2009/731 – Develop Priority Projects for the Australian Council of Prawn Fishers.

Principal Investigator: James Fogarty

Shearwater Consulting Pty Ltd

Project Final Report





Australian Government

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AUTHOR: James Fogarty

Shearwater Consulting Pty Ltd PO Box 7562 Cairns QLD 4870

> Tel: 07 4031 2345 Fax: 07 4031 2346

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1. Non- Technical Summary.

Since its inception the Seafood CRC has had a budget of approximately \$3m available for R&D projects on behalf of its member, the Australian Council of Prawn Fishers (ACPF).

The ACPF had a number of problems that ensured no sustained effort would be applied to creating projects within this budget.

These were a total lack of funding to source admin assistance or travelling expenses to organise meetings. In addition the original constitution was unsuited to the current situation.

The Seafood CRC was concerned that with no organized industry effort the ACPF funds would remain unspent for the life of the CRC or would be spent on projects that may not be relevant to ACPF members.

The Seafood CRC began assisting the ACPF to modernise their constitution and organised this project to canvas the whole of the Australian prawning industry to identify projects that industry bodies felt were relevant to their operations.

As a result this project has identified a number of projects that have been approved by the CRC and FRDC Boards to go to contract with conditions that include ACPF Board approval. These projects are shown in Item 7 –Results. All that remains is for ACPF Board approval.

In addition this project was to organise an R&D Forum and invite members of Industry to attend and discuss suggested projects with CRC staff. This occurred in Brisbane on Tuesday February 23rd and had an attendance of 47 people.

As a by-product of the Forum the AGM of the ACPF was held and a new Board of directors was elected. This Board has been fully briefed and is setting in place a defined process has to how R&D projects will be generated.

Planned Outcomes.

1. Establish a capability within the ACPF to prioritise and manage its R&D needs.

2. Establish ay least 3 priority R&D projects in the areas of consumer needs and supply chain, product development, retail transformation and quality assurance.

3. Develop a prospectus for the 2010 ACPF R&D Forum.

4. Identify emerging leaders and entrepreneurs within the ACPF members and assist them to access CRC training and education funding to support their business development.

5. Establish a process by which ACPF members can apply for matching funds to undertake product and process innovation projects.

2. Acknowledgements.

The Principal Investigator acknowledges the input provided by the following who were consulted as part of the project process.

Seafood CRC

Jayne Gallagher Bob Fleming Caleb Gardner

Paul Graham - Market Strategy Craig Johns - PIRSA

Prawning Industry

Austral Fisheries – David Carter A Raptis & Sons – George Raptis, Arthur Raptis Moreton Bay Seafood Industry Ass. – Linda Cupitt Qld. Seafood Industry Assoc. – Michael Gardner, Winston Harris MG Kailis – Stephen Hood Shark Bay – Graeme Stewart. Spenser Gulf – Barry Evans, Karen Hollanby. NSW Fisheries – John Harrison. Prawn Importers Assoc. – Norm Grant.

3.Background.

In 2005 the FRDC funded a project -2005/308 to develop a strategic plan for the Australian prawning industry. From this project the Australian Council of Prawn Fisheries was activated.

An additional project was funded to run the ACPF Conference in Adelaide in 2007. The Australian Council of Prawn Fisheries is a member of the Seafood CRC and as such has substantial funding to spend on R&D projects.

Since the inception of the CRC there has been little take up of this funding and no strategic approach to setting priorities.

This project is to fund an R&D Co-ordinator who will be responsible for generating properly researched projects that satisfy ACPF member's needs and meets the Seafood CRC program priorities.

4. Need.

The Seafood CRC funded a consultation project in January 2009 whereby all sectors of the Australian Prawning Industry were canvassed for their views on high priority R&D projects.

In March 2009 a workshop was held in Brisbane where the outcomes of this process were presented to a cross section of the prawning industry.

