

Southern Rocklobster Limited

Project Briefings



2006 - 2007

Overview

Enclosed are complete copies of the reports, updates and proposals dealt with at the annual Strategic Planning Workshop held on May 31st in Canberra. Projects relate the Australian Southern Rocklobster Industry Strategic Plan which can be downloaded from the Southern Rocklobster Limited website (www.southernrocklobster.com).

Please direct any queries to the relevant contacts.

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USA Implementation Project: FRDC Project 2006/216 extension

Completion Date: 2009

Principal Investigator: Matt Muggleton

OBJECTIVES

1. To develop a mechanism to establish a new supply chain system (SRL Management Model)
2. Assess performance of the new supply chain (SRL Management Model)

BACKGROUND

The project followed on from FRDC 2006/216 which established tools for developing the Super Fine Dining Segment of the USA market

The project was to involve establishing and implementing a supply chain system which guarantees verifiable product integrity through implementation of Quality Assurance and full traceability of ASR to the SPFD sector / Steakhouse and Gaming specifications in the USA. An appropriate communication and education program was to be implemented.

A financial model and risk management strategies were also to be developed and overall performance was to be assessed.

PROGRESS

The new supply chain system has been established and the start-up trial commenced on the 8th January, 2006.

The platform operating practices are based on the Clean Green product standard throughout the supply chain. The QA system ensures that product delivered to the customer meets the product specifications and supply chain members operate in accordance to the behavioural requirements detailed in the standard.

The product integrity is guaranteed by the "Australian Southern Rocklobster Clean Green" trade mark, which is printed onto a speciality tag attached to the rocklobster antenna (commonly referred to as the horn). The tag also contains a barcode on the opposite side to the mark, which offers complete track and trace of the product from the point of capture to the point of consumption – Pot to Plate.

Australian Southern Rocklobster fishers have supplied product throughout the start-up trial through a contracted supply model. The contracted supply model means that fishers commit a certain volume of product, meeting the product specifications, over a fixed period of time and delivered to a certain location.

The supply has been scheduled across a period of time and locations to ensure a certain volume of product can be delivered to meet the marketplace requirements.

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A USA importer / distributor, based in Los Angeles, has been appointed on a fee for service (rate per lb) to import, pick-up, unload, manage the tanking system, pack and distribute within Los Angeles and Las Vegas.

Communication tools have been established for the supply chain and marketplace, these include;

- Best practice DVD
- Flip cards – storage, handling, product specifications, packing guidelines
- Food service manual
- Website – including the track and trace interface
- Merchandise (hats and polo shirts)

The communication and education tools, identified in 2006/216 “Development of supply chain distribution and communication tools to support entry of Australian Southern Rocklobster into the Super Premium Fine Dining Sector in the USA”, program have been trailed with high-end chefs in Las Vegas and Los Angeles. The trial has included;

- Education of chefs on the Clean Green program, product, preparation techniques, plate margins and handling techniques
- Training wait staff, so they understand the culinary characteristics and consumption techniques for the product

The financial system has been established including;

- Accounting, invoicing and payment systems
- Banking USA & Australia
- Contracts, service and payment arrangements

The commercial risks in establishing the USA market include;

- Guaranteeing supply
- Mortalities through-out the chain
- Exchange rate
- Payment default
- Slow collections

The following strategies have been used to minimise the commercial risks:

Risks	Risk minimisation strategy
Guaranteed supply and quality	Contract supply model
Mortalities	10% mortality amount
Exchange rate	Set the price point based on 0.8
Payment default	Credit insurances

NEXT 12 MONTHS

An interim report has been drafted and when finalised will bring the project to an end. The uptake of the supply platform has been slow, but implementation has demonstrated that a restructured supply chain direct from fishers in Australia can operate successfully.

A long term commitment of R & D to establish the model globally is required. This program is being developed and is expected to commence through the CRC on 1 July 2007. Anticipated budget \$400k-\$500k pa for 7 years.

To further develop the program in the USA over the next 12 months the following needs to occur:

- Enhancement (increase volume) of the current accounts through an education and training program
- R&D to establish the restructured chain in new locations and
- Reduced supply chain costs, in particular mortalities

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SRL Project Briefings

Australian Global Lobster Market Database Update- 24 May 2007

FRDC Project 2006/213

Completion Date: TBA

Principal Investigator: Alice Hurlbatt

The Western Rock Lobster Development Association (WRLDA) project "Rock Lobster Post Harvest Subprogram: expand and develop the WA specific global lobster market database for strategic planning by Australian rock lobster industries" funded by the Fisheries Research and Development Corporation (FRDC) is well underway, commencing officially in September 2006.

OBJECTIVES

The original Global Lobster Market Database (GLMD) was created to identify trends in the value, volume and price of lobster products exported in the key markets in Asia and America, targeted by Western Rock Lobster (WRL) exporters. The potential to use a GLMD for other species and marketing groups within the Australian Rock lobster industry was identified by stakeholders with the inclusion of additional information such as more competitor countries, exchange rates, and market intelligence.

