FINAL REPORT

Operation of Seafood Services Australia **Product & Process Development**

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DEVELOPMENT CORPORATION

Project 2000/400

Non Technical Summary

This report covers the activities of a series of FRDC projects operated by the Queensland Department of Primary Industries throughout the 1990's. For simplicity these will be collectively referred to as the "National Seafood Centre" or "NSC" in this report. The NSC projects were unusual, because they were set up to encourage Australian seafood companies to carry out research and development either alone, or in partnership with researchers, rather than to carry out research themselves. They did this by providing modest funding for suitable, small-scale projects. The topics chosen for funding were short, and targeted at getting a commercial outcome within a relatively short space of time. Because they involved a high proportion of input from private sources, most projects were protected by a period of confidentiality after completion. This report gives an overview of the projects funded by NSC.

In addition to funding projects, the NSC worked in conjunction with the Australian Seafood Extension and Advisory Service (AUSEAS) to disseminate information and advice and to encourage networking between companies, researchers, government agencies and other people with an interest in seafood production. This involved considerable travel to liase with industry groups, government agencies, research institutes, and individual companies. Several key seminars and conferences were sponsored covering topics of immediate interest to the industry. These were intended to provide a snapshot of the current position of the industry and provide a window on the global scene.

One very imaginative initiative of the NSC was the "D" program. Companies were able to access small amounts of funding for very specific purposes to overcome impediments to their development without submitting a full funding proposal. This funded shelf life trials, analyses, consultancies and other limited activities.

Lessons Learned from the NSC Experience

For a modest amount of funding the NSC projects supported a wide variety of projects, providing for the first time a dedicated post-harvest development focus. From this experience, several lessons can be learned. The following list is neither exhaustive nor arranged in order of priority.

There is a lack of appropriate channels for the exchange of technical information within the seafood industry.

To result in a positive outcome, post-harvest research must address the immediate needs of the industry.

The Australian industry is well behind the rest of the world in the technology it uses. In many instances considerable benefit can be derived simply by applying existing knowledge (*BUT* see below).

Whilst many of the problems faced by Australian companies can be solved by the application of existing knowledge, it is important that a strategic post-harvest research effort be maintained to provide a knowledge bank for the future.

Successful introduction of a new product into the market by a single company is a very complex and expensive process well beyond the scope of the assistance available through FRDC, and is probably an inappropriate use of FRDC funds.

The amalgamation of disparate projects and the formation of a national network with a node in each State, achieved effective communication across Australia.

Historical Background

The National Seafood Centre had its genesis in a report entitled *Casting the Net* published by ASTEC in 1989 after a review of the state of post-harvest technology in the Australian fishing industry. The following recommendation was made (recommendation 2):

That CSIRO establish the Seafood Technology Section of the CSIRO Division of Fisheries as a Seafood Technology Centre with national responsibilities for post-harvest research and development. Amongst its functions the centre would:

- Undertake short and longer term research;
- Provide liaison, information and advisory services to government and industry;
- Establish and maintain a network of Australian researchers in fisheries post-harvest; and
- Provide placements for graduate students and industry nominees.

To give effect to these recommendations, the then Fishing Industry Research Council (FIRC) provided funding for a workshop convened under the chairmanship of Mr Bernard Bowen, then Director of WA Fisheries and Chairman of FIRC, at the University of Western Sydney. This meeting brought together representatives of all the stake holders in post-harvest R&D in Australia. Participants were drawn from:

- CSIRO
- Universities of NSW, Western Sydney, and RMIT
- Processors from WA, Qld and Vic.
- DPIE
- QDPI
- FIRC

As a result of this workshop, plans were made to establish a National Seafood Centre in the grounds of the University of Tasmania. Land would be provided by the University, funding support from DPIE, and technical and administrative support from CSIRO Division of Fisheries.

The Centre would have a permanent staff of 10, with a further 10 post graduate and post doctoral researchers. Operational funding would come from several sources including FIRC, CSIRO, ACIAR, FAO, and agencies such as DANIDA (Danish Aid Agency) as well as tertiary institute sources and industry consultancies. A site was selected and preliminary plans for the building were drawn up.

Unfortunately the plan lapsed when CSIRO encountered funding difficulties. It decided that post-harvest research was not in its area of core research, and retrenched the six staff of its Seafood Technology Section. QDPI decided to progress the concept, and recruited two key staff from CSIRO to join its Seafood R&D team in Hamilton, Queensland.

