

**Australian Seafood Productivity Improvement Centre
(ASPIC)**

Bob Fleming and Jayne Gallagher



**AUSTRALIAN
SEAFOOD
COOPERATIVE
RESEARCH CENTRE**

Project No. 2008/781



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Non-Technical Summary

2008/781 Australian Seafood Productivity Improvement Centre (ASPIC)

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OBJECTIVES:

Objective 1: Work with seafood processing companies linked to CRC participants and assist with identification of opportunities for new product development and new approaches to processing

Objective 2: Solve problems associated with processing

Objective 3: Assist companies to reduce the risk when establishing new processing initiatives

Objective 4: Contribute to significantly improving the presentation of seafood at retail and foodservice levels

NON TECHNICAL SUMMARY:

The project provided technical and project management support for CRC projects listed under the *Sellfish Theme and OzSeaValue Themes*. In addition, detailed in-person support was provided to two to two significant Program 2 projects.

Technical and business consulting advice has been given to Sydney Fish Market (SFM) to resolve concerns with the Market Pride product line. Furthermore, considerable assistance has been provided to CRC participant businesses involved in seafood processing and Bob Fleming has also provided support for processing operations.

Topics covered included refrigeration and freezing efficiency, work flow redesign, packaging and freight arrangements. A current project to assist in the development of value-added Blue Swimmer Crab products in Western Australia is utilizing a range of experts to ensure efficient product, processing, and packaging development activities are identified.

An investment has been made (principally by Clean Seas Tuna and the Retail Transformation syndicate) to recruit an experienced Seafood product development technologist.

Unfortunately, despite a very intense three year period of activity, the vision of ASPIC as a national centre of expertise in Seafood product development and processing has not been fully realized.

Planned Outcomes

Create a robust and linked seafood post harvest R&D network providing easy and timely access for CRC participant seafood businesses throughout Australia.

Establish a core capability and capacity to respond to the future seafood post harvest R&D needs of Australian seafood businesses.

1. Background:

In Australia's public R&D institutions, there are very few scientists with experience in seafood processing, packaging, new product development and retailing. As a consequence, most seafood processing companies import their staff or use staff from other food industries. There is also very little public R&D support for seafood processor wishing to start new ventures, develop new products, install new machinery or solve problems.

SARDI recognized this issue and took the initiative to establish food research capacity at Regency TAFE by relocating approximately twenty staff, and recruiting three new food processing staff. One of these staff members was a CRC post doctoral researcher.

This project is a CRC Communal project to which all CRC participants have contributed. Funding is for three years initially with an option to continue to the end of the CRC in 2014.

2. Need

The immediate need Australia wide was to build seafood post harvest R&D capacity led by a commercially credible and experienced leader who could gain the confidence of the seafood processing industry and build capacity in public and private R&D organizations

3. Objectives

Objective 1: Work with seafood processing companies linked to CRC participants and assist with identification of opportunities for new product development and new approaches to processing

Objective 2: Solve problems associated with processing

Objective 3: Assist companies to reduce the risk when establishing new processing initiatives

Objective 4:Contribute to significantly improving the presentation of seafood at retail and foodservice levels

4. Methods

Under the auspices of the CRC's OzSeaValue theme it was proposed to establish national seafood processing research network centered at SARDI, with nodes at UTas, DEEDI (Qld), University of South Australia and Curtin University.

It was recognized that building capacity was a long term objective and could be achieved by recruiting already experienced people, finding people with relevant skills and knowledge who were working in other food based industries and through targeted training and education activities.

To assist in building capacity, the Seafood CRC established a relationship with Grimsby Institute in the United Kingdom. Grimsby is Europe's premier site for commercially relevant training in seafood processing. The relationship with Grimsby was to enable:

- Short term visits by Grimsby staff to interact with Australian industry and researchers
- Seafood processing short courses in Australia or the UK.
- Longer term training for Australian staff at Grimsby.
- Collaborative R&D projects.

A similar arrangement was to be pursued with New Zealand.

In addition to the capacity building activities ASPIC was to focus the work of existing researchers on CRC participant high priority product and processing improvement issues. This was to be provided on a one-to-one consultancy basis with generalized reports on efficiency savings and product improvements to be made available to the broader Seafood CRC participant base.

5. Results

Objective 1: Work with seafood processing companies linked to CRC participants and assist with identification of opportunities for new product development and new approaches to processing

Output: Provided technical and project management support for the CRC projects listed below.

Sellfish Theme

- 2009/722 Development and evaluation of value-added YTK consumer products (\$900,000)

OzSeaValue Theme

- 2010/705 Evaluation of Bifilar coil sensor for Sodium Metabisulphite concentration (\$40,000)
- 2010/706 Accelerated New Product Development (\$205,000)
- 2010/707 Loss minimization in farmed prawns through improvement in shelf-life and color (\$260,000)
- 2010/744 The Whole Prawn (Stage 1) – product development ideation (\$60,000)
- 2009/773 Dried Seafood products for the Asian market: A Pilot Study (\$75,000)
- 2009/771 Business Plan for a collaborative seafood processing research hub (\$200,000)
- 2008/793 Optimizing quality within domestic prawn value chains (\$300,000)
- 2009/709 Improving the supply chain for selected WA Finfish (\$165,000)
- 2009/775 Prevention of muddy taints in Barramundi (\$165,000)
- 2010/774 Successful Sardines – post-harvest optimization and new product development for human consumption (\$165,000)

- 2010/775 New product development for low value, high volume species – WA Sardines (\$75,000)

In addition, detailed in-person support was provided to two significant Program 2 projects:

- 2009/770 Retail Transformation (development of concept range, liaison with sub-contractors for market development strategy and consumer research)
- 2008/911 Smart Australian Seafood Innovation (see below for details)

Objective 2: Solve problems associated with processing

Output: The major activity within this area was the technical and business consulting advice given to Sydney Fish Market (SFM) to resolve concerns with the Market Pride product line. A comprehensive operational review identified specific areas of concern and a business improvement program was implemented.