This will allow them to identify trends in markets enabling development of predictive models by industry, improving the ability of industry to "fish to the market", and develop their own marketing strategies. The three main objectives for the project are:

- 1. Extend the WA specific GLMD to other Australian lobster fisheries.*

Collect solid, detailed, long term information on the key competitors and markets in direct competition with the Australian Rock lobster industries including Southern, Tropical and Western Rock Lobster.

- 2. Expand the database to include more countries.*

The expansion of the Global Lobster Market Database will increase the understanding of the international lobster market and its drivers, by having relevant, timely information on which to observe the activities of key competitors and importing countries relevant to each major lobster producing State and fishery in Australia. Data from more than 40 countries and states is being collected.

- 3. Development of protocols that assist the marketers of rock lobster to take due regard of their predictive tools.*

Create a greater understanding of market requirements by Australian Rock Lobster industries, allowing the development of strategic, flexible, effective market tools suitable for maximising the Australian lobster industry position in the global marketplace.

Detailed, up-to-date market information on current and upcoming markets, will enable the industries to develop models that predict and maximise market opportunities. In the long term, the trend information provided by the database will be valuable for strategic planning and as a tool for understanding the observed data.

PROGRESS

The first milestone for the project has been completed and submitted to the FRDC in February 2007. The source data for the project has been collected and the software program administering the database has been nearly completed. WRLDA is in the process of creating the first of two quarterly reports, due in August 2007.

Monthly import and export data from 40 countries, including Australia, Brazil, Canada, Cuba, China, the EU, Mexico, South Africa, New Zealand, the US and Vietnam has been collected from 1995 to 2007, for value, quantity, price, as well as price information for the United States markets from Jan- May 2007. Media and news information available for the countries for the last four years as also been sourced and included in the database, and currencies and exchange rates will also be provided.

The Database will be linked to the new Western Rock Lobster Development Association (WRLDA) website – www.western-rock-lobster.com upon completion, and access to search the database via subscription will be available through this mechanism. The links and search function between the database and the website is under construction, with completion expected in August 2007.

THE NEXT 12 MONTHS

Prior to the issue of the quarterly reports in August 2007, WRLDA plans to meet with stakeholders to discuss the database project and ensure the reporting process is acceptable. This is expected for mid to late June 2007. The database will also be presented at the Cairns Rock Lobster Congress in August 2007, and feedback and input from the steering committee will be sought. The first two quarterly reports are also due in August 2007.

Following the submission of the associated FRDC milestone reports with the presentation of the first two reports and the Rock Lobster Congress report, information dissemination will occur through media releases, newsletters, and seminars as applicable. The provision of the second two quarterly reports to industry is scheduled for February 2008.

The project has also provisions for meeting with stakeholders in the industry in each 6 month intervals, the dates for which will be confirmed when available.

If you would like further information on the project, please contact Alice Hurlbatt, Project Investigator for the Western Rock Lobster Development Association, on (08) 9492 8831

Alice Hurlbat
Project Investigator
Western Rock Lobster Development Association
08 9492 8831

SRL Project Briefings

*Integrated Supply Chain Management as a Strategy to Niche Market Development -
Australian Southern Rocklobster*
Completion Date: May 2007
Principal Investigator: Roger Edwards

OBJECTIVES

1. Directly link with SRL in-market development activity to identify relevant standards and integrated supply chain framework for the marketplace.
2. Incorporate traceability standards into the integrated supply chain product certification scheme to support product traceability and brand integrity.
3. Refine, further develop best practice supply chain standards, standard operating procedures and resources to support implementation of the integrated supply chain system.
4. Trial and implement the integrated supply chain product certification scheme across the supply chain.

PROGRESS

The project has been completed.

In summary the project succeeded in delivering and/or contributing to the following:

- Product specifications and standards applicable to the supply chain for rocklobster from pot to plate to meet specifications
- Chain audit protocols (for conformance assessment bodies)
- A product traceability system
- Series of operating manuals covering each part of the supply chain:
 - System Management Manual
 - Regional Receiver Induction Manual
 - Importer / Distributor Induction Manual
 - Food Service Manual
 - Supply Chain Training Manual
 - The Clean Green Australian Southern Rocklobster Audit Protocol
- Communication tools – Clean Green DVD, Speaker Support, flip cards
- A Food Service Manual to inform and educate the market about the program.
- System Management procedures

Fundamental successes include:

- A robust market development platform established, based on a restructured supply chain
- Contracted supply model to standards (pot to plate)
- Full product traceability
- Branding (Clean Green Southern Rocklobster)
- Market penetration super premium fine dining segments (based on the value proposition supported by the Clean Green brand)
- Trade at increased returns to the industry (more than 4 tonnes traded as a direct result of this project)

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SRL Project Briefings

Market Efficiency Program
Completion Date: TBA
Principal Investigator: Roger Edwards

OBJECTIVES

1. Ensure efficient marketing and distribution of Australian Southern Rocklobster (ASR) in destination markets.

BACKGROUND

Market efficiency powers establish the legal framework for industry to develop and supply markets to industry standards through industry appointed distributors in destination markets.

