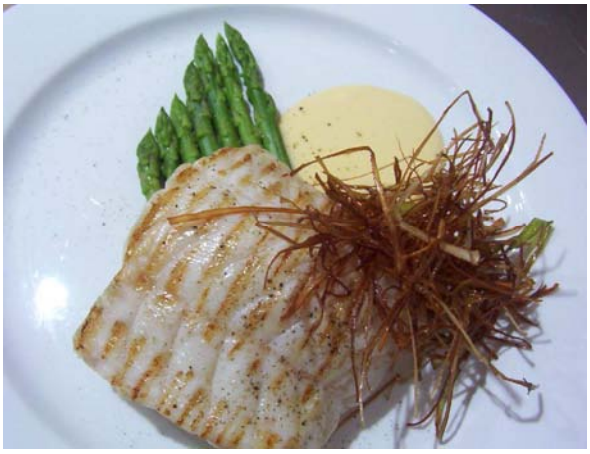
South East Fishery
Industry Development Subprogram

Empowering Stakeholders to Initiate and Advance R&D Projects in the Seafood Industry



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FRDC Project 2007/304

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EMPOWERING STAKEHOLDERS TO INITIATE AND ADVANCE R&D PROJECTS IN THE SEAFOOD INDUSTRY

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1 NON-TECHNICAL SUMMARY

Project No. 2007/304: **SESSF[1] Industry Development Subprogram: Empowering stakeholders to initiate and advance R&D projects in the seafood industry**

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1.1 OBJECTIVES:

1. For stakeholders to be empowered and to develop the necessary skills to prepare, submit and conduct their own R&D projects;
2. To increase leverage for existing research resources expended by stakeholders;
3. To quantify the need and level of use of the service and identify if the qualitative level of support is corroborated;
4. The development of at least five stakeholder sponsored applications during 2007/8, with Industry members being the principal or co-investigator in all projects; and,
5. To improve extension and take up of findings through improved stakeholder ownership of outcomes.

[1] SESSF - 'Southern and Eastern Scalefish and Shark Fishery'

1.2 OUTCOMES ACHIEVED TO DATE

- This project empowered people in the broader fishing and seafood industry to increase their level of responsibility and contribution towards specific R&D that will benefit their industry
- Endowed stakeholders with skills to prepare, submit and manage R&D projects
- A broad range of high-quality, Industry focused stakeholder driven R&D projects have been developed, generally outside of the typical Agency driven R&D, but which still addressed strategic challenges identified as R&D priorities
- The identification of opportunities for improvement in the existing FRAB and FRDC process
- The identification of a wide range of funding sources suitable for industry based R&D
- The recognition that there would be benefit in continuing to provided the type of services provided under this project
- Opportunities exist to build on the 'Empowering Industry' project model in the future.

Anecdotal reports from Industry indicated that their lack of capacity and/or resources to develop and submit R&D projects was hindering their involvement in, and commitment to R&D. As a result, industry initiated R&D projects tended to be poorly represented, with the bulk developed by Government agencies and universities, which may not have been aligned to or focused on Industry priorities. The 'Empowering Industry' project was intended as a one year trial to investigate this issue.

The project sought to provide a process that allowed industry R&D ideas to be captured and developed into project proposals that could become part of the standard R&D funding process. Industry members were encouraged to be investigators on the developed projects and to become proactive in identifying and linking with an expanded range of appropriate R&D research providers. The project also sought to establish a broader network of funding sources.

More than 50 stakeholder groups were contacted and briefed about the 'Empowering Industry' project and its potential benefits. This led to approximately 40 presentations being given across Australia to an audience of more than 200 industry people.

As a result of this contact, 35 potential R&D projects were developed with input from the 'Empowering Industry' project. This outcome far exceeded the 'Empowering Industry' project's objective of identifying five potential projects. In all instances (except one), an Industry person, or equivalent, was the investigator.

Identifying alternatives to FRDC funding, as well as ensuring that FRDC funded projects aligned with the funding criteria, were critical components of this project. Six national funding agencies/sources were identified for use during the project.

Of the 35 potential R&D projects, 20 full proposals were developed and submitted to various funding agencies. Projects focussed on environmental performance (32%), industry profitability and efficiency (26%), people and Industry development (18%) and product development (15%). Sixteen proposals were successful in obtaining funding. The 'Empowering Industry' project generated R&D funding of approximately $1,200,000, giving a return of almost $9.00 in funding for every $1.00 of FRDC funding expended on the 'Empowering Industry' project.

During the 2008/09 funding cycle, 10% of all approved FRDC full projects and 40% of the approved Industry initiated projects were developed with support from the 'Empowering Industry' project. The 'Empowering Industry' project assisted in the development of 28% of all approved Tactical Research Fund (TRF) projects and 62% of approved Industry projects.

From the perspective of involving Industry in R&D, the project was an overwhelming success and highlighted their real need for assistance. The 'Empowering Industry' project identified that there were numerous opportunities for more extensive Industry involvement in R&D, but in many instances their input needed to be actively sought and assistance provided to work through the R&D process.

Based on the success of this trial, a number of Industry representatives have called for the development of an ongoing mechanism to deliver a similar service to the broader seafood and fishing industry, ensuring that: it is cost-effective, inclusive and transparent, operates at a national or regional scale, and provides opportunities for the existing funding process to be improved.

1.3 KEYWORDS

Industry R&D, Industry empowerment, industry development, capacity building.

1.4 ACKNOWLEDGEMENTS

This project could not have taken place if the various fishing and seafood Industry Executive Officers, associations, groups, companies and individuals across all sectors had not provided their valuable time, input and effort in working with the project team to identify R&D opportunities. Their participation was critical to the success of this project.

This project was funded by the Australian Government through FRDC Project No. 2007/304. The support of Patrick Hone and the Board of FRDC, who provided the opportunity for this ground breaking project to take place, is acknowledged and greatly appreciated.

FINAL REPORT

Project No. 2007/304: SESSF Industry Development Subprogram: Empowering stakeholders to initiate and advance R&D projects in the seafood industry

2 BACKGROUND

The Southern and Eastern Scalefish and Shark Fishery (SESSF) Industry Development Subprogram (FRDC Projects 2001/238 and 2004/254) operated over a period of five years. The aim of the Subprogram was to use a supply chain approach to research and development (R&D) in the SESSF to increase the value of the fishery by value-adding to fish products, adopting new technologies and improving utilisation of catches. During the term of this project, it became apparent through the interactions with a broad range of fishing and seafood industry stakeholders that many of them (individuals, businesses and associations) did not have the knowledge, expertise or resources to develop up their own R&D ideas into formal projects from which they could apply for funding assistance. As a result, industry-initiated R&D projects tended to be poorly represented and the bulk of fisheries R&D projects were developed by Government research agencies to meet what they believed to be the research needs for industry.

This project sought to provide a means for stakeholders to instigate and advance R&D projects to assist them in meeting their research expectations and needs. This was to be achieved by

- identifying industry R&D opportunities
- providing general assistance
- acting as a point of first call for the development of project applications
- identifying appropriate researchers and funding agencies
- managing timelines and the general project application process.

The project also sought to establish a broader network of funding sources for fisheries R&D, not relying solely on FRDC.

It was considered important to expand the range of R&D service providers to allow an increased focus on R&D that sought to improve profitability, efficiency and environmental performance. This would allow Agencies to focus their R&D resources on their key roles and responsibilities

in respect to fisheries research and management. Similarly it was expected that the project would include a broad range of stakeholders, thereby allowing recreational and Indigenous stakeholders the opportunity to develop sound R&D projects as well as the commercial sectors.

This project sought to empower stakeholders with the necessary knowledge, skills and capacity to develop and manage their own R&D projects, and to take a greater role in the focus of R&D in their industry. As stakeholders will be the key managers in the project's extension, mechanisms will be developed that allow for greater adoption of outcomes as there will be a high level of ownership of outcomes. It is believed that such an approach would become a catalyst for change in the application development process and focus of R&D in the fishing and seafood industry.

3 NEED

This project was considered necessary as many stakeholders (including commercial, recreational associations and Indigenous groups), especially those without an FRDC subprogram in place, did not have the expertise or resources to develop their own R&D projects. This led to a situation where, in many instances, research proposals tended to be developed by Agencies to meet what they believed to be the research needs for industry, sometimes with industry only having cursory or token involvement in these projects. In some instances these projects fell short of industry expectation and may have been limited in their scope and take up due to Government policy, availability of resources and skill sets within Agencies. This existing R&D application development model is shown in (Figure 1). This system places the vast majority of responsibility for driving research on Agencies.

The current fisheries R&D agencies do not have the full range of expertise required by industry to meet their specific R&D needs. Industry requires access to a broader range of research providers to assist them improve efficiency, profitability and performance and develop their human resources. During the consultation phase of developing this project there was significant qualitative evidence supporting the need for a new model that allowed stakeholders to identify key needs, take responsibility for developing R&D projects for their sectors and then find the appropriate research providers to assist in undertaking the projects. This would be a paradigm shift in the way R&D is developed in the fishing and seafood industry in Australia, and indications were that Industry would relish the opportunity to develop their own ideas into R&D

projects. This would empower fishing and seafood industry members and associations to conduct relevant R&D and to take more responsibility for its directions.

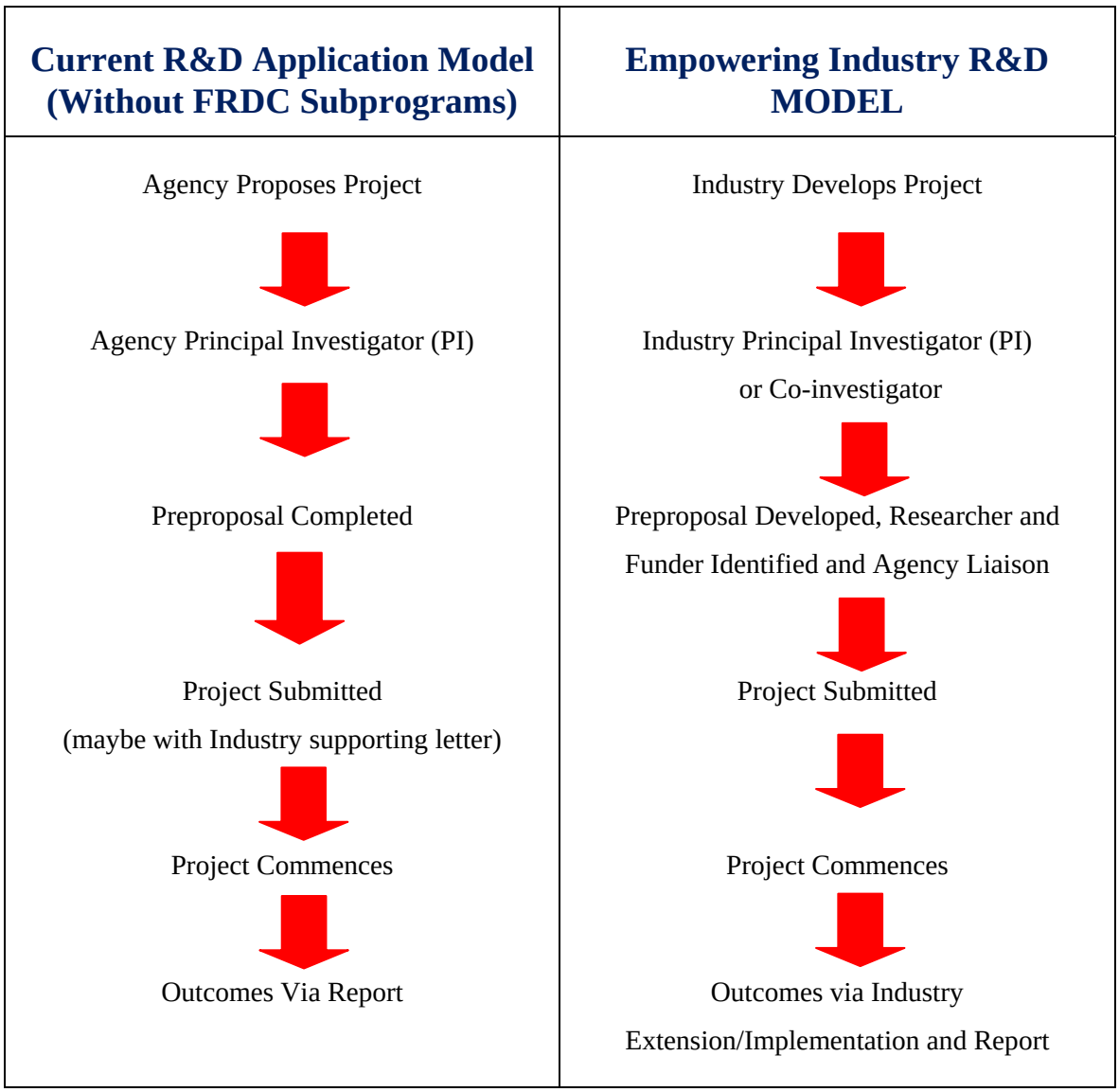


Figure 1: A generalized model of the current R&D application development model versus the proposed "Empowering Industry" R&D application development model

Currently some industries and individuals are paying many thousands of dollars for R&D. It was believed that stakeholders were often unaware of, or did not have adequate knowledge to use their financial and human resources to value-add to their research dollars and leverage further funding assistance. This project sought to provide a means for this to occur, leading to improved projects with broader R&D scope.