Unfortunately SFM made a corporate decision to cease production of Market Pride. However, this was a very important project and many lessons were learned from it. These will be included in the seafood product development handbook to be produced by the CRC.

In conjunction with Mr Mohan Raj, SARDI Post Doctoral Research Scientist (PDRS) – Seafood Processing, considerable assistance has been provided to CRC participant businesses involved in seafood processing. These free consultations resulted in estimated annual savings of \$750,000 across the businesses visited. Topics covered included refrigeration and freezing efficiency, work flow redesign, packaging and freight arrangements.

Bob Fleming has also provided support for processing operations to the following businesses:

- Clean Seas Tuna (collaborative processing / product development)
- Marine Produce Australia (collaborative processing)
- Southern Waters Marine Products (process audit)
- Southland Fish Supplies (packaging system utilization)
- Huon Aquaculture (capacity review)
- Fergusons (business expansion)
- Dover Fisheries (Capital purchase / novel processing)
- Tasmanian Seafoods (novel processing)
- Creative Cuisine (processing / co-packing opportunity)
- Geelong processing cluster (New Investment)
- Clarence River Fisherman's Cooperative (process optimization / logistics / product development)
- Geraldton Fisherman's Cooperative (processing optimization)
- Australian Southern Exporters (Equipment commissioning)
- Sardine Temptations (process optimization)
- Port Lincoln Sardines (product development / supply chain)

Objective 3: Assist companies to reduce the risk when establishing new processing initiatives.

Output: The concept of a multi-species processing business in South Australia was prepared in conjunction with six companies, led by Clean Seas Tuna (CST). There was undisputed financial and business benefits identified through the process, but lack of potential throughput did not justify further full commercialization.

A current project to assist in the development of value-added Blue Swimmer Crab products in Western Australia is utilizing a range of experts to ensure efficient product, processing, and packaging development activities are identified.

Objective 4: Contribute to significantly improving the presentation of seafood at retail and foodservice levels

Output: Progress in this area has been extremely slow. A lack of industry and retail champions to drive projects has resulted in delays or closure to activities. An ambitious syndicate project to test market a chilled pre-pack range of Australian seafood products has been stopped at the end of Stage 1 as agreement between all members as to future direction was not possible. Project management costs were unsustainable.

An investment was made (principally by Clean Seas Tuna and the Retail Transformation syndicate) to recruit an experienced Seafood product development technologist. Karen McNaughton is now in place at the South Australia Research and Development Institute (SARDI). Karen has started to establish linkages with other post-harvest researchers such as Janet Howieson, at Curtin University and Sue Poole at DEEDI.

6. Discussion

While there was a lot of activity related to ASPIC there was no overall vision or business plan developed and presented to the CRC participants. The development of an integrated network of expertise involving UTas, DEEDI, Curtin University, SARDI and Uni SA also failed to materialize in any organized and deliberate way.

It is hoped that the foundations will enable researchers within the CRC to work on creating a sustainable legacy in the post harvest seafood R&D area once the CRC completes its term (currently due for completion in June 2014). The CRC Program Manager, Product and Market Development will continue to work with key researchers and organizations to facilitate this.

7. Benefits and Adoption

Individual companies associated with CRC participants have benefited through tailored reports addressing processing efficiency and product development opportunities within their businesses. The challenge is to extend the knowledge and benefits to CRC participants more broadly and to the wider seafood industry. An attempt to address this will be undertaken as part of the CRC's legacy planning, extension and utilization processes

8. Further Development

ASPIC has been renamed as the *Seafood Centre* and relocated from Regency TAFE to the SARDI facilities at Waite Campus in Adelaide. Work will continue with key researchers and their organisations

9. Planned Outcomes

The two planned outcomes of this project were to:

1. Create a robust and linked seafood post harvest R&D network providing easy and timely access for CRC participant seafood businesses throughout Australia.
2. Establish a core capability and capacity to respond to the future seafood post harvest R&D needs of Australian seafood businesses.

10. Conclusion

This project was funded for three years and future funding depended on the success of the projects conducted and the willingness of the industry to continue to invest in ASPIC in future.

Unfortunately, despite a very intense three year period of activity, the vision of ASPIC as a national centre of expertise in Seafood product development and processing has not been fully realized. Bob Fleming will leave the CRC at the end of July 2011 to take up a commercial consulting role.

However the need for advisory services and research in this area is still significant. ASPIC has been renamed as the *Seafood Centre* and relocated from Regency TAFE to the SARDI facilities at Waite Campus in Adelaide..