The workshop identified and agreed that the following were high priorities to address:

- Consumer needs and Supply Chain Implementation. This would include National supply chain analysis, CRC Communal projects, evaluation of previous market development strategies and the Retail Revolution suite of projects.
- Quality Assurance Programs. This would include a wild catch standard, black spot management and further negotiation on cadmium levels with the EU.
- Industry Communication. This would continue retailer training and industry feedback. It would also identify potential students for Masters or PhD studies and other CRC programs such as the entrepreneurship program.
- Product and Process Innovation. Develop a process to enable ACPF members to get matching investment for innovation projects.

A preliminary budget of \$1,100,000 was set aside to develop projects in these areas.

5. Objectives.

- To have at least 3 high priority projects for ACPF contracted by October 31st 2009.
- To establish the R&D planning and priority setting capability within the ACPF by 31st October 2009.

6. Methods.

1. Established a capability within the ACPF to prioritise and manage its R&D needs. In discussion with industry operators in the various prawn fisheries construct a model that identifies R&D priorities on a yearly basis for the various fisheries.

These priorities were presented to the ACPF board for ratification and ranking The R&D co-ordinator then worked with the Seafood CRC to develop projects that meet the industry needs and priorities. The R&D Co-ordinator also worked with other organizations both inside and outside the ACPF and the Seafood CRC to develop projects that meet R&D priorities.

The R&D Co-ordinator also worked with the CRC and FRDC to establish a process for matching funding for company specific product and process innovation projects that are consistent with the ACPF R&D priorities.

2. Established at least 3 priority R&D projects (see results) in the area of consumer needs and supply chain, product development, retail transformation and quality assurance.

Began discussions with personnel who have commenced putting together projects in this area such as the retail transformation project and ensured that the ACPF needs and views were incorporated into potential collaborative initiatives. Where there is a need for stand alone project work with the CRC staff and research providers to develop project concepts for consideration by the CRC and FRDC boards and if approved develop detailed projects ready for consideration by the CRC RAC.

3. Developed a prospectus for the 2010 ACPF R&D Forum.

Identified a location and time for this Forum and obtained approval from the ACPF board. At that time began the process of developing a program with the emphasis on R&D matters but with a capability of addressing other prawn fishery matters. Developed a project that can be considered by the CRC and FRDC for funding.

4. Identify emerging leaders and entrepreneurs within the ACPF members and assist them to access CRC training and education funding

Begin a dialogue with ACPF members advising the opportunities that exist within the Seafood CRC for this education and actively assist in the preparation of proposals. Unfortunately this was not achieved.

7. Results.

The following concepts have been produced and presented to the Seafood CRC Board and have been approved to proceed to full project applications. The project applications will then be presented to the Boards of the ACPF, Seafood CRC and the FRDC for final approval.

The total spend for these 5 projects is \$1,550,000 over 2 to 3 years with a first year spend of \$930,000 compared to the March budget of \$1.1m.

• Harvest Strategy Optimisation and Co-Management for the Moreton Bay Trawl Fishery.

The Moreton Bay trawl industry is a multi species prawn fishery that is currently facing significant challenges. The challenges relate specifically to areas such as catch efficiency, harvest efficiency, fuel consumption, fishing effort and sustainability. A regional fine-scale spatial fisheries management plan would assist with addressing these issues.

The overall goal of this project is how to best develop and implement a regional management strategy – as a pilot for possible implementation in other fisheries. It is the aim that the fishermen will exert less fishing effort, but through harvesting prawns at "optimal" times using "optimal" techniques, will maximize the value of the product retained, whilst minimizing the costs of production.

Specific planned outcomes will include:

1. An industry based, within season, data collection program for use in decision making to guide harvesting.

2. Reduced fuel use and other costs through fine scale management of the fishery

3. Improved beach price of product through better fishing to market in terms of volume and species/size composition.

4. Improved biodiversity outcomes for the Moreton Bay region and assist with meeting environmental protection and biodiversity requirements.