Another need for this project was the requirement to broaden the funding base for fishing and seafood industry R&D so as to not rely solely on FRDC funding. In this respect, the project did

not necessarily have to limit its scope of R&D to projects that aligned with FRDC strategic R&D directions.

4 OBJECTIVES

The project objectives are:

1. For stakeholders to be empowered and develop the necessary skills to prepare, submit and conduct their own R&D projects
2. To increase leverage for existing research resources expended by stakeholders
3. To quantify the need and level of use of the service, and identify if the qualitative level of support is corroborated
4. The development of at least five stakeholder sponsored applications during 2007/8, with Industry members being the principal or co-investigator in all projects
5. To improve extension and take up of findings through improved stakeholder ownership of outcomes.

5 METHODS

This project involved a great deal of face-to-face interaction with individual stakeholders, groups and associations. Importantly, this project sought to not only target commercial fishers, but the entire seafood chain and major stakeholder groups including commercial, recreational and Indigenous groups or communities. The method used in the project to develop applications is shown in Figure 2 and sought to:

- identify and contact relevant stakeholders;
- arrange to meet with stakeholders;
- meet and present project information to stakeholders;
- identify potential projects and applicants;
- develop potential projects and link to appropriate service providers, human resources and funders; and,
- develop industry instigated, focussed and driven projects.

STEP	ACTION	OUTCOME
Step 1	Identify and contact relevant stakeholders to advise them of the project objectives and method. Arrange to meet with these stakeholders.	*A series of interested parties will be identified and this will be followed up by the investigators*
Step 2	Meetings and presentations will be undertaken by the investigators to promote the project and identify interested Industry representatives and projects. (There will be no cost to Industry for the attendance of the investigators at the meetings and discussions).	*A series of meetings will be held with Industry in the major centres.* *If resources allow, meetings may take place in some regional centres if sufficient interest is generated.*
Step 3	Projects and applicants will be identified and assessed as to their appropriateness under various R&D programs and challenges.	*A series of ideas and concepts will be identified by Industry at these meeting along with potential Principal Investigators.*
Step 4	Potential project will be developed and linked to possible funding and human resources from existing Government agencies, private sector providers and from within stakeholders' membership.	*Potential projects, researchers, and funding options will be assessed.* *Preproposals will be developed by the Industry with assistance from researchers and investigators.*
Step 5	Industry instigated, focussed and driven projects will be developed.	*At least five formal proposals will be submitted during 2007/08 with Industry members as the principal, or co-investigator.*

Figure 2: Project methodology outline

5.1 CONTACT WITH POTENTIAL CLIENTS

The initial phase of the project involved identifying and contacting relevant stakeholder associations, groups, companies and individuals in each jurisdiction, to outline the project's objectives and methods, and to arrange appropriate meeting times. Each contact was provided with a summary of the project details (see Appendix III).

Initial contact was via letter or email, through industry publications/websites and telephone, directed to around 50 groups Australia wide (see Appendix IV for contact list).

From this initial contact a number of meetings were arranged throughout Australia to meet with interested parties.

5.2 MEETINGS WITH POTENTIAL CLIENTS

Prior to meetings, each group, individual or Association was provided with a summary outlining the details of the proposed meeting schedule and arrangements, along with information outlining the project's details and information regarding the investigators' backgrounds (Appendices III & VI). Where possible, the presentations were arranged to coincide with existing, or potentially scheduled Industry meetings. These presentations clearly articulated the purpose of the project, focussing on the identified outcomes and processes to ensure that any potential projects addressed strategic challenges identified as FRDC and/or Industry priorities.

At each of the 40 meetings, the investigators held discussions with potential clients. With bigger groups, a PowerPoint presentation was used to outline the project's process and aims. The investigators then held further discussions with interested parties and, using a one-page information collection sheet (Appendix VII) or a FRDC preproposal outline, captured critical information regarding each potential project. The method used depended to some extent on the number of people at the meetings, or the number of investigators available to collect the information.

Generally, in larger groups a summary collection of information would take place using the one-page sheet, but when meeting with specific associations/groups more extensive information was collected using a FRDC preproposal outline.

In all cases, potential projects were teased out from the information gathered and the investigators then put the concepts into a format that made it possible to determine if a specific R&D project would best resolve the issue identified.

In some instances, as information was being collected, potential applicants were advised as to the status of similar projects, likely ways forward for their R&D needs, or if appropriate, that their projects would most likely have little chance of attracting funding and were advised of the reasoning behind such an outcome.

5.3 SELECTION OF SUITABLE PROJECTS

Once potential projects were identified, the investigators assessed each proposal to determine if the 'Empowering Industry' project would be in a position to provide additional resources to help develop a full project. Each project was considered against the following criteria:

- Did the project align with relevant R&D or Strategic Plans?
- Could this project be better aligned with other past, current or proposed projects?
- Was the proponent in a position to be the PI or CI?
- Would the proponent make a real cash contribution, as well as a substantial in-kind contribution?
- Would the project improve the sustainability, efficiency, profitability, the environmental performance or leadership capacity of the fishery/sector?
- Would there be a high chance of industry take-up of outcomes/outputs?
- Are there appropriate funding options available for this type of project (FRDC and other)?
- Are there other opportunities for the proponent to develop this project (i.e. through Executive Officers, Agencies etc)?
- Is there a high chance of success for the application to receive support and funding?

If the proposed project met the criteria, at least one of the investigators was assigned to follow through with project development. If the project did not meet the criteria, the person/group was advised accordingly and generally provided with alternative options.

5.4 PROPOSAL DEVELOPMENT PROCESS

If the investigators identified a potential project as meeting the criteria and therefore warranting "Empowering Industry" resources being committed to it, one or more of the investigators was assigned to oversee the project's development.

Initially this involved working with the proponent to identify an appropriate service provider to undertake the R&D or act as a project manager. Secondly, potential funding sources were identified.

5.4.1 Identifying Service Provider

Potential service providers, who it was believed had the necessary skills and experience to undertake the R&D projects developed under the 'Empowering Industry' banner, were identified by the PI and CI's from a wide range of sources, including existing public research agencies, private sector providers and from within stakeholders' membership. In addition, contacts were sought from a range of Industry sources and agencies who were asked to assist in identifying potential service providers from within their networks, or from other sources. This was expected to provide a broad range of potential service providers for the project.

When a potential project was identified, the type of service provider required for the project would be assessed by the PI, CI's and project proposer, based on which service providers would best match the project's requirements. Contact would be made by the PI or CI's with the service providers to determine if they had an interest and/or the capacity to undertake the project. If they met the criteria they could then be matched with the project proposer.

The most important criteria were that the provider's field of expertise aligned with the project's needs, and the ability of the proponent and service provider to work together. In some respect this was a departure from the way many R&D projects had generally been developed. In most instances the project is developed, then attempts are made to utilise an existing entity within an organisation to act as the PI or CI, and this person may or may not be an expert in the required field. Alternatively, after the project is developed and supported, then a person is recruited to undertake the role. However under the 'Empower Industry' project model, if there was a suitable match, the service provider and proponent were to be linked together early in the process, and work together in a partnership to develop the application and manage the project. A key reason for this approach was to develop the proponent's and provider's understanding of both the funding process and the FRAB's and FRDC's roles, and to build Industry's capacity to develop and manage funding applications and processes. This process, however, was one area that received some minor criticism from outside the process, due to a perceived lack of transparency in the service provider's selection.

5.4.2 Identifying Potential Funding Source

One of the project's major goals was to broaden the scope of R&D funding sources, beyond FRDC. This was to be achieved by the investigators assessing potential national R&D funding

sources, to gain an understanding of their criteria and then assisting to match them to the potential projects identified.

Discussions were undertaken with the proponent and service providers as to the merits of each funding option, and if necessary discussions were also held with the potential funder regarding the project/s.

A key component of this project was that proponents were requested if possible to commit real cash toward their project, along with substantial in-kind contribution, to add value or provide additional leverage to the overall funding available. This would not however exclude potential projects that did not have the capacity to commit real cash.

6 RESULTS AND DISCUSSION

This section assesses the project's results. It also seeks to explain the processes used, assess the projects developed and their success rate, and to identify areas for improvement in relation to the project's methodology. These matters are discussed below.

6.1 CONTACT AND MEETING WITH POTENTIAL CLIENTS

The project's initial phase focussed on identifying and contacting relevant associations and groups in each jurisdiction to generate interest in the project, advise them of the project's objectives and methods, and to arrange potential meeting schedules with stakeholders.

More than 50 groups were contacted by letter, email, face to face, telephone or through industry publications or websites, outlining the project and the potential benefits to stakeholders. Information was also provided to peak industry groups, industry associations or groups, processors, companies, recreational fishing groups, aboriginal land councils, fishing co-operatives, individuals and Government Agencies (Appendix IV for contact list).

The project was approved early in May 2007, at which time expressions of interest had already been called for by a number of FRABs. To some extent this restricted the number of meetings with potential clients within the timeframes of the FRDC funding cycle. As the project placed a high value on face-to-face discussions to assist with identifying potential projects, there was significant effort made to link in with previously planned Industry meetings, to maximise attendance at these meetings.

Each party contacted was provided with documentation in the form of a letter outlining the project, the process to be followed and the investigators' background (Appendix III) and/or a one pager (Appendix VI) that provided a brief overview of the project and relevant contact details that could be readily distributed. Information was also provided in a number of Industry publications or websites (Appendix VI)

Despite the short time frame relative to the FRAB / FRDC funding cycle, this process proved adequate, leading to approximately 40 presentations, generally run by two of the three investigators, to more than 200 people across each State/Territory in Australia. These meetings served to promote the project, and identified interested parties and potential projects (see Appendix V for meeting schedule and meeting attendees).

The assistance provided by the various peak bodies or representative groups in contacting and coordinating interested people to attend the meetings was crucial. The level of support varied from jurisdiction to jurisdiction, but generally there was a high level of interest in the project and its aims.

The presentations and meetings initially focussed on providing information on the purpose, methodology and the proposed outcomes of the project, and what assistance was being offered by the investigators. The investigators ensured that people were made aware of the projects' protocols: i.e. all projects had to comply with a relevant strategic plan, in most instances a real cash contribution would be required, and the 'Empowering Industry' involvement in the process did not guarantee that a project would be successful in receiving funding. It was acknowledged however, that the investigators' involvement would ensure that potential projects would clearly identify the R&D needs, aims and processes for the R&D projects' further development.

On completion of the initial contact phase, the investigators assessed the potential projects, using the information collection sheets (Appendix VII) or FRDC preproposal outlines. In all instances the investigators compiled the concepts into a format which assisted in determining if an R&D project could, or would, best resolve the issue identified.

Arranging meetings with the commercial sector was generally less difficult than other sectors due to the existence of industry associations of which most fishers were a member. Processors, marketers and those fishers who do not interact with peak bodies on a regular basis in many instances missed the opportunities to meet with the 'Empowering Industry' team, and as such their potential R&D projects were not identified. As the project was a trial and there was only

time for one round of meetings, the numbers who participated in the project from the commercial sector were satisfactory, and clearly showed that there was an opportunity to enhance R&D through this project. Interaction with those outside of the commercial wild harvest sectors was less satisfactory.