The powers allow, through requirements of exporter licences, imports to be distributed through a single point in the market, thereby providing the opportunity to maximise returns to the Australian industry and economy.

PROGRESS

During the year a proposal was submitted to the Government seeking support to establish the necessary legislation.

The Government response requested 2 things:

1. Demonstrable support from the entire national lobster industry and
2. A benefit/cost assessment to measure the potential benefits of the powers.

THE NEXT 12 MONTHS

- Profile the powers at the National Congress and seek national support. Peter Walker (citrus) to address the meeting
- New FRDC project to:
 - Undertake consultation nationally and deal with Government
 - Undertake a benefit costs analysis.
- Proposed provider CORVEL and Uni SA or other suitable economic research provider
- Budget estimated \$45k

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SRL Project Briefings

FRDC 2006/214 live transport techniques and technologies

Completion Date: July '09

Principal Investigator: Matt Muggleton

OBJECTIVES

1. Analyse existing live export practices and processes for live Southern Rocklobster
2. Assess survival and product quality using current southern rocklobster live export supply chain practices and processes up to 40 hours
3. Benchmark "Clean Green" best practices throughout the supply chain by determining impact on southern rocklobster survival and product quality after live export
4. Determine effectiveness of new innovations in live export practices and processes to improve southern rocklobster survival and product quality to existing and new marketplaces (50+ hours)

BACKGROUND

- A limitation to new markets (Europe & USA) is the distance and therefore increased transit time
- Increasing survival and quality over longer transit times to improve product quality will assist the financial outcomes in new destination markets
- An application was lodged with FRDC in 2005 and approved in 2006. Support was contingent upon a revised budget following an industry workshop on project priorities and methods
- Provider SARDI/CORVEL

PROGRESS

- Industry workshop convened and issues scoped
- Priority research areas established
- Australian chain partners established for trials
- USA market chain partners established for trials

THE NEXT 12 MONTHS

- Revise project and budget
- Secure approval
- Commence project

OTHER

To be adopted by CRC

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SRL Project Briefings

Complete FRDC 2004/412 Traceability SSA

Completion Date: June 2007

Principal Investigator: Matt Muggleton

OBJECTIVES

1. To evaluate and compare indestructible and tamperproof informative tags / labels to provide for traceability of Australian Southern Rocklobster from the point of capture (wild fishery) to the point of consumption
2. To integrate and promote existing best practice (Clean Green Australian Southern Rocklobster Integrated 'pot to plate' environment and product standards) by including relevant information on the informative tag/label.

PROGRESS

This project helped resource SRL to participate with Victoria DPI to develop and trial a tag and traceability database.

A number of tags / labels were evaluated, these included:

- Horn rubber band
- Glue on tag (adhesive item that sticks to the carapace)
- Horn tag (barcode printed on the back of the tag)
- Electronic tag

The horn tag, manufactured by Harcor, had previously been developed originally by the New Zealand Southern Rocklobster Industry as well as being used by Tasmania Southern Rocklobster industry for the sales off boats direct to the public.

The tag chosen for the traceability system was the best option available, but the tag required modifications to suit the needs of SRL.

The modifications included:

- Changing from Nylon to Polypropylene
- Printing on the front and back of the tag (Clean Green trade mark on the front and barcode and readable number on the back of the tag)
- Enhancement of the female and male locking components to increase the security of the tag

It was identified that the tag application onboard Southern Rocklobster vessels was difficult. SRL and Harcor have completed some preliminary design work for an applicator to allow easy application of the tag on board the Southern Rocklobster vessel. This design work has not progressed any further than a prototype given the significant investment required for the mould.

Sastek (the traceability specialist company) was appointed by DPI Victoria to modify their *food chain* database to capture information along the supply chain by scanning the tags "in and out" of facilities (factories) along the supply chain.

A demonstration database was established through the project, but wasn't capable of facilitating trade of lobsters and more research and development work was required

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to develop a fully integrated traceability system to capture and analyse certified Clean Green Southern Rocklobster along the supply chain.

The tag contains a barcode which is scanned along the chain to capture information about the product and its movement along the supply chain.