Budget will be \$73,000 in year 1 and \$130,000 in year 2.

• Spenser Gulf Value Chain Analysis (VCA).

SGWCPFA have recently concluded the first stage of a three stage VCA project. Stage 2 of the project involves a value chain analysis for a major retailer and a major food service client and involves existing value chain partners. It aims to identify a range of improvement opportunities, to undertake a benefit costs analysis of these and identify priority areas for further work. The project has had substantial support from the Associations' members and their wholesale buyers/partners. The. SGWCPFA have indicated a willingness to share the information generated by this project and previous projects as part of a national prawn VCA initiative The estimated cost of this project will be \$75,000 and will be a pilot to decide if similar value chain analysis should be carried out in other prawn fisheries eg. Gulf of Carpentaria, Qld East Coast etc. This project is contracted and underway.

• The Whole Prawn – Product and Process Optimisation.

This project is still in its development stage and is complementary to the CRC - Retail Transformation Initiative that is designed to develop cost efficient chilled, pre-pack solutions for domestic retail consumers. The Whole Prawn project concept focuses on utilization of (currently) wasted material into profitable and sustainable product lines. To achieve this will require a multidisciplinary research approach addressing economic, technological and sociological challenges.

It is proposed to investigate a number of new technologies - i.e. a cooking and peeling machine, a meat extraction system and a bioactive system that can be accessed by a range of participants to allow commercially focussed experimentation, evaluation and development of value added prawn projects.

Training and education activities will be incorporated into the project to assist the implementation and extension of the R&D outcomes.

As the project is still being developed a budget figure is still being calculated and is expected to be in the region of \$750,000 to \$900,000 over three years. Following the ACPF Workshop in February 2010 this project is now on hold.

• Quality and Shelf Life in the Australian Wild Capture Prawn Industry: A Supply Chain Approach.

This project will complement the VCA analysis described above as it will use the outcomes from that project and select a further two chains to work specifically on improving the cool chain to increase prawn shelf life. Using a range of assessment techniques, such as the Quality Index Method, opportunities for supply chain improvements will be identified, interventions applied and their impact on shelf life evaluated

The project will provide data, information and assistance to prawn fishers to improve their own cool chains.

An estimated budget for this project is from \$250,000-\$300,000. Following the ACPF Workshop in February 2010 this project is now on hold.

• Planning and Extension for the Australian Council of Prawn Fishers.

Establish a process for ACPF to determine their R&D priorities and assist the implementation and extension of agreed projects. An annual ACPF R&D planning and review forum will be held to enable all members to participate.

Estimated cost is \$75,000 over 3 years.

This project is contracted but is on hold pending decisions by the ACPF (and agreement by the FRDC and the CRC) about where this position will be located and how it will be operated.

R&D Forum.

The proposed R&D Forum was held at the Holiday Inn in Brisbane on Tuesday February 23rd 2009.

A total of 47 people registered for the Forum and the subjects covered were mainly projected R&D projects plus reporting from each fishery on their respective R&D requirements.

The Forum decided that all projects would be put on hold until a meeting of the ACPF Board on the 12th and 13th of April to reaffirm priorities and budgets.

Identify emerging leaders.

Unfortunately this was the unsuccessful part of the project. Despite extensive discussions and invitations there was zero uptake for this process. It will need to be a continuing process by the ACPF Board to remedy this failure.

8. Benefits and Adoption

Benefits identified by this project are as follows:

- The Australian prawning industry is now fully aware of the role of the Seafood CRC. Prior to this forum the recognition factor could be described as minimal.
- The Australian Council of Prawn Fishers is now fully aware of the amount of funds available for R&D projects within the prawning industry.
- Industry participants took the opportunity provided by the Forum to hold a long delayed AGM where a new Board of Directors was appointed who have committed to carry on the process commenced by this project.

Adoption.

- The Board of the ACPF agreed their role as generators of R&D projects within the Seafood CRC.
- At the Forum a number of projects were agreed and a further number were delayed for further discussion.
- The various areas of research agreed at the March 2009 meeting were confirmed.