Time constraints lead to limited interaction with the recreational sector on a jurisdiction by jurisdiction basis. Following discussions with the CEO of RecFish Australia, it was agreed that optimal interaction with the national recreational fishing sector would be achieved by the investigator's attendance at the annual meeting of the recreational fishing EO's, and subsequently at a meeting of their research arm, RecFishing Research. Attendance at both of these meetings identified the benefits of the 'Empowering Industry' project to the Industry and some assistance was provided to projects already being developed by the recreational sector, but no specific projects were indentified from the process. Interaction with the broader recreational sector could be improved.

The Indigenous sector proved by far the most difficult sector to organise contact with potential clients, in respect to what scale to work to, i.e. all land councils, all Indigenous groups or statutory Indigenous groups. After discussions with a small number of Indigenous groups, such as the North Australia Indigenous Land and Sea Management Alliance (NAILSMA) and the Northern Land Council (NLC), contact was eventually made with a small number of land councils in the NT, NSW and WA. Only the NLC in the NT put forward potential projects.

Better understanding of the Indigenous and Traditional sector was clearly required. After discussions with NLC representatives who took part in a FRDC-supported fact finding mission to NZ (FRDC project 2008/311), it was clear that there was a need to build stronger relationships with Indigenous groups before being in a position to have meaningful discussions on developing potential projects. As one of the investigators had an existing relationship in place with the NLC, some potential NT Indigenous projects were able to be identified during the 'Empowering Industry' project (see Table1). Outcomes could also be improved by linking into groups who have existing relationships with Indigenous groups.

Although not perfect, the process of initiating contact with potential project developers ensured that contact was made with a large number of people and groups involved in the fishing and seafood industry. The method of conveying the information also seemed satisfactory as it could be tailored to meet each group's needs. The face-to-face approach, which provides the opportunity to discuss issues at length, was appreciated by those in the fishing and seafood

industry involved in the process. Improvements can be made to further enhance contacts and interactions among the commercial supply chain and with the recreational and Indigenous sectors.

6.2 SELECTION OF SUITABLE PROJECTS FOR FURTHER DEVELOPMENT

As outlined in the previous section, information on potential projects was collected during or after each meeting so that the investigators had material in a format that allowed an assessment of the suitability of each project against the criteria. Each potential project was assessed by all three investigators to determine if a R&D project could be developed under the 'Empowering Industry' project.

Importantly, in addition to the projects that were developed, more than 70 additional people or organisations received advice through the project and were directed to existing or previously undertaken R&D, or provided with advice on how to best progress their R&D needs without seeking direct financial support from FRDC. In many instances potential applicants were advised that the 'Empowering Industry' project would not be in a position to assist in developing applications for a number of reasons, but generally relating to the fact that:

- similar projects, or research, is being undertaken, is planned or has already been completed, and proponents should make contact or seek further information from people involved in those projects;
- there were potential ways forward for their R&D needs outside of external funding sources, including self funding;
- the project had little chance of success in attracting external funding, or a service provider; and,
- the 'Empowering Industry' project didn't have sufficient resources to assist in the project development, particularly if the project wasn't a high priority for a particular jurisdiction, fishery or sector, or a particular meeting/jurisdiction put forward a large number of projects.

Table 1: Summary of potential projects and outcomes from Darwin meetings

Proponent	Project outline/objectives	Decision*
Aquarium fishery	Minimise translocation of unwanted species attached to target coral species and live rocks	No project developed Too limited
Mud crab fishery (NT, Qld, WA and NSW)	Assess the impacts of environmental drivers on mud crab abundance	Develop FRDC TRF
Northern Land Council	Monitoring impacts of sewage outfalls on seagrass in remote areas	Consider NHT
Northern Land Council	Mobile Indigenous training for commercial fishing	Develop FRDC project
Northern Land Council	Stock assessment of dugong in the Gulf of Carpentaria with a view to developing a suitable harvest strategy for sustainable Indigenous use	Consider DEH
Northern Land Council	Assessment of leather back turtle nesting at Coburg Marine Park and the impacts of predators	Consider NHT
NT Barra Farmers	Develop a practical method to measure stress in farmed barramundi under different systems using blood tests.	Develop FRDC TRF
NTSC	Assess the National Seafood Leadership Program	Develop FRDC TRF
NTSC	Incorporating Indigenous fishing into the mainstream:- NT fishing/seafood Industry delegation to New Zealand	Develop FRDC TRF
Offshore fisheries in WA, NT and Qld	Policy development for interactions with oil and gas exploration and the fishing industry	Consider DAFF
Spanish Mackerel Fishery	Using GENETAG and the commercial fishing industry as an alternative method to estimate Spanish mackerel population size in NT waters	No project developed Await completion of existing project
Timor Box trap/dropline and demersal fisheries	Using new methods to refine stock assessments in the offshore snapper fishery	No project developed Consider working with Agency
Trawl, dropline, trap, fish processors (NT, WA and Qld)	To identify cause of intermittent instances of tough fish in saddletail snappers caught across northern Australia in a range of fisheries	Develop FRDC project
WA Northern demersal scalefish	Identify alternate cost effective fishing methods in the WA offshore trap and line fishery	No project developed Liaise with WA Agency or WAFIC

* *further information as to advice provided to proponents is expanded on in Appendix IX*

An example of a meeting outcome is shown in a summary of projects identified from the meetings held in the NT. The subsequent analysis of the potential to develop projects is shown at Table1, and expanded in Appendix IX. Of the 14 concepts identified in the NT, six were developed into projects, four were directed to other sources and four proponents were advised that projects were unlikely to be successful, that they were really Agency issues, or it was not appropriate for the 'Empowering Industry' project to be involved in the development at this stage.

As a result of the investigators' assessment of the potential projects identified nationally, a total of 35 projects were developed with the assistance of, or input from the 'Empowering Industry' project (see Table 2 for a summary and Appendix IX for a full list). This outcome exceeded the 'Empowering Industry' project's aim seven fold, far in excess of the five pre-proposals that were to be developed under the project. Initially there were some concerns that too many projects

may have been developed and the quality of the projects may not be up to standard. Based on the subsequent success rate of project approvals, however, this does not appear to have been the case.

6.3 PROPOSAL DEVELOPMENT PROCESS

Subsequent to the identification of potential projects that warranted input by the 'Empowering Industry' project, one or more of the investigators overviewed each project's progress. The allocation of the investigators' responsibilities was based on the scope and size of the project, and the area of each investigator's expertise or operation.

In each instance linkage with a potential service provider and funding source was made by the assigned investigator, in collaboration with the project proposer.

6.3.1 Linkages to Service Provider

The investigators utilised their extensive networks and wide ranging experience in the fishing and seafood industry and associated activities, including R&D, to identify potential service providers, thereby offering proponents a wide choice of people and organisations to work with. In addition, other Industry persons, Agencies and project proponents were involved in the process of identifying potential service providers.

As outlined in the correspondence sent out to all potential clients in respect to the development of a new model for R&D development (Figure 1) it was of critical importance to ensure that the service provider's field of expertise and the project's needs were closely aligned and not just based on the closest or typically used research provider. This partnership approach was enhanced as in most instances the proponent and service provider worked together to develop the pre and/or full project proposals.

In all instances (except one) the 35 projects identified had an Industry representative as the PI, CI or equivalent. This was a key objective of the project, to ensure that Industry people gained a greater understanding of the R&D process, the challenges that face service providers in managing such projects, and to enhance extension of any findings. Fisheries agencies were involved in ten of the projects.

The linking of proponents with service providers, although successful, could have been improved by creating a better opportunity for the broadest range of providers to become involved

in developing projects. In hindsight the project may have benefitted from the development of a system for contacting or advising a wider range of service providers, including Agencies, of the potential projects that were being considered. Any future development arising from this project would benefit from ensuring there is a process to handle this issue in a more transparent way.

6.3.2 Identifying Funding Source

Identifying alternatives to FRDC funding, as well as ensuring that FRDC-funded projects aligned with the funding criteria, were critical components of this project. No specific limits were identified as to the number of funding sources to be used, or percentage of FRDC versus other funding sources that the project sought to utilise, but overall > 50% of funding was sought outside of FRDC (Figure 3).

Because this project was being undertaken on a national basis, only funding sources that covered all jurisdictions were sought. Due to the vast number of State/Territory and regional funding sources, it was not considered possible to investigate them all. However, if a proponent, or service provider, was aware of local funding options they were pursued to either fully fund the identified project or to increase leverage with another funding sources.

Identification of possible funding sources involved the investigators interrogating a large number of web pages, periodicals, newspapers, and the FishBook, plus phone contact with various organisations. In addition, the investigators' own experiences proved invaluable in identifying potential funding sources. A table was developed outlining potential funding amounts and limits, criteria and protocols to act as a guide (Appendix X).

Six national funding agencies/sources were identified for use during the project; i.e.

- FRDC
  - Full proposals
  - Tactical Research Fund (TRF) proposals;
- National Heritage Trust (NHT);
- Australian Fisheries Management Authority (AFMA);
- Department of Agriculture Forestry and Fisheries (DAFF);
  - Advancing Agricultural Industries Program - Industry Stocktakes (AAIP-IS)
  - National Landcare Program - Sustainable Practices Grants (NLP-SPG)

  - Advancing Agricultural Industries Program - Industry Action Partnership (AAIP-IAP)
  - Advancing Agricultural Industries Program - Action Grant (AAIP-AG)
  - Recreational Fishing - Community Grants Program (RF-CGP)
- National Water Commission (NWC);
- AusIndustry
  - Commercial Ready
  - Commercial Ready Plus.

Although six major funding sources were indentified, after an assessment of the proposals, only five funding agencies, through 11 funding programs, were used under the 'Empowering Industry' project. The funders used and the percentages of projects directed to each were: FRDC Full proposal (33%), FRDC TRF (29%), NWC (5%), NHT (14%), AFMA (5%) and DAFF (14%) (Figure 3). Although some projects may have been suitable for AusIndustry programs, no potential applicants or service providers committed the time and resources to complete the application and process during the life of this project.

For the purpose of discussion it was felt appropriate to separate FRDC projects into Full Proposals or TRF, to help identify if there were any noticeable trends in the use of these two funding sources.

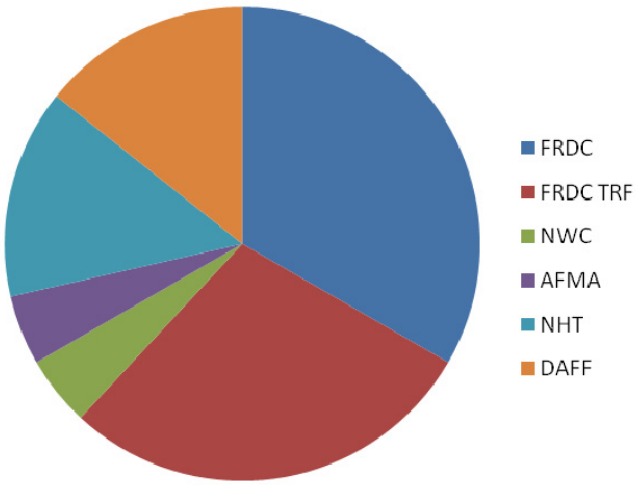


Figure 3: Graph showing the percentage of "Empowering Industry" projects which sought to obtain funding from the various national programs.

Due to changes in funding arrangements that came into effect with the change of Federal Government in 2007 , some projects that sought, or were approved for funding through NWC, NHT and DAFF were found to no longer comply with funding objectives of those programs, the programs ceased, or funding was withdrawn (see Appendix IX).

Originally it was proposed to develop a flow chart and decision matrix for this project, to identify possible funding options, but due to the large number of R&D projects identified and insufficient time available during the funding cycle, this was not undertaken. However a 'Table of Funding Options', shown in Appendix X, outlined potential funding limits, options, criteria, and protocols was developed to act as a guide (Appendix X) and this proved more than adequate during this project. In any event, the chart or matrix became obsolete after the 2007 election when the new Federal Government revised R&D priority areas and adjusted funding programs accordingly.