The formation of the Fisheries Research and Development Corporation (FRDC) provided a new stimulus in the area of post-harvest activities. Several large post-harvest research projects were approved and funding was provided for a National Seafood Information Service to be run by the QDPI in Queensland.

It was decided to resurrect the concept of a National Seafood Centre (NSC) to be run from QDPI, but by this time, funding was only available from QDPI and FRDC. The NSC was restricted to a single officer funding small (up to \$40,000) projects in near market R&D and operating from an office in Hamilton, with QDPI providing administrative and infrastructure support.

Thus by the mid-1990's there were two complementary FRDC post-harvest infrastructure projects at QDPI in Hamilton, the NSC and the Australian Seafood Extension and Advisory

Service (AUSEAS formerly NSIS). This provided the Australian industry with access to the world's seafood R&D discoveries, and some capacity to carry out further research in response to identified deficiencies in knowledge.

Structure

The NSC consisted of a Commercial manager and an advisory body called the National Seafood Centre Advisory Committee (NSCAC). The composition of the NSCAC varied, but it always included the Executive Director of the FRDC as Chair, and the Director of the Centre for Food Technology of QDPI. In addition secretarial assistance was provided from CFT and later from AUSEAS.

The method of operation of the NSC was for the Commercial Manager to develop proposals in consultation with potential applicants, and then present these to the NSCAC for assessment. The NSCAC met at regular intervals throughout the year, but were able to assess projects at any time via teleconferences. The NSCAC made recommendations to the Board of FRDC for final approval. Members of the NSCAC also promoted the activities of the NSC and helped put the Commercial Manager in contact with potential applicants.

The Executive Director of the FRDC approved "D" projects, which did not require a full application, after consultation with the Commercial Manager.

Projects

The main function of the NSC has always been the encouragement of very applied research and development by the application of limited, targeted project funding. A list of the projects funded is provided in Appendix 1. Some of these projects cover more than one topic, but it is possible to summarise them thus:

Subject	Number of Projects
Product Development	17
Process Development	12
Waste Utilisation & By-products	.13
Live Seafood	9
Handling & Processing	9
Packaging	6
Market Development	3
Food Safety and Quality Assurance	2

Initially, the main thrust of the NSC's projects was near market research, which fostered a number of short term projects aimed at doing tactical research aimed at achieving quick, commercial benefits. The emphasis was later narrowed to product and process development which often meant "me too" projects aimed at copying products already in production overseas but using Australian species. Success was judged on outputs, from the criterion of "successful products on shelves".

Dissemination of Information

Unlike normal research projects, NSC work is often done as commercial in confidence and covered by confidentiality agreements. By the time that the confidentiality period has expired, the researchers are likely to have moved off on to another project, and so dissemination of results becomes more problematic unless specific provision has been made for, for example, the conduct of a workshop, or the writing of a handbook.

The final report is an important output from each research project. This is particularly true of NSC projects in which other forms of publication are often precluded by confidentiality

agreements. These reports are not submitted for formal peer review in the same depth as a journal article, which brings both advantages and disadvantages. There may be some deficiencies in method or analysis, and in the conclusions reached, but because of the freedom from space limitations, the author is able to describe methods etc in more detail. We have now gathered a range of reports on a wide variety of topics (Appendix 2).

The commercial managers have been very diligent in writing articles in industry magazines such as *Seafood Australia* and *R&D News* featuring not only NSC projects, but also other issues of special interest to seafood producers. Papers have also been presented at a range of forums such as *World Aquaculture*, and numerous workshops, seminars and conferences.

Assessment

In 1996, a cost benefit analysis of four NSC projects was done by FERM on four selected projects regarded as successful by the NSC's Advisory Committee (NSCAC). The results for the Benefit/Cost ratio's (B/C) can be summarised thus:

1992/125.05	Development of a process to remove the skin from small fish. B/C '94-'96 = 1.3 B/C '95-'00 = 3.2
1992/125.25	Australian canned sardines and canned sardine fillets B/C '94/'96 =2.2 B/C '94-'00 =7.8
1992/125.09	Improved packaging system for live rock lobster B/C '94-'95 = 0.8
1992/125.17	Improved handling and marketing strategy for blue manna crabs B/C '94/'96 = 1.8

The FERM report concluded:

...the total estimated economic benefits from these four projects attributable to NSC funding amount to around \$276,000. This substantially exceeds the NSC expenditures on these projects of \$92,700, and represents a benefit cost ratio to NSC of 3.0.... to put this another way, almost the entire budget of the NSC in 1994 is justified on the basis of the results of these four projects alone.