9. Further Development.

- As a number of organizations had committed funds to the operation of the ACPF it was decided that expressions of interest would be called for a part time executive officer that would also be responsible for the development of projects on behalf of the Board.
- A further meeting of the ACPF Board has been set down for Melbourne on April 12th and 13th where projects postponed at the Brisbane meeting will be further examined.

10. Planned Outcomes.

The planned outcomes identified in the original project proposal have occurred with the exception of the identification of emerging industry leaders. This will become part of the remit of the new ACPF Board.

11. Conclusion.

This project set out to educate members of the ACPF on the existence and role of the Seafood CRC and how R&D projects could be developed by the ACPF. There is no doubt a greater understanding and commitment exists within the industry.



ACPF / CRC R&D MEETING Brisbane, 23 February 2010

NOTES FROM ACPF AGM

- 1. New Board of Directors:
 - Graeme Stewart (Chair)
 - Marshal Betzel
 - David Crichton
 - John Harrison
 - Stephen Hood
 - Steve Murphy
 - Nick Paul
- 2. ACPF to appoint an executive officer. CRC will provide funds to support a "R&D Commercialisation and Utilisation Manager" (this is the official title given to these positions to fit the requirements of the Commonwealth Agreement). This funding will be for three years. The positions may be filled by one person.
- 3. The ACPF board will meet in Melbourne on 12 April and will invite the CRC to attend to discuss project proposals.

Action: the project description for the previously approved ACPF R&D Commercialisation and Utilisation Manager (Project 2008/748) to be forwarded to ACPF Board for modification as needed and resubmission to the CRC.

Action: Updated ACPF CRC budget to be sent to ACPF Board

NOTES FROM THE R&D MEETING

Existing Projects

The following Projects have been contracted and are underway:

Number	Project Name	Total Cost \$
2009/770	Seafood Retail Transformation - Chilled Seafood Category Development	193,500
2008/793	Optimising quality within domestic prawn value chains - blackspot management	49,691
2009/786	Commercial value chain analysis of Spencer Gulf prawns	74,775
2008/748.01	Australian prawn fisheries industry R&D commercialisation and utilisation – to be rewritten by ACPF	155,625
2008/748.20	Australian prawn fisheries industry R&D commercialisation and utilisation – R van Barneveldt	23,000
2009/731	Development of priority projects for ACPF – James Fogarty	30,500
2009/712	Contribution to Future Harvest Theme Leader (C Gardiner)	57,500
tba	ACPF R&D planning meeting, Brisbane, Feb 2010	20,000
2010/705	Evaluation of a bifilal coil sensor for Metabisulphite	40,000

The following Project Concepts have been approved by the CRC and FRDC Boards and are now being developed in detail.

2009/787	Prawn market access defenders	300,000
2009/774	Harvest strategy optimization for Moreton Bay fishery	180,000
2008/793.1	Optimising quality within domestic prawn value chains	300,463

The following Project Concept has been approved by the CRC and FRDC Boards.

2009/785 I he whole prawn - product and process optimisation 900,000
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Following discussion at the workshop requires reworking with the ACPF Board. In particular there is a need for much more detailed discussion with key companies and people involved in wild capture prawn post harvest R&D.

Action: Detailed information to be presented by Bob Fleming to the ACPF Board.

New Project Ideas

The following ideas were put forward at the workshop, subject to ACPF Board endorsement the following actions are proposed.

Future Harvest Theme

1. See attached notes prepared by theme leader, Caleb Gardiner.

Post Harvest R&D (based on presentations by ACPF members and group discussions)

2. Develop an industry wide, on-board product QA standard and implementation scheme for crews.

Action: CRC to work with ACPF Board to develop a project brief and identify appropriate research provider. The intention would be for CRC funds to be used to

design the program and apply to Commonwealth/State agencies for funds to implement it.