6.4 ASSESSMENT OF R&D PROJECTS DEVELOPED

6.4.1 Project Focus and Levels of Success

Objective 4 of the project was to develop at least five stakeholder sponsored applications during 2007/8, with Industry members being the principal or co-investigator in all projects. Obviously, this objective was far exceeded and from a purely numerical perspective this could only be considered a spectacular success.

The 'Empowering Industry' project provided formal assistance in the development of a total of 35 projects. Of the 35 project outlines, 30 were developed into a project preproposal format (Table 2, Appendix IX). For a range of reasons, generally relating to a lack of support at the FRAB level, inadequate stakeholder resources or changing Industry priorities, of the 30 preproposals, only 20 full proposals were developed and submitted to the various funding agencies identified in Section 6.3.2 (Table 2, Appendix IX).

The majority of projects were focussed on environmental performance (32%), industry profitability and efficiency (26%), people and Industry development (18%) and product development (15%) (Table 2, Figure 4).

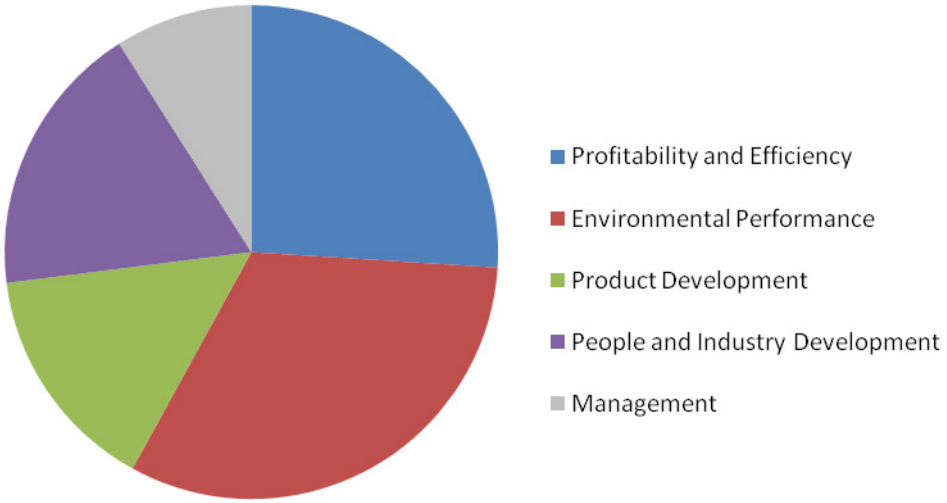


Figure 4: Percentage of project developed in the various focus areas.

Of the 16 successful projects, two were not taken up. One was rejected as the funding offered was inadequate (being only 50% of the amount sought) and with the other, the contract was not signed by Government as the DAFF program ceased with the change of Federal Government (Table 2, Appendix IX). Of the 20 full proposals submitted, 16 were successful (Table 2, Figure 5). This means that 80% of submitted projects gained funding support. This is an excellent return on FRDC's investment in this project, with around $1,200,000 worth of funding generated from this project, giving a return of almost $9.00 in funding for every $1.00 of FRDC expended on this project.

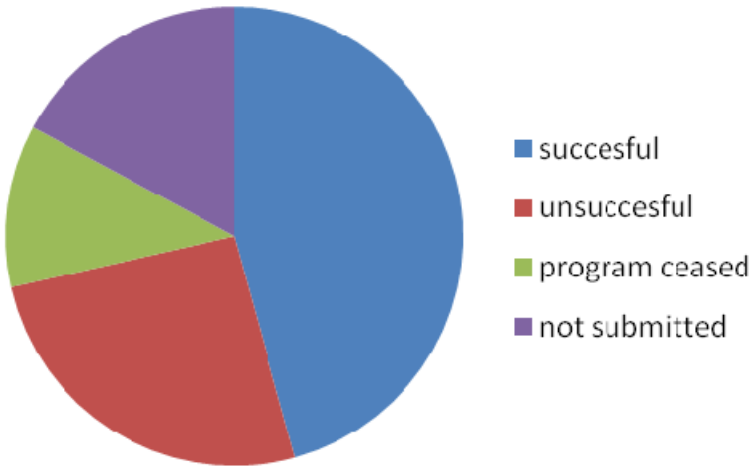


Figure 5: Status of projects assisted by the Empowering Industry Project

6.4.2 Feedback on Unsuccessful Projects

With respect to unsuccessful applications, in many instances when project proposals were not supported by the FRAB's, there was limited feedback provided to the applicant. In most instances the correspondence only indicated that the project did not cover a priority area and/or that there was insufficient funding available to support the project through the FRDC process. Some FRAB's however provided extensive and concise information to the applicants as to why the project was not supported, and included suggestions to improve the application and/or directed them toward potential alternate funding sources.

FRDC's feedback on projects that were successful, but required refining, did lead to the development of improved and more focussed projects.

6.4.3 *Project Levels of Success Under FRDC Funding Program*

It was also considered worthwhile to investigate how funding from FRDC was delivered to Industry in 2008/09, and how successful the 'Empowering Industry' project was in assisting to develop projects that met FRDC's requirements.

Based on FRDC's 2008/09 project approvals, most (78%) of supported FRDC Full projects were awarded to State/Commonwealth Fisheries Agencies or Universities, with the balance (22%) to Industry run projects (Figure 6). A total of 10% of all approved full projects were developed with support from the 'Empowering Industry' project, which accounted for just over 40% of the approved Industry projects (Figure 6).

FRDC's Tactical Research Fund (TRF) proved a favourable funding source for Industry, with 45% of projects being Industry led, and 55% of projects awarded to State/Commonwealth fisheries agencies or universities during the 2008 rounds (Figure 7). The 'Empowering Industry' project assisted in the development of 28% of all approved TRF projects and in 62% of approved Industry projects during 2008 (Figure 7).

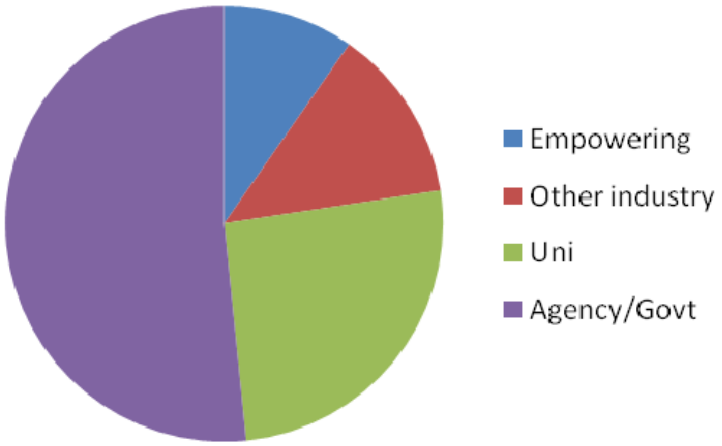


Figure 6: Graph showing percentage of full projects supported by FRDC by sector

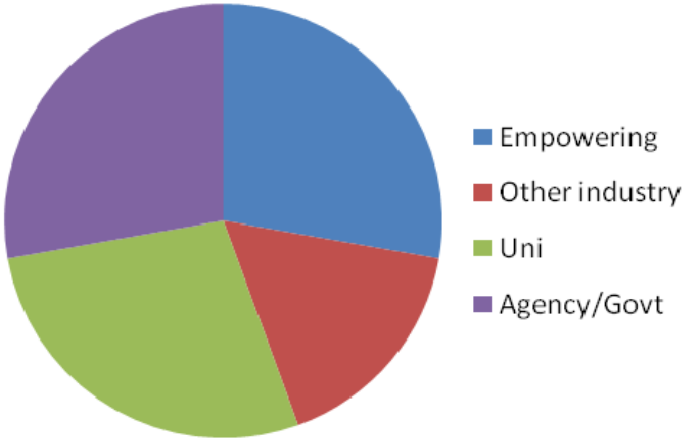


Figure 7: Graph showing percentage of TRF projects supported by FRDC by sector

An additional benefit derived from the project was that, in some instances, commonality was found across potential projects. Examples of this were the 'Benchmarking and reducing freshwater consumption in the seafood processing sector' and the 'Improving profitability to Industry through the identification and management of tough' fish syndrome in tropical Saddletail Snapper' projects (see Table 2 for details). Unfortunately the first mentioned project did not progress further, as during the life of the 'Empowering Industry' project there was considerable uncertainty surrounding personnel status and ongoing funding for SeaNet officers, as well as the capacity for OceanWatch to continue in their role as PI on this project.

It should be noted that even though, during all stages of the project, everyone was advised , that there was no guarantee that there would be successful funding of any projects developed under the 'Empowering Industry' project, there was some disquiet from a few when their projects were not further developed, or supported for funding. In all instances this exercise was their first experience of seeking external funding of this type, and there was obvious disappointment regarding the decision and any feedback they received. They were advised by the investigators of the need to either revise the project application, seek alternate funding sources, self fund or discontinue the project.

Table 2: Summary and status of R&D projects developed under the 'Empowering Industry' project

PROJECT NAME	PROJECT AIM	STATE	FUNDING AGENCY	OUTCOME
Empowering Industry R&D: Trials of gear modifications to reduce bycatch in freshwater fyke nets	Modify gear to reduce bycatch in eel fishery	VIC	FRDC Full	SUCCESSFUL
Empowering Industry R&D: Developing quality standards for Endeavour prawns as part of the pathway towards a clean and green promotional strategy for the Industry	Develop quality standards for Endeavour prawns	QLD	FRDC Full	SUCCESSFUL
Empowering Industry R&D: Uniform flesh quality for premium market positioning: Australian Blue Crabs	Determine sources of seasonal variation in flesh quality and develop a mitigation strategy	WA	FRDC TRF	SUCCESSFUL
Empowering Industry R&D: Trials of T90 mesh configuration for bycatch reduction and more efficient fishing in the GABTF	Trial gear to reduce bycatch and improve efficiency in GABTF fishery	AFMA	FRDC Full	SUCCESSFUL
Moving To A Common Vision And Understanding For Equitable Access For Indigenous, Recreational And Commercial Fishers:- NT Fishing And Seafood Industry Delegation To NZ	Multi sector delegation to NZ to investigate opportunities to increase Indigenous participation in the NT industry	NT	FRDC TRF	SUCCESSFUL
Future seafood leaders: taking stock	Workshop to assess the national seafood leadership program to provide advice on program improvements	NT	FRDC TRF	SUCCESSFUL
Effectiveness of larger mesh size in reducing the capture of juvenile target species in select NSW ocean beach seine operations.	Reduce take of juvenile fish and improve efficiency in NSW ocean beach seine.	NSW	FRDC TRF	SUCCESSFUL
Empowering Industry R&D: Cost Benefit Analysis of management options for the Northern Prawn Fishery	Workshop to assess cost benefit of specific management options for NPF	COM	FRDC Full	SUCCESSFUL
South east trawl – investigation of sea exclusions in wet boat sector	Trials of the use of Seal Excluder Devices on the smaller wet boat sector of the SESSF trawl industry	COM	NHT Envirofund	SUCCESSFUL
Trawl industry bycatch forum	Industry forum to discuss bycatch mitigation in the trawl and Danish seine sector.	COM	NHT Envirofund	SUCCESSFUL
Redefining deepwater closures in the SESSF to reduce the impact on the commercial deepwater fishery and maintain adequate protection of orange roughy	Investigation of the need for a blanket 700m closure to protect orange roughy and development of alternative closure areas.	COM	AFMA	SUCCESSFUL
Empowering Industry R&D: Improving profitability to Industry through the identification and management of 'tough' fish syndrome in tropical Saddletail Snapper	Investigate cause and develop actions to reduce the instances of TFS in tropical snappers	NT	FRDC Full	SUCCESSFUL
Community Surveys of Mud Crab Stocks in the Northern Territory	Collaborative program between sectors to identify recruitment patterns	NT	NHT Envirofund	SUCCESSFUL (not taken up)
A collaborative recruitment forecasting program for the NT Mud	Collaborative program between Indigenous sea	NT	DAFF	SUCCESSFUL