From its inception, the NSC has had a wide scope of activities that extended beyond funding projects. Both NSC and AUSEAS had a networking role, forging linkages across the disparate elements of the post-harvest sector of the Australian seafood industry.

Fostering Industry Forums

For many years, there was no effective seafood technology forum in Australia. Discussion of seafood research was relegated to obscure timeslots in the programs of broader food conferences, which were dominated by dairy, meat, cereals etc. Alternatively there was the occasional "token gesture" allocation for a paper on a broad topic such as quality assurance or food safety at a conference dominated by fisheries management or biology.

That situation has changed dramatically. There are now a number of forums where post harvest seafood dominates. The reasons for this are several:

 The formation of a seafood group within the Australian Institute of Food Science and Technology (AIFST) in 1989 resulted in the inclusion of a full seafood session within the annual AIFST conventions from 1991 onwards.

- The establishment of the National Seafood Information Service (the forerunner of AUSEAS) was accompanied by the holding of the inaugural International Seafood Conference and Exhibition at the Gold Coast in September 1992. This has been followed by two further international conferences in 1996 and 1999. These technical conferences serve several purposes. They bring a wide range of the finest seafood research expertise to Australia, exposing our researchers and industry to the very latest R&D; they showcase our own achievements in an international venue; they form global links between Australia, a minor player in post-harvest R&D, and world class research institutes.
- The formation of ANZFA with its emphasis on food safety and quality provided the impetus for the establishment of SeaQual and ultimately the formation of Seafood Services Australia (SSA). This has resulted in a number of specialist interest groups on topics such as environmental management, as well as the more general SSA network and the Seafood Directions conferences.
- In addition to these, a number of *ad hoc* targeted seminars on topics such as transport of live seafood and modified atmosphere packaging have been held. Some of these arise out of research projects, whilst others are convened to address a perceived need.

These activities have been supported by both FRDC and NSC with the provision of funding and administrative support.

Exhibitions, Fairs and Festivals

There is an increasing awareness in the fishing industry of the need to project a higher public profile. One way of doing this is to mount displays at public events. In the mid 1990's NSC and AUSEAS took a display stand at Fine Food in Sydney, and this has since developed into regular appearances at Fine Food in Sydney, Melbourne, and Brisbane, and the International Catering Fairs. In addition, we have had stands at a number of seafood festivals and exhibitions. Since these activities have taken a fairly high level of resources, it is worth considering the evolution of the exercise.

The first displays we designed were intended to make the public aware of our existence and to attract potential clients. The main display material was the publications we sell, and we relied on brochures and personal contact as promotional tools.

Publications remain a significant part of our display but it has been broadened in later years to include demonstrations and samples of products developed from selected projects. More recently representatives of the local SSA network have been included in the manning of the stand.

Our presence at these exhibitions has been accredited by the organizers, Australian Exhibition Services, with raising the profile of seafood in general at the shows. At our first Fine Food show, there were only 3 stands covering Australian seafood, ours, Nally plastics and Craig Mostyn. Today there is a whole "Seafood World" section, as well as numerous other stands that include seafood in their product range.

There is some interest in our stand, and publication sales cover a significant part of the cost of mounting the display. Whilst many of our enquiries come from the passing crowds, we realised that most of our serious contacts are other stand holders. Recognising this, we have taken to holding an informal get together at the close of one evening based on an activity such as a book launch. This has provided a good opportunity for industry to network.

Profile

Because the seafood industry is so scattered geographically, it has always proven difficult to make contact with SSA's potential clients. It was realised early on that personal contact was the best way to communicate with stakeholders, and the first three Commercial Managers of the NSC made strenuous efforts to travel around the coast, trying to engage the industry, both through their associations and individually, in constructive decision making. This was backed up by active promotion of the NSC by some of the members of the NSCAC. Many of the projects funded by the NSC came as a result of these efforts.

Surveys of industry members have always concluded that there was a low level of awareness of both the NSC and AUSEAS. This was inevitable given the limited staff time available for promotional activities, and also the essentially reactive stance taken by both NSC and AUSEAS.

With the advent of the SSA, availability of a realistic promotion and communication budget together with the formation of the State SSA networks, there is a new chance to raise the profile. BY focussing on two issues of immediate threat to the industry, namely food safety and quality and environmental management, SSA has been able to fill a gap and attract the industry's attention in the best way possible, namely answering an immediate need.