NEXT 12 MONTHS

The traceability system developed to date still needs further refinement. This includes:

- Refinement of the tag to ensure the barcode remains intact throughout the whole supply chain
- Development of a tag applicator for onboard the Southern Rocklobster vessel
- Refinement and development of the traceability database to capture all the information along the chain via barcode scanning and input of data over the website
- Software development to provide accurate reporting for:
 - Fisher payments
 - Stock
 - Downgrades and mortalities
 - Transfer of stock

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FRDC 2003/242 *Optimising Flesh Quality of Undervalued Large Lobsters*

Completion Date: TBA

Principal Investigator: John Carragher

PROGRESS

- All experiments and analyses now finished
- Although there were statistically significant differences in the biochemical, physical and/or sensory characteristics of the rocklobster flesh between animals sourced from different locations, of different sizes, different shell colour and different pre- and post-drowning handling treatments, these differences did not result in any noteworthy variation in sensory preferences either for or against any particular flesh samples
- It is concluded that the flesh characteristics of large rocklobsters that meet the specifications used by most exporters to identify those animals which are fit for export (ie hard shelled, lively) are suited to value-adding opportunities, such as those used by Ferguson Australia
- Due to (a) relatively little variation in biochemical, physical and sensory characteristics of different sources of lobster, (b) use of an untrained panel of Adelaide-based Japanese nationals, and (c) inability to locate appropriate contacts in Japan, the planned travel to Japan was not carried out
- There is approximately \$50k unspent funds due to cancellation of travel component
- Michael Roberts has taken up a position as “rocklobster physiologist” with New Zealand Corp and Food. As a result he has intermitted his PhD candidature.
- Papers that will form the bulk of final report and PhD thesis have been scoped out and are being written up slowly as time permits

OTHER

- Variation requested - is it possible to use the \$50k of unspent operating towards FRDC 2006/214 “Improving supply chain practices and processes to increase the value of southern rocklobster”?

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SRL Project Briefings

FRDC 2006/220 Spatial management of southern rocklobster fisheries to improve yield, value and sustainability

Completion Date: June 2010

Principal Investigator: Caleb Gardener

OBJECTIVES

“Spatial management of southern rock lobster to improve yield value and sustainability” (FRDC 2006/220) is a collaborative project with Researcher, Government and Industry participants across SA, Vic and Tas (SARDI, DPI Vic., TAFI, TRLFA and DPIW). The project is developing management responses to regional differences in the southern rock lobster fishery, with the key aim of maximising industry profitability. The project will incorporate regional differences in biology, such as growth rate and recruitment, to examine ways to optimize fishing effort across the range of naturally occurring market traits.

BACKGROUND

The impetus for this project came from industry members concerned at the inefficient use of the resource with some regions over exploited while others could sustain higher harvest rates. Managers often have to respond to the weakest link when setting restrictions so opportunity is being lost across the fishery so as to manage regional issues. Stocks vary from region to region, with differences in biology, market traits, and fishing effort. Rock lobsters caught in shallow water are generally larger, redder and have higher growth rates. In contrast, rock lobsters from in deep water or colder water sites are generally pale in colour, can have narrower tails and are less robust (Table 1). An extreme case of slow growth rate occurs in some deep-water sites off SW Tasmania where no females reach legal size and males are fished at well below maximal economic yield. The difference in beach price has led to higher fishing effort in shallower waters despite lower catch rates and this has generated concerns regarding ecological impacts.

PROGRESS

This research project is considering three management strategies for increasing production in southern rock lobster fisheries, addressing regional differences in yield and market traits. These strategies are:

1. sea ranching of rock lobsters by translocating lobsters into more productive regions;
2. the allocation of additional catch in under-exploited areas (deep-water) to drag effort away from over-exploited areas (shallow water); and
3. regional size limits that are suited to regional growth rates.

Sea Ranching by Translocating Lobsters between Regions

Sea ranching involves moving lobsters from slow growth or low value areas into high growth or high value areas, with the aim of increasing yield.

Sea ranching experiments commenced over the last year at several sites and involved the movement of male¹ and female undersize lobsters. Lobsters have been taken from deep water sites in SA and Tasmania. The majority of lobsters (~ 14,000) have been taken from a long-term research site off Maatsuyker Island in SW Tasmania. One of the key measures of the success of sea ranching is the response of catch rates and growth rates at the removal site. So far, catch rates of legal-sized lobsters at this site have not changed despite the removals.

Lobsters have been translocated to three release sites in SA and five release sites in Tasmania, each around 10m deep. At each site we have existing data on growth of local lobsters, habitat and ecology, which we can use to compare changes in growth of relocated lobsters and habitat. Other measures from the experiment include: survival of released lobsters, the rate of change of growth rate, the effects of translocation on egg production, the extent of movement away from the release site, and the effects of altering density on growth.

We expect high survival in translocated lobsters because releasing them is a similar process to discarding undersize lobsters in normal fishing operations—except translocated lobsters are released at night with fewer predators. To date, survival of released juvenile (80 g) lobsters has been observed to be around 95% and our estimate of survival of released undersize (~200 g) lobsters is close to 100%.

As an indication of the gains possible through sea ranching: if the translocated lobsters adopt growth of the local lobsters at each of our sites with minimal mortality, then the lobsters shifted during the course of the Tasmanian experiments will contribute 450% more legal sized biomass (that is, 0.75 tonnes foregone at the old site, 3.4 tonnes gained at the new sites).

Translocations are being conducted with both commercial and research vessels Challenger. We are relying on commercial and recreational fishers to help in recovering tagged lobsters.