PROJECT NAME	PROJECT AIM	STATE	FUNDING AGENCY	OUTCOME
Crab Fishery. (built on Community Surveys of Mud Crab Stocks in the Northern Territory project)	rangers and commercial fishers to identify recruitment patterns to the fishery		NLP-SPG	
Ecologically sustainable spear fishing through policy, risk assessment, monitoring and education (Australian Underwater Federation – AUF)	Monitor threatened species and education of underwater community by divers and fishers.	QLD	DAFF RF-CGP	SUCCESSFUL
Northern Territory Seafood Council – Industry Stocktakes	Stocktake of NT industry capacity	NT	DAFF AAIP-IA	SUCCESSFUL Govt contract not sign
Empowering Industry R&D: Unique industry opportunity to trial pipi stock enhancement to improve sustainability and harvest rates on Yagon Beach, NSW inland fisheries	Industry based pipi enhancement program	NSW	FRDC TRF	UNSUCCESFUL
Empowering Industry R & D: Trials of quad gear to improve fishing efficiency in the NPF	Using industry vessels to undertake tiger prawn surveys comparing catch efficiency using quad and twin gear.	WA	FRDC TRF MAC-proposal	UNSUCCESFUL
Empowering Industry R&D: Increasing harvest and post harvest survival through customised processing equipment in the Port Lincoln mussel industry	Develop and modify harvesting and processing equipment to increase rate of return	SA	FRDC Full preproposal	UNSUCCESFUL
Empowering Industry R&D: Reduction of Seabird interactions and mortalities in the SESSF (trawl) due to warp strikes	Development of methods and protocols to reduce warp strike of seabirds	COM/ VIC	FRDC Full preproposal	UNSUCCESFUL
Empowering Industry R&D: Development of a screening level risk assessment methodology to assess the risk posed by contaminants present in catchment runoff to inshore and inland fisheries	Development of screening methodology to asses contaminant risk to aquatic life	VIC	FRDC Full preproposal	UNSUCCESFUL
Empowering Industry R&D: Benchmarking and reducing freshwater consumption in the seafood processing sector	Undertake detailed audit of water usage and identify strategies for reduction of use in the processing sector	COM	FRDC Full preproposal NWC EOI	UNSUCCESFUL ComFRAB. NO RESPONSE FROM NWC
Empowering Industry R&D: Feasibility of using electronic logbook software for the effective onboard collection and transfer of catch / effort and environmental data in NSW.	Option to trail electronic logbooks	NSW	FRDC preproposal	UNSUCCESFUL
Empowering Industry R&D: Establishing shelf life, quality and consistency in 'grab and go' packaged meals of wild caught Australian seafood "	Development techniques to introduce low value species to the market in a value added form, including sauces and using MAP systems	QLD	FRDC Full preproposal	UNSUCCESFUL
Empowering Industry R&D: Capacity building in the commercial fishing industry through culturally appropriate Indigenous training	Culturally appropriate training in remote areas to create real pathways for Indigenous fishers to enter regular employment in the industry	NT	FRDC Full preproposal	UNSUCCESFUL

PROJECT NAME	PROJECT AIM	STATE	FUNDING AGENCY	OUTCOME
Tasmanian Scallop Fisherman's Association - pest eradication and proactive waste management	Pest eradication and proactive waste management regime for TSCFA	TAS	NHT Envirofund	PROGRAM CEASED
Tasmanian Scallop Fisherman's Association – Industry Stocktakes	Stocktake of TSCFA capacity	TAS	DAFF AAIP-IA	PROGRAM CEASED
Queensland Seafood Industry Association – Industry Action Program	Build on QSIA strengths to develop skills and structures to improve industry and organisational capacity.	QLD	DAFF AAIP-IAP	PROGRAM CEASED
NPF Industry Pty Ltd – Action Grant for Marketing	Implement identified priorities and actions from strategic planning outputs	COM	DAFF AAIP-AG	PROGRAM CEASED
Empowering Industry R & D: Techniques for conditioning eels in intensive aquaculture.	To investigate the feasibility of holding and conditioning of short fin eels in intensive aquaculture systems	VIC	FRDC preproposal submitted	NOT SUBMITTED
Empowering Industry R&D: Identification of a farmed based method to measure stress levels in Barramundi (*Lates calcarifer*)	use physiological stress markers to develop an integrated on-farm stress management program	NT	FRDC preproposal completed	NOT SUBMITTED.
Empowering Industry R&D: Improving catch quality to achieve a premium in the SA sardine industry.	Improve handling and processing protocols to expand market opportunities	SA	FRDC Full preproposal	NOT SUBMITTED
Empowering industry R & D: Commercial potential of freshwater & marine plants as food	Identify commercial plants potential as food	VIC	FRDC outline developed	NOT SUBMITTED.
Empowering Industry R&D: Calendar of the year	Develop a calendar of events and website to educate and foster a positive perception about the wild harvest fishery in Victoria.	VIC	FRDC Full preproposal	NOT SUBMITTED
Empowering Industry R&D: Self Management of the Tasmanian Scallop Fishery	Develop and trial a self management model including decision rules and sustainable harvest strategies	TAS	FRDC Full proposal	INTEGRATED INTO FUNDED SCALLOP PROJECT (TAFI/SCALLOP INDUSTRY)

6.5 HOW TO IMPROVE THE 'EMPOWERING INDUSTRY' PROCESS

The 'Empowering Industry' project was an overwhelming success in generating industry focussed R&D, far exceeding the number of projects estimated it would deliver. Based on the success of this trial, there has been a call from a number of Industry representatives for the development of some ongoing mechanism to deliver a similar service to the broader seafood and fishing industry. However from a project operational and process viewpoint, some concerns were levelled at:

- the need to have a more transparent process by which potential industry R&D projects could be identified and linked with the most appropriate R&D service provider
- the 'shotgun' approach to project development and the need to develop a coordinated strategic approach to address national or regional priorities at the highest level
- the need to have a sustainable, cost-effective means of accessing large scale industry R&D ideas on a national or regional scale, including the recreational and Indigenous sectors
- increasing Industry and organisational capacity to sustainably identify, develop and manage Industry R&D projects in the long term
- the possibility of reviewing the Empowering Industry R&D model, shown at Figure 1, to include a formal review and evaluation phase.

From a project development perspective these matters above should be addressed as part of the development of any potential ongoing program, and are discussed further in Section 8.0.

In addition, there were a number of key findings arising from the 'Empowering Industry' project that also reflected on the Industry's and the FRAB's operations and interactions. To relay that information to a national audience, the PI and CI provided preliminary findings to the FRDC sponsored 9th National FRAB and Stakeholder Workshop, held in Canberra in May 2008. Importantly the findings also identified opportunities for possible improvement of the process. These are highlighted below:

- there is a general lack of stakeholder knowledge and understanding regarding FRDC and FRAB processes, timelines and interactions;

- Industry lacks resources (especially time/staff) to take full advantage of, and be a real and active part of, the many funding processes;
- the 'Empowering Industry' project identified a means for Industry to submit projects which were often outside the scope of many of the existing Agency/university driven projects;
- there would be benefit in expanding the FRAB process beyond a prioritisation role, to one providing constructive feedback, alternatives, advice and assistance for potential projects;
- FRAB's may need to expand membership, or scope, to better seek and assess the wider range of industry focussed R&D, as identified by the 'Empowering Industry' project;
- there is significant opportunity to continue, or build on, the 'Empowering Industry' project, to expand the range of potential projects by actively identifying and developing industry ideas from a wider range than are currently submitted through the FRDC process; and,
- there may be opportunities and benefits, both financial and operationally, to better identify research service providers and their particular areas of expertise across Australia.

The above matters identified the need for Industry, FRDC and the FRAB processes to work more closely together to broaden the scope of the type of R&D that is developed. This is expanded on in Section 8.0.

7 BENEFITS AND ADOPTION

The 'Empowering Industry' project had the capacity to provide benefits to all sectors of Industry by identifying a process to capture Industry focussed R&D, most of which focussed on increasing 'value' to Industry, return, productivity, efficiencies and other projects generally outside the typical Agency driven R&D.

As a trial, the processes used in the project proved adequate as a means to harvest a large number of Industry-focussed projects and to develop linkages along the supply chain, across sectors, service providers and jurisdictions. A number of projects lead to the successful development of cross jurisdictional and multi-sector driven linkages.

In addition, valuable information has been provided to the FRABs and FRDC on possible ways to improve the methods of increasing Industry based R&D, and to use service providers outside the normal Agencies and Universities.

The major test of the effectiveness of the 'Empowering Industry' project will be the extent that Industry takes a greater role in driving and becoming actively involved in future R&D. This may not be as simple as identifying Industry involvement as PI and CI in applications, as input may be more subtle and include Industry participation at a strategic level to influence R&D directions.

The project outcomes and outputs far outweighed those identified in the original application, although the recreational and Indigenous participation levels may not have reached the desired levels. The benefits of the 'Empowering Industry' project, however, have been realised in the number of initiated projects that are targeted towards Industry needs.

8 FURTHER DEVELOPMENTS

The 'Empowering Industry' project was intended as a one year trial to determine if the anecdotal information from Industry regarding the lack of opportunity or resources available to submit and develop R&D projects was justified. The project demonstrated that there were opportunities for greater Industry involvement in the R&D process, but that in many instances their input needed to be actively sought.

However to some extent the 'Empowering Industry' project did lead to a lack of overall project coordination, with the outcomes being developed on a project by project basis instead of at a more strategic level on a regional, national, or sectoral basis. For that reason a more coordinated approach is required at a national level, to build a sustainable and inclusive Industry driven R&D model for the Australian fishing and seafood industry. The principals for this process should be:

- to capture, develop and implement industry focussed R&D
- to provide clarity and prioritisation of industry R&D needs
- to identify and gain ownership of national or regional R&D that will increase industry 'value'
- the development of strong networks along the supply chain and across sectors

- a pathway from individual to broader programs and projects, across sectors and jurisdictions
- the development of processes to identify service providers from as wide a range as possible to optimise R&D outcomes
- the development of transparent and open mechanisms to link potential Industry projects to potential service providers, leading to improved service provision over time, as project proponents link with the providers that best meet requirements
- improved understanding of the R&D process, especially the respective roles and responsibilities if Industry, FRDC and the FRABs
- to consider the possibility of utilising the skills and networks of the 100 or so graduates of the National Seafood Industry Leadership Program in the process.

Another focus area arising from the 'Empowering Industry' project related to assessing the performance of the FRAB's and FRDC and providing opportunities to continually improve their processes and operations. This could be achieved a number of ways including;

- project applicants formally evaluating their perceptions of the performance of the FRAB's and FRDC as part of the application/approval process
- surveying stakeholder groups and service providers
- evaluating successful applications (including the TRF process) against the current priorities of sectors and the FRABs and FRDC.

In addition, there may be merit in assessing in a formalised way whether the capacity to develop relevant Industry focused projects, and the skills necessary to manage R&D, is still evident at individual project's completion, or at some fixed time in the future. This could be achieved through interviews with Industry PIs and service providers, as a formal assessment of a project's progress, outputs, outcomes and take up.

9 PLANNED OUTCOMES

The key outcomes sought from this project were to empower stakeholder groups and increase the level of Industry responsibilities and input directed towards industry specific R&D. The major project outcomes from the engagement process with Industry identifying projects, matching with

service providers, linking with funding sources and developing successful funding for a large number of R&D projects were:

- the development of a sound communication network, based on initial face-to-face contact, that can be built on in the future;
- the development of a series of more Industry-focused stakeholder driven R&D projects;
- a broader range of projects developed outside of the typical Agency driven R&D;
- the development of proposals that addressed strategic challenges identified as FRDC priorities, and of a standard that meets FRAB and FRDC requirements;
- empowered stakeholders who are now equipped with the necessary skills to prepare and submit R&D projects;
- Industry members being the principal, or co-investigator, in nearly all projects;
- the development of a number of projects that have real cash contributions from Industry, as well as substantial in-kind support;
- a quantitative analysis of the requirements for, and the level of use of the service;
- an overview of the opportunities for improvement of the existing FRAB process, presented to the 9th National FRAB and Stakeholder Workshop held in Canberra in May 2008.