3. Review ACPF R&D priorities (as presented by the ACPF members at the Forum) against the Big Four initiatives in Program 2 and identify potential collaborative project opportunities to be worked up with the CRC.

Action: CRC to send ACPF Executive Officer copies of Theme Business Plans and Program 2 presentation to the CRC Planning and Review forum to assist ACPF Board deliberations

 Develop a proposal that investigates the viability of small regional fisheries branding, selling local and establishing or participating in "farmers markets". Study to include the regulatory aspects as well as consumer expectations and how to meet them.

Action: If supported by ACPF priority setting process develop concept for consideration by ACPF Board

5. Develop a proposal within the Seafood Processing Excellence initiative (one of the Program 2 Big Four) for a visiting processing efficiency specialist to provide one to one advice to ACPF members who process green school prawns for market (domestically or overseas)

Action: CRC to send ACPF Executive Officer copies of Grimsby Operation Excellence initiative for circulation to ACPF members. ACPF members to identify key individuals within their organisation who would benefit from participation

6. Develop a project that looks at domestic marketing (potentially encompassing an evaluation of the Go Wild go Bananas campaign and the QSMA and APFA on line campaign). This would be consistent with the Retail Transformation Initiative in Program 2.

Action: If it meets ACPF priorities ACPF to nominate a leader to work with CRC to develop project concept with CRC Program manager

7. Develop project proposals that target key international markets in Asia (as part of Operation Asia)

Action: ACPF to encourage **me**mbers to apply to participate in proposed market intelligence visits to Asia and encourage individual companies to be involved in the CRC market intelligence network (being developed by Joanne Freeman, USC)

Training Activities

ACPF members need to consider these opportunities as they arise and apply for those that are relevant.

Action: ACPF to develop a communication mechanism to ensure that members are aware of the opportunities and the closing dates for applications

Action: CRC to develop an annual training and education calendar and circulate to ACPF executive officer for onforwarding to their members

FUTURE HARVEST PROJECT IDEAS Prepared by Caleb Gardiner

1. NOTES OF FUTURE HARVEST TYPE ISSUES RAISED AT INDUSTRY RESEARCH NEEDS SESSION

John Harrison PFA, NSW.

- need for reform of capital structure – number of fishers, vessels.

- gear design to reduce costs through higher efficiency / less fuel, also BRDs that don't reduce catch

- Managing size at harvest to increase yield is conducted well including conflict between firms/sectors (estuary to oceans in king prawns).

- fuel and cost of fishing.

Graham Stewart WA.

-cost of labour issues including costs rising, volatility, skills -driven by max yield per litre fuel.

-pre-harvest survey system run collectively by industry

-Not fishing to MSY or MEY, but at bionomic equilibrium with triggers stop fishing at the point where daily fuel cost intersects revenue ie MVC=MR (note this was termed MEY)

Karen Hollamby, SA

- Require research on harvest strategies to target MEY.
- Need for reform of capital (ie fleet size) eg through buy-out

Shannon Evans, NPF

- Massive capital restructure has been conducted- 300ish boats in 80's to 52 today
- Fishery has become profitable (economically) only in last 2 years.
- Managing response to increasing variable costs, esp. fuel.
- Preventing decline in yield through resisting expansion of MPAs

Steve Murphy, QSIA

- Massive capital restructure has occurred- 1999 900 boats to 300 today -require management schemes that are more responsive to temporal changes in prawn stocks ie fast.

- Fuel- what will happen when it spikes (and how can you be prepared) by fishing smarter

2. PROJECT SUGGESTIONS FROM BREAKOUT GROUP

- A. "Audit" of management systems in prawn fisheries (Australia and Internationally)
- what's being done and what works. Contrast management systems and attempt to cluster based on fishery types (so clearer apples with apples comparison)
- Identify inefficiencies within management eg input limits that could be better managed (eg horse power limits, warps, etc...)
- How can management and enforcement costs be reduced, especially in cost recovery fisheries
- The process of industry-govn. co-management systems.

