761.01	China Trade Project Officer - reimburse expenses (part of 2012/704 & 2012/705)
2012/762.01	Post Harvest and market development planning forum (CEOs meeting)
2012/766	SeaFOOD magazine evaluation
2012/770.01	SCRC Planning & discussion session with CEOs
2013/705.01	Marketing Cram Conference: An Experiment in a New Conference Format
2013/724	Seafood Provenance
2013/727	RTG: Marketing strategies for profitable growth in China, Harvard University, Shanghai