10 CONCLUSION

The 'Empowering Industry' project was developed as a one year trial to ascertain if the anecdotal information coming from Industry was accurate regarding their lack of opportunities and resources to develop and submit Industry focussed R&D projects. Industry concerns appeared to be justified, as the project was an overwhelming success in generating industry focussed R&D, with 35 project outlines developed. This far exceeded the five pre-proposals expected to be delivered as a key objective of the project.

The total funding received for the 16 successfully funded projects was about $1,200,000. This showed a return of almost $9.00 of funding received for every $1.00 FRDC expended on the 'Empowering Industry' project.

The 'Empowering Industry' project clearly showed there were opportunities for greater Industry involvement in R&D, but that in many instances Industry's input had to be actively sought and assistance provided to work through the process.

The projects developed showed a broad range of Industry focused stakeholder driven R&D, which in most instances fell outside the normal Agency driven R&D. In addition they all addressed FRDC strategic challenges or Industry priorities and were of a standard that met funding agency requirements. These projects focussed on R&D that sought to improve environmental performance, Industry and people development, Industry profitability, efficiency and product development.

A key outcome from this project has been the empowering of some stakeholder groups to increase the level of Industry responsibility and input directed toward stakeholder specific R&D. This came about through the intensive engagement process that took place as part of coordinating the large number of Industry specific projects that were developed. As a result of this, Industry members took up roles as PI's or CI's in the majority of projects. This up-skilled and allowed them to, in conjunction with their service providers, prepare, submit and manage R&D projects.

The 'Empowering Industry' project also showed that there were a range of service providers and relevant capability outside of the traditional Agencies and universities who could partner Industry in developing and undertaking R&D projects. In addition, 'Empowering Industry' projects were submitted to five funding sources, successfully receiving funding from four of them. Due to adjustments to funding arrangements and priorities following the change in Federal Government in late 2007, additional funding opportunities may have been lost as programs ceased or significantly changed focus, meaning a number of potential projects did not reach resolution.

An FRDC workshop held in Canberra in May 2008 allowed national FRAB representatives to gain an overview of the preliminary findings of the 'Empowering Industry' project. Some possible improvements to the existing FRAB process were also identified. These revolved around broadening the makeup of FRAB membership, expanding the scope of projects, and developing partnerships to improve efficiency, profitability and performance.

Although the project was extremely successful in achieving its objectives, it also became evident that there were a small number of process and operational issues that could be adapted to

improve project performance. These specifically related to ensuring that transparent processes were developed when linking potential industry projects with the most appropriate service provider, and that there needs to be a coordinated strategic approach to addressing national or regional priorities at the highest level, to increase industry 'value'.

Industry supports the continuation of the project concept in some form or another. It is believed that the success of the project has stimulated Industry confidence in the value of R&D and enhanced their understanding of FRDC's role in the process.

11 REFERENCES

www.frdc.gov.au FRDC Approved Projects 2008/09

APPENDIX I: INTELLECTUAL PROPERTY

No intellectual property was developed by the 'Empowering Industry' project and the knowledge gained through this project is available to the broader Australian fishing and seafood industry.

However, outputs and outcomes from individual projects assisted under the 'Empowering Industry' project must be dealt with individually.

APPENDIX II: STAFF

The following persons were involved with this project

Dr Ian Knuckey	Fishwell Consulting	Principal Investigator
Mrs Jane Knuckey	Fishwell Consulting	Executive Assistant
Chris Calogeras	C-AID Consultants	Co-investigator
Dr Paul McShane	Global Marine Resource Management	Co-investigator

APPENDIX III: LETTER SENT TO POTENTIAL PROJECT DEVELOPERS BEFORE MEETINGS

fishwell
CONSULTING

Stakeholder ID **Date**

Dear

Re: FRDC project 2007/304 - Empowering stakeholders to initiate and advance R&D projects in the seafood Industry

This letter is to confirm arrangements made with you to meet with **organisation ID** to discuss a new project, funded by FRDC on behalf of the Australian Government. This project is seeking to provide a means for stakeholders to develop Industry specific R&D to assist them in meeting their research expectations and needs.

I have attached a short brief that outlines the project's background, process/methodology and projected outcomes (Attachment 1). Also included is information on the three investigators: myself, Paul McShane and Chris Calogeras (Attachment 2).

As we discussed, I would appreciate if you could arrange meetings in **venue/time** with appropriate Industry groups. At these meetings, we will provide an overview of the project to participants, answer questions and assess if any potential projects can be identified. I would imagine each presentation would take around 30 minutes after which time we would be free to answer questions and discuss potential Industry focussed R&D projects.

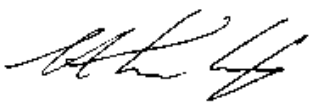
I would appreciate if you could pass the information contained in the attached briefing to as many possible participants as you think appropriate and coordinate the respective Industry attendance at the meeting.

This is a unique opportunity for Industry to develop and manage their own stakeholder specific R&D projects, so I urge you to take advantage of the project and the skills and experience of the investigators involved. Due to the relatively short time frame before FRAB pre-proposals must be submitted in each jurisdiction, time is obviously of the essence.

Mr Calogeras will be coordinating the meetings and would be the preferred first point of contact at this time, but do not hesitate to contact myself or Paul if you wish to discuss any aspect of this project.

I look forward to meeting with you and your colleagues soon.

Yours sincerely



Ian Knuckey

Attachment 1: Briefing Information on FRDC Project 2007/304 - Empowering Stakeholders to Initiate and Advance R&D Projects in the Seafood Industry

Background

This project is seeking to identify Industry research opportunities (this includes all stakeholder groups and sectors) and provide assistance and a point of first call for the:

- development of Industry-focused R&D;
- preparation of preliminary applications;
- identification of appropriate researchers and funding opportunities;
- managing of timelines associated with funding organisations; and
- general process involved in developing formal research applications.

This project is seeking to tease out R&D ideas that Industry have but which may be lost to groups or individual due to a lack of assistance or expertise in further developing these projects. We wish to see if we can assist Industry to take these concepts through to full research projects instigated and managed by Industry.

This project was considered necessary as many stakeholders, especially those without an FRDC subprogram in place, often do not have the expertise or resources to develop their own projects and therefore valuable and innovative R&D may never see the light of day.

Under this project, we intend to leave stakeholders with the skills and an understanding of the R&D funding process so that they can identify key needs and take responsibility for R&D for their sectors and thereby provide a means for ongoing innovative Industry lead research and skills development.

Project aims

The major aims of the project for Industry are to:

- empower stakeholder groups and increase the level of co-management and responsibility directed towards Industry specific R&D;
- develop the necessary skills for stakeholders to instigate, prepare, submit and conduct their own R&D projects;
- encourage the development and management of R&D projects which have a cash contribution from Industry and to seek increased funding leverage;
- develop at least five stakeholder sponsored applications during 2007/8, with Industry members being the principal or co-investigator.

Method

The project will undertake the following steps to take advantage of the project objectives. Applicants will be assisted and mentored through the process of project development by the investigators.

STEP	ACTION	OUTCOME
Step 1	Identify and contact relevant stakeholders to advise them of the project objectives and method. Arrange to meet with these stakeholders.	*A series of interested parties will be identified and this will be followed up by the investigators*
Step 2	Meetings and presentations will be undertaken by the investigators to promote the project and identify interested Industry representatives and projects. (There will be no cost to Industry for the attendance of the investigators at the meetings and discussions).	*A series of meetings will be held with Industry in the major centres.* *If resources allow, meetings may take place in some regional centres if sufficient interest is generated.*
Step 3	Projects and applicants will be identified and assessed as to their appropriateness under various R&D programs and challenges.	*A series of ideas and concepts will be identified by Industry at these meeting along with potential Principal Investigators.*
Step 4	Potential project will be developed and linked to possible funding and human resources from existing Government agencies, private sector providers and from within stakeholders' membership.	*Potential projects, researchers, and funding options will be assessed.* *Preproposals will be developed by the Industry with assistance from researchers and investigators.*
Step 5	Industry instigated, focussed and driven projects will be developed.	*At least five formal proposals will be submitted during 2007/08 with Industry members as the principal, or co-investigator.*

This process varies greatly from what is often the norm for the development of R & D projects in the seafood / fishing industry. In many cases a Government Agency will develop research projects with the Agency researchers as the Principal Investigator. Industry support for such projects is often limited and sought only when the formalised funding process commences. This process has lead to an imbalance where the majority of research is Agency driven with Industry only possibly involved in some minor capacity - not leading the research. This project is seeking to provide a balance to this process with Industry gaining the capacity to initiate its own research agenda and programs.

Attachment 2: Project Investigator's background and contact details

Dr Ian Knuckey
Fishwell Consulting
Phone: 03 5258 4399
Fax: 03 5258 4399
Mob: 0408 58 1599
Email: fishwell@datafast.net.au

Ian is director of Fishwell Consulting, a company providing research and consulting services to encourage and promote sustainable fishing practices in the commercial fishing industry. Ian has a PhD in fisheries population dynamics and twenty years of involvement in temperate and tropical fisheries including extensive experience with invertebrate fisheries and both inshore and deepwater scalefish and shark fisheries. He is currently involved in a large range of research projects in Australian fisheries including the design and implementation of fishery independent surveys, trawl bycatch reduction, utilisation of seafood wastes, and improving industry R&D capacity. Ian is a FRDC Sub-Program Leader and scientific representative on a large range of fishery management and assessment committees. He is the Chairman of Australian Seafood Co-products and chairs a number of fishery assessment groups.

Paul McShane
Global Marine Resource Management Pty Ltd
Phone: 03 6330 3123
Fax: 03 5258 4399
Mob: 0408 58 1599
Email: paul.mcshane@bigpond.com

Paul has a PhD (fisheries ecology), a Master of Science, a Masters of Business Administration and thirty years of experience in marine science. Paul is principal and managing director of Global Marine Resource Management Pty Ltd a consultancy company specialising in sustainable fisheries and aquaculture management. He was Acting Head of the Graduate School of Marine Resource Management, and the Vice President International and Development at AMC. Paul is currently a Director of the FRDC, Director (Environment) of the South Australian Seafood Council and a senior advisor (Fisheries and Aquaculture) to Australian Marine Science and Technology Ltd (he was formerly a Director of this organisation). Paul has held senior management positions in marine research agencies in Victoria, SA and NZ. He has more than 100 publications in fisheries science and subtidal ecology. Specialising in multi-disciplinary project management, Paul has current projects on ecosystem effects of fishing and application of environmental management systems to commercial fisheries. He has consulted to government and Industry on environmental management, fisheries assessment, aquaculture and environmental impact assessment. He has a keen interest and track record in stakeholder-driven proactive environmental management.

Mr Chris Calogeras
C-AID Consultants
Phone: 08 8927 0817
Fax: 08 8927 0817
Mob: 0401 69 2601
Email: calogeras@octa4.net.au

Chris has a Masters in Marine Resource Management, a Graduate Diploma in Fisheries Management, an Associate Diploma in Applied Science and a Certificate III in Seafood Processing. He is currently completing a Doctorate in Business. His major skills are based on over 20 years experience in the field of natural resources, especially relating to the Seafood Industry and the application of the principles of ESD. He had 6 years experience in an operational context with a seafood wholesaler/exporter and over the last seven years has been involved in a wide range of Industry and Government consultancies.

His experience in managerial positions within both Government and the private sector provides sound planning and project management skills along with an awareness of the requirements of the private sector. He also has a sound understanding of Government drivers and other stakeholder needs.