Budget: This is a desktop study with substantial travel, suggest budget circa \$100K

Output: Report / Book

Outcome: no process for uptake of the project to lead to increased economic yield was apparent, apart from the general increase of knowledge. Perhaps include a training session on lessons learnt for all prawn fisheries?

B. Responding to rising variable costs in prawn fisheries

- Focussed on issues of labour and fuel
- How can management systems be altered to reduce impacts of spikes in costs of fuel and labour with smarter management (harvest strategy)
- Decision support tools for daily/seasonal closures closures at present are often to avoid losses, for example through a fuel cost/catch rate trigger that determines whether to open or close. Current process seems crude as it prevents short run loss, rather than targeting MEY.

Budget: This is the topic of the current PhD supervised by Klaas Hartmann (student yet to be appointed). Does the ACPF prioritise this issue higher and thus want a larger budget? In any case, this is a desktop study so suggest alternate budget of larger project of ~ \$100K.

Output: Decision support tools (eg spreadsheet model for better management of preseason surveys), management systems for dealing with fuel spikes (eg in long lived species this would simply be through higher standing stock = higher catch rates = fewer fishing days. What are the parts of a management system that need to be in place for a fast growth species?)

Outcome: process for uptake of the project to lead to increased economic yield is unclear. Need engaged industry group(s) in a few example fisheries?

C. Management of capital (fleet size) in prawn fisheries

- Economic guidance on fleet sizes and implications of alternative options (eg change in economic yield, need for minimum fleet size to maintain supporting infrastructure, tradeoff in economic yield vs community benefit such as number of jobs (input-output analysis)).
- what systems work best for restructures (eg comparison of managed systems like tax-effective buy-outs vs natural restructure through markets)

Budget: This is a bioeconomic project ~ \$100K.

Output: Guidance on capital management systems. Identification and measurement of the extent of capital stuffing in different fisheries. Resolution of the argument of benefit / harm more/fewer boats to the community.

Outcome: increased community benefit from prawn fisheries. Initiation of fleet restructure programs?

- D. Harvest strategies for prawn fisheries where multiple stages / species are fished
- Identify and measure the size of the impact of competing processes. Eg. what is the cost of estuary fishers catching king prawns rather than ocean fishers.
- Are there harvest strategies that manage this better?

Budget: This is being examined in the MBSIA project. Suggest treating this fishery as a test case with the ACPF to review expansion to other fisheries at the end of that project?

E. Gear designs for higher catch, lower fuel usage

Cod ends, warps, etc. that increase technical efficiency while maintaining bycatch below limits.

- Economic yield is increased through lower cost. Cost is reduced through lower fuel usage either by taking same catch faster or with gear that has lower drag.
- Integrate with review of input controls in prawn fisheries (project A) can the management intent of input controls be achieved better by other means (noting that input controls that limit efficiency waste fuel – and this shouldn't be a management tool in 2010)

Budget: Either (i) run as a large engineering project to develop and test gear (\$1 million??) or (ii) enable industry to experiment with new gear types under research permits. These would require participants to allow observers to collect data and results to be shared / published. Budget for management and analysis of this program involves some at-sea sampling with total budget perhaps \$150K. *Output*: Guidance on gear design.

Outcome: lower fuel usage, lower costs, higher economic yield.

- 3. SUGGESTED PROCESS FROM HERE ...
 - (i) ACPF board should review project summaries above to ensure they're a correct response to the issues raised by industry
 - (ii) ACPF board discards any projects of the list that are of no interest
 - (iii) ACPF board prioritises remaining projects (eg three votes per board member system)
 - (iv) ACPF board suggests possible research providers for projects to develop the ideas into the CRC-Concept documents (or leave this to CG)
 - (v) ACPF provide guidance on ball park budgets
 - (vi) Projects that are lower priority but still of interest to ACPF to be developed as Student projects where feasible.