Additional deep-water catch

Providing deep-water catch to fishers in the industry, in addition to existing quota units will be examined within this project. This is a management strategy aimed at redistributing fishing effort from shallow water to deep water. It is hoped that the additional deep-water quota will compensate for lower value of deep-water lobsters. Amongst the possible benefits to the fishery are increased revenue (from increase in total landed product) and more even distribution of fishing effort. A further outcome will be better information on the size of deep-water stocks for setting possible future deep water quotas. 35 tonnes of additional deep water catch will be allocated in Tasmania in June 2007 and this allocation will continue over the next 2 years as a trial of the method. Data will be collected through this trial on the status of deep water stocks so that longer term arrangements can be implemented to deliver greater production.

¹ Although males may reach legal size at slow growth sites, their total yield could be increased by sea ranching, therefore we are translocating males in our research trial. This will provide a broader assessment of all the options for increasing yield and managing the fishery

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Regional size limits

Given the large differences in yield, growth and size at reproduction (Table 1), current size limits are poorly matched with the biology and fishery for lobsters over most of the Fishery. Only two size limits are used across the 3,000 km range of the fishery, which results in smaller catches and catch rates than could be obtained with better targeted limits. The use of such coarse management across the fishery doesn't cater to the striking regional differences in the fishery. Regional size limits will be examined through modelling with the aim of improving catch-rates, total harvest and beach price.

This FRDC funded project will compare these three management strategies and their potential to increase productivity, sustainability and economic returns of the Tasmanian rock lobster fishing industry.

Caleb Gardener
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SRL Project Briefings

Table 1. Summary table of key traits of regional differences in southern rock lobster fishery and the methods used to examine it.

	Trait	Under exploited sites (typically deep)	Over exploited sites (typically shallow)	Possible strategies			
				Translocation	Regional size limits	Deep Water Quota	Marketing
Biology	Female growth rate @ legal minimum length	Slow (~1mm/yr)	Fast (~10mm/yr)	✓	✓		
	Female size at maturity	Small (>65 mm)	Large (<115 mm)	✓	✓		
	Colour	Pale, brindle	Red, purple	✓			✓
	Tail shape	Wedge	Straight sides	✓			
	Egg production	High	Low	✓	✓	✓	
Market	Beach price	Low (~\$5/kg discount)	High	✓			✓
	Mortality: air freight	High at times (~25%)	Low (<5%)	✓			
Fishery	Fishing effort	Low	High	✓	✓	✓	✓
	Catch rates: average/potlift	High (> 1.5 kg)	Low (< 1.0 kg)	✓	✓	✓	
Ecological impacts	Reduced urchin predation	Low risk	Apparent risk	✓	✓	✓	

SRL Project Briefings

ARC Propagation Project
Completion Date: 2010
Principle Investigator: Dr Arthur Rita

PROGRESS

The contract for our ARC project was signed 31 March. We will commence experimentation when the crucial PhD and research scientist positions are filled. The PhD scholarship, which SRL supported with a \$6,000 p.a. cash contribution, was advertised recently and we are still receiving applications with a possible commencement in the next 3 months. The research scientist position will be advertised shortly and it is hoped that the position will be filled in the next 3 months.

NEXT 12 MONTHS

The expectations over the next 12 months is that experiments will be undertaken on treatments that will improve larval survival through to metamorphosis and develop technologies for the commercial culture of rock lobsters. These include manipulation of the conditions of ozonation to disinfect seawater in attempt to reduce bacterial content without causing adverse effects. The PhD student will look in detail at changes to seawater chemistry, with the end aim of identifying beneficial and toxic components. The scientist will undertake experimentation on larval husbandry, including ozonation and disinfection treatments, diet development, and design of tanks and systems.

Arthur Rtiar
Tasmanian Aquaculture & Fisheries Institute
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SRL Project Briefings

*Australian Southern Rocklobster Industry 'Clean Green'
Environmental Management System
Completion date: On going
Principal Investigator: Justin Phillips*

OBJECTIVES

To implement the Clean Green Environmental Management System (EMS) throughout the Australian Southern Rocklobster industry.

PROGRESS

Statistics:

- Vessels audited under the program to date, broken down by State and displayed as a percentage of the whole industry:

Vessels:	Number:	% of Total:
SA	187	75%
TAS	52	24%
VIC	6	5%
Total:	245	42%

- Fishers trained under the program to date, broken down by State and displayed as a percentage of the whole industry:

Fishers:	Number:	% of Total:
SA	374	75%
TAS	104	24%
VIC	12	5%
Total:	490	42%

- Vessels currently certified under the program, broken down by State and displayed as a percentage of those audited:

Vessels:	Number:	% of Audited:
SA	91	49%
TAS *	37	71%
Vic **	6	100%
Total:	134	55%

* includes 12 vessels awaiting initial audits

** includes 6 vessels awaiting initial audits

THE NEXT 12 MONTHS

- Training course booked in for Hobart over the 29th and 30th May 2007 (13 vessels confirmed)
- Outstanding initial audits to be completed during October / November 2007
- Newsletters
- Port Meetings
- Industry Profiling
- EMS Pathways (DAFF) application lodged, objectives as follows:
 - Increase uptake of the Clean Green EMS to a target of 66%
 - Enhance industry capacity to demonstrate Clean Green credentials to markets
- Pending approval project activities to be implanted throughout 2007/08

Justin Phillips
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SRL Project Briefings

FRDC/SRL MOU
Completion Date: June 2010
Principal Investigator: Various

OBJECTIVE

The MOU provides greater certainty of intent in relation to the planning, investing in and managing of research and development and the adoption of R&D results.