APPENDIX IV: POTENTIAL PROJECT DEVELOPERS WHO WERE CONTACTED

A Raptis & Sons Pty Ltd
Abacus Fisheries
Abalone Industry Association of SA Inc
Abrolhos Pearls
Anindilyakwa Land Council
Aquaculture Council of Western Australia Inc
Aus Industry
Clarence River Professional Fishermen's Association
ECOS
Eel Fishermens Assoc of Vic.
Fremantle Octopus Pty Ltd
Geraldton Fishermens Co-op
Great Australian Bight Industry Association
Kinkawooka Mussels
Lobster Australia Alliance
Master Fish Merchant's Association of Australia
National Aquaculture Council
Northern Land Council
Northern Territory Seafood Council
NSW Aboriginal Land Council
NSW Fish Coop
NSW Fishermen's Co-operatives Association
OceanWatch
Port Phillip and Westernport Bay Professional Fisherman's Association
Queensland Seafood Industry Association
Recfish Australia
RecFishing Research
Seafood Council SA
Seafood Industry of Victoria
Seafood Quality Assurance Association Inc.
Seafood Services Australia
SeaNet
Shark Bay Prawn Trawler Operators' Assoc. Inc
South Australian Fishing Industry Council
South Australian Marine Scale Sardine Industry Association
South East Trawl Fishery Industry Association
South Eastern Fisheries Association
Spencer Gulf and West Coast Prawn Fishermen’s Association
Sydney Fish Market Pty Ltd
Tasmanian Fishing Industry Council
Tasmanian Rock Lobster Industry Association
Tasmanian Scalefish Fishermans Association of Tasmania
Tasmanian Scallop Fishermen’s Association
Tiwi Land Council
WA Abalone Fisheries Association
Western Australian Fishing Industry Council
Women's Industry Network for the Seafood Community

In addition project information was made available in the following magazines or website:

- Recfish communiqué October 2007
- FRDC Fish September 2007
- Prowest May/June 2007
- Prowest July/August 2007
- NTSC August Industry magazine

APPENDIX V: MEETINGS HELD WITH POTENTIAL PROJECT PROPONENTS

Meeting Date	Association or Company	Attendees
27/03/07	SETFIA	Gail Richey, Fritz Drenkhahn, Steve Buckless, Grahame Turk, Sot Sotirakis, Peter Clarke, Ted Jones, Tony Gurnarccia, Joe Pirello
27/03/07	GABIA	Jeff Moore, Semi Skoljarev, Jim Raptis, Marcia Valente
02/04/07	Western Zone Rocklobster	Ross McGowan, Emma Rudge, David Sharp, Peter Sault, David Lucas, David McCarthy, Darren White, Gary Ryan, David Johnston, Liz Johnston, Trevor Barker, Darren Laidlaw, Leslie Feast, Don Edmondson, Brett Harris, Mick Astbury, Peter Sandow, George Siropoulos, Darren Williams, Jamie Telford, Gerhard Wilmink, Russell Frost, Mick Matthews, Antoinette Hanna, Bram LePage, Steven Nathan, Dean Humphries
02/04/07	Master Fish Merchants Ass and OceanWatch	Michael Kitchener, Monique Needham
02/04/07	Sydney Fish Market	Grahame Turk, Bryan Skepper, Gus Danoun, David Santusi, Mark Boulter
17/04/07	Victorian Mussel Industry	John Mercer, Peter
19/04/07	Geelong Food Co-products cluster	Wayne Street, John Hansen, Charlie Walker, Shinji, Suku, Emelia, Steve Mantzaris, Terry, Jim Phillips, Laurie, John Chris
30/04/07	Spencer Gulf Prawn Fishermens Association	Greg Palmer, Samara Miller and SGPFA Board
30/04/07	SAMSSIA - Sardine	Christian Pyke
30/04/07	Kinkawooka Mussels and SA Mussel Growers Association P/L	Andrew Dyer
30/04/07	SAFIC Seafood Council SA Ocean Watch - SA	Milan Rapp, Peter Welch, Mike Tokley, Geoff, Don Morley, Claire van der Geest, Mark Cody, Neil MacDonald
30/04/07	RecFish Australia	Executive Officers Annual Meeting. Included all executive officers from key recreational fishing groups
30/04/07	Australian Underwater Federation	Adam Smith
03/05/07	Seafood Industry Victoria and Ocean Watch - Vic	Bill Allan, Ross McGowan, Lachlan McKinnon, Kate Millner, Vin
10/05/07	ECOS	Nick O'Connor, Tony Dugdale
15/05/07	Eel Fishermens Assoc of Vic.	Lachlan McKinnon
16/05/07	RecFishing Research	Ross Winstanley
22/05/07	Port Phillip and Westernport Bay Fishermen's Assoc	Maria Manias Executive Officer
28/05/07	Tasmanian Scallop Fishermans Association, Tasmanian Rock Lobster Fishermans Association	John Hammond, Karl Krauss, Fiona Krauss, Craig Garland, Rodney Treloggen, Neil Stump.
30/05/07	Tasmanian Scalefish sector	Will Mure

30/05/07	NSW Fisherman Co-operatives Assoc	John McGuren, Secretary
30/05/07	Ocean Watch	Biannual meeting of Ocean Watch operatives at Coffs Harbour
31/05/07	Seafood Services Australia	Ted Loveday, Jayne Gallagher
31/05/07	QSIA	Martin Hicks, Neil Green
31/05/07	A Raptis & Sons	George Raptis, Arthur Raptis
01/06/07	Bio-Geelong Cluster	Bree, Wayne Street
06/06/07	WAFIC	Richard Stevens, Norm Holtz, Graeme, Ross Cameliri
06/06/07	Geraldton TAFE	Erica Starling, Kerri-Ann, Mark Cox
06/06/07	Geraldton Fishermen`s Coop	Brad Crear, Wayne Hosking
07/06/07	Abacus Fisheries	Peter Jecks, Bevan Sinnott
08/06/07	Austral Fisheries	David Carter, Martin Exel
08/06/07	WA Abalone Fisheries Association, WA Seafood Quality	Don Nichols, Ian Taylor
09/06/07	Anindilyakwa Land Council	Simon Hughes, Linda Hughes,
18/06/07	Northern Land Council	Norm Fry, Peter Pender, John Christophersen, Ken Baulch, Terry Mahney
18/6/07	Northern Territory Seafood Council	Chairs of the following Associations; Barramundi, Mackerel, Demersal, Timor Box, Trawl, Aquarium, Trepang, Mud Crab. The chair of the NTSC, the CEO and a WA Northern Demersal fishery representative were also in attendance
18/06/07	AFANT	Chris Makepeace, Executive Officer
21/06/07	NT Barramundi Farmers	Bob Richards and Adam Body
17/7/07	DPIFM	Michael Phelan, Mark Grubert, John Humphrey
20/7/07	QDPIE	Sue Poole, Andrew Forrest, Steve Slattery

APPENDIX VI: INFORMATION SENT PRIOR TO MEETINGS AND INCLUDED IN INDUSTRY MAGAZINES AND WEBSITES

In the seafood or fishing industry?

Got a great research idea?

Need help getting a project up and running?

Talk to us – it's free!

The Fisheries Research and Development Corporation (FRDC) has funded a project which will assist stakeholders in the seafood and fishing industries develop research and development (R&D) projects tailored to meet their specific expectations and needs.

Many stakeholders often do not have the expertise or resources to take their own good ideas and develop them into well structured R&D projects that are likely to attract funding. Through one-on-one discussions with a wide range of stakeholders across Australia, this project aims to identify research opportunities and provide assistance to groups or individuals wanting to:

- Develop their own Industry focused R&D;
- Prepare R&D project proposals;
- Identify suitable researchers and funding opportunities;
- Leverage government funding to support their own commitment to R&D.

Under this project we intend to leave stakeholders with skills and an understanding of the R&D funding process, so that they can identify key needs and take responsibility for R&D for their sectors. This will provide a platform for ongoing innovative Industry lead research and skills development. The investigators will assist and mentor applicants through the project development process.

If you or your Industry has a potential R&D project and you need help in getting it up and running, contact the investigators below for assistance. It has already been paid for – so make the most of it.

Please pass this on to others in your Industry who might be interested in turning their ideas into a successful project.

Dr Ian Knuckey
Fishwell Consulting

Phone: 03 5258 4399
Fax: 03 5258 4399
Mob: 0408 581 599
fishwell@datafast.net.au

Dr Paul McShane
Global Marine Resource Management Pty Ltd
Phone: 03 6330 3123
Fax: 03 6330 2739
Mob: 0418 132 885
paul.mcshane@bigpond.com

Mr Chris Calogeras
C-AID Consultants

Phone: 08 8927 0817
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calogeras@octa4.net.au

FRDC Project 2007/304 - Empowering stakeholders to initiate and advance R&D projects in the fishing and seafood industry (funded by FRDC on behalf of the Australian Government)

APPENDIX VII: POTENTIAL PROJECTS IDENTIFIED IN DARWIN – 18 TO 21 JUNE 2007

Proponent	Project outline/objectives	Issues –Course of action
Aquarium fishery	**Minimise translocation of unwanted species attached to target coral species and live rocks** • Coral and other live rocks are currently harvested from the NT and are greatly valued in saltwater aquariums by collectors • Catch is limited in Australia by strict regulation and overseas by regulation and more importantly by habitat destruction • The issue of translocation of 'other' species attached to rocks and corals may inhibit the ability to sell this product to some markets • A means to 'remove' unwanted species from specific corals etc whilst not damaging the target species is being sought	• Around 60t of live rock/coral can be caught in the NT. • Only a couple of operators • Catch from other states is continuing to be reduced by regulation • No project to be developed as too limited at this stage.
Mud crab fishery (NT, Qld, WA and NSW)	**Assess the impacts of environmental drivers on mud crab abundance** • The mud crab fisheries in Australia have shown remarkable similarities in their catch and harvest rate over a number of years • This is despite various management arrangements that run from providing no protection to spawning females (NSW), a level of protection (NT) to total protection (Qld) • An initial suggestion was to undertake a desk top study, including, – A literature review, previous attempts to correlate, critical physical and biological stages of life cycles that will be influenced by environment – define these environmental drivers, obtain data on these drivers and explore correlations, lags, cause/effect – possibly climate change implications	• This was the highest industry priority arising from the FRDC workshop held in Darwin • Real concerns from Industry that every time there is drop in catches result in further management intervention, specifically protecting females • Power analysis shows that the major driver is not fishery related! • Consider going through FRDC TRF ($75k) 2007
Northern Land Council	**Stock Assessment of Dugong in the Gulf of Carpentaria with a view to developing a suitable harvest strategy for sustainable Indigenous use** • Wish to focus on southern GoC initially with a view to extending around coast • Want to assess stock numbers, distribution and level of migration • Significant pressure on Indigenous users to regulate catch • They want to develop a sound method that protects the resource but still allows traditional use of dugong • Some concerns relating to impacts of overharvesting in one area impacting on others (i.e. Mornington Is impacting on Borroloola) • Want to try and incorporate harvest strategy into regional management plans that the NLC is developing • They wish to work with and use the existing Ranger Program as much as possible	• Similar work may have been undertaken in Torres Strait maybe thru Oceans Office (DEH) – possibly incorporate • Identified possible funding thru a fund that was set up to undertake research on marine mammals

Proponent	Project outline/objectives	Issues –Course of action
Northern Land Council	**Monitoring impacts of sewage outfalls in remote areas on seagrass** • Maningrida has a 'Seagrass Watch Group' who wish to undertake monitoring of the health of the seagrass in the area near their community • Wish to work with the existing Ranger Program they have and also NT PWC Marine Biodiversity Section	• Contact Maningrida to see if interested in NHT program • (no feedback after numerous contacts – no action at this stage)
Northern Land Council	**Mobile Indigenous Training for commercial fishing** • They wish to set up a mobile land based fishing operation in a series of containers that can be shifted from community to community (boats, gear, processing area, power all self contained) • The experiment of trying to bring Indigenous people into Darwin for training has not been successful and this community based approach is seen as a more culturally appropriate method • Existing commercial licences will be used to fish for barramundi, mud crab and reef fish so that product obtained during training can be sold within the community or into other markets. (These would probably be leased in the first instance) • An experienced fisherman with an understanding of the cultural issue involved in training Indigenous people and who can have a mentoring role would be utilised • The objectives are to provide employment opportunities through training, and obtainment of formal qualifications and supply increased protein via seafood into the community • If a community takes up the opportunity commercial licences will be sought outside the project to allow them to develop a commercial operation	• This fits in nicely with the Indigenous fishing strategy that is being developed by the NLC to maximise opportunities in the NT fishing Industry arising from the Blue Mud Bay decision. • The NLC's long term aim is to acquire a number of licences for use by communities who are properly trained and resourced • Develop FRDC proposal
Northern Land Council	**Assessment of Leather back turtle nesting at Coburg Marine Park and the impacts of predators** • Recently leather back turtles have been noticed nesting at Danger Point in Cobourg Marine Park. • The traditional owners would like to instigate a program to identify nesting sites (temporal and spatial) and undertake egg counts and a tagging program • The traditional owners are concerned about predation on eggs by Indigenous and feral animals • They wish to work with the existing Ranger Program and incorporate any outcomes into the Cobourg Marine Park Management Plan	• Consider NHT funding • Groups need to engage to develop program
NT Barra Farmers Australian Barramundi Farmers Assoc	**To develop a practical method to measure stress levels in farmed barramundi under different systems using blood tests.** • Currently there is no biochemical and haematological methods to determine stress levels and as such other proxies such as water quality parameters are used • Gather baseline information to use as a base to develop an index of what is acceptable levels of stress based on physiological indicators • Collect a range of biochemical and haematological data - Stress levels relate to immunity levels • Important consideration in respect to animal welfare issues and also in reducing farm costs and increasing industry returns	• ABFA are a member of CRC • NT wants this to go ahead and unsure of best way to work thru FRDC/CRC • DPIFM senior Vet will help coordinate • Considered very important from a health, welfare and economic perspective • Develop FRDC TRF