It is intended to govern the overall relationship between the FRDC and SRL.

BACKGROUND

The MOU was established in Dec 2005 to formalise the relationship between SRL and FRDC in R&D management and funding. A R&D management and planning framework was established for all industry R&D for 5 years.

\$240k is contributed to FRDC by industry above the 0.25% levy which is matched by FRDC for a total budget of \$480k.

PROGRESS

2006-07 was the first full year of operation under the MOU. The year saw the updated strategic plan released with market development and optimising the harvest respectively as the top and 2nd priority investment platform areas.

Projects operating under the MOU in 2006-07 were:

1. Implement & Establish the USA Market Development Platform to enable trade of certified Clean Green Australian Southern Rocklobster - Extension of FRDC Project 2006/216
2. Live transport techniques and technologies - FRDC 2006/214
3. Southern Rocklobster industry research and development planning, implementation and extension – FRDC 2006/215

SRL took a strategic decision to support the proposal to form a Seafood CRC with all current FRDC projects linking to a CRC program area.

The Victorian Government committed \$17k to the MOU for 2007-08, bringing a contribution from Victoria to the arrangement for the first time. FRDC has committed (pers comm. P Hone) to match this new contribution.

THE NEXT 12 MONTHS

The MOU is set to continue as per the agreement but implementation of all current projects will be through the CRC. (See CRC report).

No change in operation is envisaged over the next 12 months however the relationship with the CRC will add some complexity to ongoing operations under the MOU.

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SRL Project Briefings

CRC – Seafood Cooperative Research Centre

Completion Date: 2014

Principal Investigator: Various

OBJECTIVES

The CRC mission is to contribute significantly to national economic growth and furthering the Australian Seafood Industry.

BACKGROUND

7 years of funding (circa \$36m) was secured by a group of industry and research partners during the year.

For the next 7 years SRL has committed in the order of \$310k per annum of MOU and industry levy cash to the CRC. This is matched by both FRDC and the CRC to generate an annual budget for the 7 years in the order of \$930k.

SRL Projects 214, 215 & 216 will be operated through the CRC. In addition TAFI project 2006/220 “Improving spatial management of southern rocklobster fisheries to improve yield, value and sustainability” will also be operated through the CRC.

SRL Chairman Roger Cotton has been appointed to the Board.

PROGRESS

The executive is working with FRDC to ensure the SRL participant agreement delivers SRL’s requirements of participation.

Work has commenced with the CRC program managers to develop full proposals for a long term extension of 2006/216 “USA Establish & Implement USA Market Dev Platform” and 2006/214 Transport Techniques.

In addition discussion about the transition of 2006/215 R&D Planning and Extension has commenced.

THE NEXT 12 MONTHS

Projects 214, 215 & 216 to operate under the CRC.

Additional relevant projects to be developed.

Additional resources from the CRC for education and training should be targeted to offset these components in current projects.

Southern Rocklobster Limited
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SRL Project Briefings

*FRDC Project 2006/215 Southern rocklobster industry research and development
planning, implementation and extension*

Completion Date: June 2010

Principal Investigator: Roger Edwards

OBJECTIVES

1. To coordinate the investment by FRDC and SRL to achieve the planned outcomes detailed in the SRL Strategic Plan
2. Provide a communication and extension service that complements the individual projects to facilitate adoption of outputs
3. To provide reports to FRDC and SRL Ltd that demonstrate effective management of the individual projects, and contribute to good governance

PROGRESS

This project supports the SRL R&D planning and management role in the MOU.

1. The annual strategic planning workshop was held and updated plan produced.
2. Communication with industry and stakeholders occurred to an extension plan including the following:
 - newsletters
 - port meetings
 - stakeholder meetings
 - industry profiling events and
 - media interaction
3. The Board met on 4 occasions and the organisation operated within budget.
4. SRL managed, progressed and/or finalised applications for the following projects:
 - FRDC 2006/214, 2006/215, 2006/216 & 2004/241
 - DAFF Supply Chain Standards
 - Clean Green Training Programs – 4
 - AusIndustry Tag technology (application)
 - DAFF EMS project - Clean Green Uptake (application)

THE NEXT 12 MONTHS

1. Repeat 2006-07 program.
2. Support Congress 5

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SRL Project Briefings

Viable Funding for SRL
Completion Date: Wind up of SRL
Principal Investigator: Roger Edwards

OBJECTIVES

Ensure SRL has sufficient funding to maintain the organisation, Board and R&D planning, management & extension capacity long term.

BACKGROUND

Funding for the SRL organisation is derived from the FRDC MOU which has 3 years to run. For the organisation this maintains capacity through a part time executive, independent chair, strategic planning resources, project management resources, office, accounting and administration.

The MOU funding is subject to annual State Government approvals to contribute industry funds and FRDC matching.

PROGRESS

Nil

THE NEXT 12 MONTHS

It is suggested that the current MOU be renegotiated for a further 5 years to bring SRL R&D management capacity in line with the term of the CRC. It would also bring certainty to the proposed CRC participant agreement with SRL which is based on 7 years contribution.

This will require State members agreeing to the extension and committing funds long term.

It should be noted that the SA industry through the Fishery Management Committees have committed \$180k per annum above the 0.25% levy, for 7 years commencing July 1 2007 to the FRDC MOU.

Roger Edwards
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08 857 7569

SRL Project Briefings

*Industry partner investment in research on
temperate rock lobster aquaculture*
Completion Date: TBA
Principal Investigator: Colin Buxton

OBJECTIVES

TAFI’s vision for the research required to bring temperate rock lobster aquaculture to commercialisation initially focuses on overcoming the technological barriers to mass-scale hatchery propagation of seedstock in the medium term (5 years). Concurrent research is needed on proving the growout capacity of the eastern rock lobster from puerulus to market size. The next step is applying the technologies to a commercial hatchery and the farming of animals, followed by market development. The sequential research bottlenecks and issues with the proposed solutions, total costs and investment from an industry partner for funding leverage, and commencing dates of activity, are:

Bottleneck/Issues	Solution	Total cost	Industry investment	Commencing
Progress on current FRDC & ARC projects to TAFI	1 technical officer, operating costs	\$100,000 p.a. for 5 years	\$50,000 p.a.	Immediately
Problems of metamorphosis	1 scientist, operating costs	\$100,000 p.a. for 3 years	\$50,000 p.a.	Mid 2007
Proving juvenile growout	1 technical officer, operating costs	\$100,000 p.a. for 3 years	\$50,000 p.a.	End 2007; scale up end 2008
Broodstock conditioning	50% of 1 technical officer, operating costs	\$60,000 p.a. for 3 years	\$30,000 p.a.	Mid 2008
Developing alternative larval diets	1 scientist, 1 technical officer, operating costs	\$180,000 p.a. for 3 years	\$50,000 p.a.	Mid-end 2008
Scaling up for mass puerulus production	1 technical officer, operating costs	\$100,000 p.a. for 3 years	\$50,000 p.a.	Mid-end 2008
Establishment of hatchery, nursery and farm(s)	Permits, site approvals, construction	Unknown	Venture capital, other investment	2009-2010
Marketing of product	Market development	Unknown	Unknown	2012+

BACKGROUND

This document outlines the research needed to bring temperate rock lobster aquaculture to commercialisation, the resources required and opportunities for industry investment.

SRL Project Briefings

Hatchery production of juveniles was recently achieved in Australia for southern, eastern and tropical species, indicating that commercial aquaculture is realisable in the medium term. Australia is at the forefront of the research, led by TAFI which has arguably made the major advances over the last 10 years with the support of FRDC. Collaborators included other researchers (QDPIF, AIMS, CSIRO, NIWA, others) and industry (Kailis, SRL). Research is coordinated nationally by FRDC Rock Lobster Enhancement and Aquaculture Subprogram ("Strategic Directions 2002-2007" - www.frdc.com.au/subprograms/rleas/download/strategic.directions.02-07.revised.pdf).

TAFI is the Principal Investigator on two new projects on propagation:

1. FRDC 2006/235 "Rock Lobster Enhancement and Aquaculture Subprogram: Commercially viable production of tropical rock lobster (*Panulirus ornatus*) puerulus from eggs", a 5 year project expected to start 1 July 2007. It is a collaboration between TAFI, QDPIF and AIMS, with MG Kailis & Co as commercial partner. Total funds are \$1.5 million, of which TAFI only receives \$100,000 for each year of the project. It is under-funded from the original request of \$300,000 p.a. to TAFI.
2. Australian Research Council Linkage LP0775480 "Hatchery production of rock lobster seedstock for aquaculture and enhancement with emphasis on ozonation of culture water to reduce disease". This 3 year project started 1 January 2007 with Southern Rocklobster Limited as the commercial partner. Total funds are \$570,000, split approximately 80:20 between TAFI and Utas School of Chemistry. It is under-funded from the original request of \$250,000 p.a. for 5 years.

The projects are complimentary and work towards the development of technologies for the commercial production of hatchery reared rock lobsters. The FRDC project focuses on tropical lobsters but TAFI is negotiating to investigate eastern rock lobsters as a temperate surrogate for research. The ARC project focuses solely on temperate *Jasus* spp. (southern and eastern rock lobsters). Research outcomes are relevant and transferable to all species.

TAFI is the most capable research provider because of its results and vision. We produced the first hatchery-reared juveniles (southern) in Australia in 2004, repeated in 2005 and 2006. In 2006, we also produced 139 pueruli of eastern rock lobsters. In 2007, we expect to produce over 1,000 eastern pueruli.

The eastern lobster has the best prospects for temperate species due to a short larval phase and quick juvenile growth. Easterns are not only a highly desirable product but are the species of choice for research on larval rearing.

THE NEXT 12 MONTHS

The research in TAFI's projects has a clear commercial imperative. At the end of the FRDC project, the planned outcome is a technical capacity to commercially produce *P. ornatus* pueruli from eggs, and that this technical capacity is transferable to other species. TAFI and its collaborators will undertake experiments on:

1. water treatment - to reduce disease and improve larval survival (TAFI).
2. nutrition - to develop a formulated diet to replace live feeds (QDPIF).
3. health - including microbial monitoring techniques and probiotics (AIMS).
4. production benchmarks - culture large numbers of larvae to late stages of development (QDPIF).

SRL Project Briefings

5. management of metamorphosis - identify impediments to commercial production arising during metamorphosis to puerulus stage. This research will be undertaken toward the end of the project and by one or more of the partners.

For the 3 year ARC project, the expected outcome is that TAFI develops technologies to sustainably produce hatchery seedstock of *Jasus* spp. for aquaculture and fisheries enhancement. The specific aims are to:

1. improve larval survival by, and understand the physiological consequences of, manipulating husbandry practices.
2. manipulate the chemistry of seawater during ozonation to maximise its antibacterial activity while suppressing toxic residues.
3. determine other disinfection treatments to use in conjunction with ozonation.
4. develop systems and culture vessels for mass-scale production of juveniles.

Investment opportunity for industry partner

A prospective industry partner should consider investment into the research on temperate rock lobster aquaculture. The existing key areas for support were outlined above, although the current projects provide insufficient funds for rapid progress toward commercialisation; mainly, there is a shortfall in staff and resources to undertake the necessary experiments. Additional research is required in future.

Altogether, the research that should be supported is:

1. Propagation as outlined in FRDC and ARC projects. However, neither of these TAFI projects examines broodstock conditioning (to ensure constant supply of newly-hatched larvae for culture), which is necessary because suitable eastern broodstock are not easily accessible. It will also be needed for genetic improvement in future to obtain faster growth rates and increased production efficiencies.
2. Juvenile growout. With the advent of potentially considerable numbers of eastern juveniles in 2007, research should be undertaken on optimising growout conditions (diet, density, etc), of which nothing is known in this species and data are needed to validate its commercial viability. The research would be guided by TAFI's earlier extensive studies on the growout of southernns.
3. Genetic improvement. See 1. above.
4. Market development. Specific markets will need to be developed for this aquaculture product to distinguish it from fisheries product to achieve a premium (10 year timeframe).

TAFI will continue to apply for other grants to extend its research capability. Investment leverage by an industry partner will greatly improve our chances of success in securing funds from FRDC and ARC as well as other agencies. The research undertaken by TAFI is at the behest of the Tasmanian State Government. TAFI welcomes commercial involvement by industry. TAFI's involvement with industry should be clearly laid out in the industry partner's business model for rock lobster aquaculture.

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SRL Project Briefings

Sustainability and Environment

Completion Date: TBA

Principal Investigators: John Carragher & Caleb Gardener

New Challenges and Opportunities

Vic, SA & Tas State Research & Management Group

Assessment Data

All States collecting similar data

- Database efficiencies
- Better comparison of data (eg CPUE, puerulus and undersize catch rates) across States
- Cost efficiencies with gadgets (eg observer systems, catch SMS reporting system)
- Electronic logbooks to aid data capture
- Reporting advances (auto query database and post to website program for display of near real-time information) [what data would industry want to see?]

Stock Assessment

All States essentially using same model (Punt)

- Efficiencies in updates

Moving to finer spatial scale management:

- Local knowledge will become more important
- Finer scale data collection will allow model to be further refined and improved (ongoing)

A single stock assessment is not feasible with management split between states

Ecological Assessment

Various projects underway and outcomes are applicable to all states

Eg. bycatch monitoring and risk assessment across states has been completed.

Other Points

Non-commercial catch estimates:

- Recreational – underestimated in SA
- Illegal catches – not considered in any State
- Combined system / assessment across States

Economics:

- Through chain benchmarking (CRC)
- Importance of RL fishing to regional communities
- Capacity building

Climate change:

- Effects on settlement, growth, biomass, competition, predation, food, fecundity, distribution
- Tank studies?

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Impacts of fishing:

- Recreational – target largest animals, leg loss
- Commercial – high grading
- Both – how do fished areas recover?

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