Proponent	Project outline/objectives	Issues –Course of action
Offshore fisheries in WA, NT and Qld waters	**Policy development for interactions with oil and gas exploration and the fishing industry** • Seeking to develop a formal process to minimise impacts on each sector and maximise environmental monitoring of any impacts. • Currently extensive exploration in offshore waters using seismic and other methods leads to negative impacts on the fishing industry (exclusion or reduced catch) • The appropriate size of exclusion zones around drilling and pumping areas should be ascertained to minimise impacts on the fishing industry • Attempt to leverage additional funding from APIA funding	• DAFF may have funding to assist in such policy development
Spanish Mackerel Fishery	**Using GENETAG and the commercial fishing industry as an alternative method to estimate Spanish mackerel population size in NT waters** • An innovative project has been funded by FRDC to develop the GENETAG methodology • Industry wish to use the methodology to refine stock estimates for fishery • Industry will collect all the data using a special 'genehook' as part of their daily fishing activity and also collect fins from all catch each day as sole data collection for the assessment	• FRDC supported development of the initial project and this now needs to be tested in the field • Industry very keen on this project • Await completion of initial project
Timor Box trap and dropline fishery	**Using new methods to refine stock assessments in the offshore snapper fishery** • Major concern is that old models rely on CPUE but there are only 3 or 4 boats operating to collect data • Horst Fisher believes that the stock assessment for the offshore snapper fishery is not precise enough and is therefore significantly limiting the ability of this fishery to expand or move to quota • He has used underwater cameras on his traps for a number of year and believes that a significant amount of fish is not available to the fishery at a given time and this limits the SA outcome - seeking to use non standard methods such as underwater camera, sonar etc	• Ian identifies that FRDC would probably not support and that work has already been undertaken on this idea (eg Ewen Harvey) Consider contacting Agency to develop program
Trawl, dropline, trapping, fish processors (NT, WA and Qld)	**To identify cause of intermittent instances of tough fish in saddletail snappers caught across northern Australia in a range of fisheries** • Red snapper catches are well below sustainable stock estimates • The majority is caught by trawl fisheries, but is also a potential significant catch in trap and line fisheries • Occasional tough fish is identified (non seasonal, area etc) at the point of cooking. It is unable to be readily identifies at point of capture/wholesale Generally appears to be fish 3kg+ • Fishers claim it is not related to be related to 'cold shortening' • Reduces overall value of this and other species taken in fisheries. Red snapper price around $4.50/kg could be increased to $8.00/kg worth estimated additional $2M/year from this species under current catch. • Intention is to document incidence of tough fish by fishery , collect samples from point of capture to end sale point to identify if a trend appears (biological, physiological, physical and fishery data) • Identify if it is species, fishery, regional, size, time etc specific and then generate a means to ameliorate it occurrence	• Some preliminary work has been undertaken and funded by Industry • This is across the whole chain with interested parties from NT (and Qld) Trawl, NT trap and dropline fisheries, WA trap fishery and NT and Qld wholesaler. • Probably work with QDPIE for testing • Develop FRDC proposal

Proponent	Project outline/objectives	Issues –Course of action
WA Northern demersal scalefish	**Identify alternate cost effective fishing methods in the WA offshore trap and line fishery** • Fishers in this fishery identify significant amounts of target fish species on sounders but they do not appear to be vulnerable to existing fishing methods • 150-400m depth of offshore snappers • Wish to utilise up to 5 types of gear in replicate to identify most appropriate fishing methods for different species, areas or seasonal • Utilise the commercial fleet in conjunction with technical specialists to maximise the scientific outcomes relating to the use of the varying fishing techniques on catchability	• Suggest initial liaison with Agency and WAFIC to further develop a project if all sectors agree on course of action

APPENDIX VIII: DATA SHEET FOR 'EMPOWERING PROJECT'

FRDC project 2007/304 - Empowering stakeholders to initiate and advance R&D projects in the fishing and seafood Industry

Item	Details
Project contact	IAN PAUL CHRIS
Organisation/person	
Date and venue	
Attendance and contact details	
Project concept	
Preproposal prepared - Title - When - Who - PI - Fishnet ID	
Researcher?	
Funding?	
Proposal submitted - When - Who - Funder	
Project outcome	
Comments	

APPENDIX IX: EMPOWERING INDUSTRY PROJECT STATUS AS AT 30 SEPTEMBER 2008

PROJECT NAME	STATE	PREPROPOSAL STATUS	FRAB/AGENCY OUTCOME	FOLLOW UP ACTION	FUNDING OUTCOME	COMMENTS
Empowering Industry R&D: Trials of gear modifications to reduce bycatch in freshwater fyke nets (IK15)	VIC	FRDC pre proposal submitted	Supported	Full Proposal to FRDC	FRDC funded	SUCCESSFUL
Empowering Industry R&D: Developing quality standards for Endeavour prawns as part of the pathway towards a clean and green promotional strategy for the Industry (MH11, IK19)	QLD	FRDC pre proposal submitted	Supported	Full Proposal to FRDC	FRDC funded	SUCCESSFUL
Empowering Industry R&D: Uniform flesh quality for premium market positioning: Australian Blue Crabs (IK23)	WA	FRDC TRF submitted	Supported		FRDC funded Large TRF	SUCCESSFUL
Empowering Industry R&D: Trials of T90 mesh configuration for bycatch reduction and more efficient fishing in the GABTF (IK25)	COM/ AFMA	FRDC pre proposal submitted	Supported	Full Proposal to Comm FRAB	50/50 FRDC and AFMA bycatch program	SUCCESSFUL
Moving To A Common Vision And Understanding For Equitable Access For Indigenous, Recreational And Commercial Fishers:- Northern Territory Fishing And Seafood Industry Delegation To New Zealand (IK30)	NT	FRDC TRF submitted	Supported		FRDC funded Large TRF	SUCCESSFUL
Future seafood leaders: taking stock (IK34)	NT	FRDC TRF submitted	Supported		FRDC funded Large TRF	SUCCESSFUL
Effectiveness of larger mesh size in reducing the capture of juvenile target species in select NSW ocean beach seine operations. (DC05)	NSW	FRDC TRF submitted	Supported		FRDC funded Large TRF	SUCCESSFUL
Empowering Industry R&D: Cost Benefit Analysis of management options for the Northern Prawn Fishery (IK39)	COM	FRDC TRF submitted	Supported		FRDC funded Large TRF	SUCCESSFUL
South east trawl – investigation of sea exclusions in wet boat sector	COM	NHT Envirofund	Supported		Funded by NHT Envirofund	SUCCESSFUL
Trawl industry bycatch forum	COM	NHT Envirofund	Supported		Funded by NHT Envirofund	SUCCESSFUL
Redefining deepwater closures in the SESSF to reduce the impact on the commercial deepwater fishery and maintain adequate protection of orange roughy	COM	AFMA	Supported		funded by AFMA	SUCCESSFUL
Empowering Industry R&D: Improving profitability to Industry through the identification and management of 'tough' fish syndrome in tropical Saddletail Snapper (IK27)	NT	FRDC pre proposal submitted	Not supported at NT FRAB	Full Proposal to FRDC (proposal revised with NTFRAB)	FRDC funded	SUCCESSFUL
Community Surveys of Mud Crab Stocks in the Northern Territory	NT	NHT Envirofund	Not supported 1st round.	Placed on reserve list	Funded by NHT Envirofund 2nd Round	SUCCESSFUL (at reduced amount so not taken up)

PROJECT NAME	STATE	PREPROPOSAL STATUS	FRAB/AGENCY OUTCOME	FOLLOW UP ACTION	FUNDING OUTCOME	COMMENTS
A collaborative recruitment forecasting programme for the NT Mud Crab Fishery	NT	DAFF National Landcare Program SPG	Submitted Feb 2008		Funded by DAFF 2008/9 round	SUCCESSFUL (built on Community Surveys of Mud Crab Stocks in the NT project)
Ecologically sustainable spearfishing through policy, risk assessment, monitoring and education (Australian Underwater Federation – AUF)	AUF	DAFF Recreational Fishing CGP			Funded by DAFFin 5th Round	SUCCESSFUL
Northern Territory Seafood Council – Industry Stocktakes	NT	DAFF Advancing Agricultural Industries Program-IS	Supported		funded by DAFF	SUCCESSFUL (Contract was not signed by New Federal Govt and project did not take place)
Empowering Industry R&D: Unique industry opportunity to trial pipi stock enhancement to improve sustainability and harvest rates on Yagon Beach, NSW inland fisheries (IK33)	NSW			FRDC proposal submitted	NOT SUPPORTED	Project to be resubmitted seeking FRDC TRF
Empowering Industry R & D: Trials of quad gear to improve fishing efficiency in the NPF(IK22)	WA	proposal for MAC developed			No further action at this stage	Postponed for Industry to further consider
Empowering Industry R&D: Increasing harvest and post harvest survival through customised processing equipment in the Port Lincoln mussel industry (IK18)	SA	FRDC pre proposal submitted	Supported with modification	Full Proposal to SAFRAB	Rejected by SAFRAB. No further action on project	No further action at this stage Applicant considered possibly submitting to AusIndustry
Empowering Industry R&D: Reduction of Seabird interactions and mortalities in the SESSF (trawl) due to warp strikes (PM01)	COM/ VIC	FRDC pre proposal submitted	Not supported by COMFRAB	Forwarded to AFMA environment	NOT SUPPORTED	No further action on project
Empowering Industry R&D: Development of a screening level risk assessment methodology to assess the risk posed by contaminants present in catchment runoff to inshore and inland fisheries (TD03)	VIC	FRDC pre proposal submitted	Not supported at Vic FRAB		No further action on project	No further action on project
Empowering Industry R&D: Benchmarking and reducing freshwater consumption in the seafood processing sector	COM	FRDC pre proposal submitted	Rejected by CommFRAB	EOI to the National Water Commission	No further action at this stage	No feedback from NWC.
Empowering Industry R&D: Feasibility of using electronic logbook software for the effective onboard collection and transfer of catch / effort and environmental data in NSW.	NSW	FRDC pre proposal submitted	Not supported by NSWFRAB		No further action on project	No further action on project
Empowering Industry R&D: Establishing shelf life, quality and consistency in 'grab and go' packaged meals of wild caught Australian seafood "(IK16)	QLD	FRDC pre proposal submitted	Rejected by QFIRAC		No further action at this stage	No further action at this stage Applicant considered possibly submitting to AusIndustry
Empowering Industry R&D: Capacity building in the commercial fishing industry through culturally appropriate indigenous training (IK24)	NT	FRDC pre proposal submitted	Not supported by NT FRAB		No further action at this stage	Project to redefined in 2009 after Blue Mud Bay decision

PROJECT NAME	STATE	PREPROPOSAL STATUS	FRAB/AGENCY OUTCOME	FOLLOW UP ACTION	FUNDING OUTCOME	COMMENTS
Tasmanian Scallop Fisherman's Association - pest eradication and proactive waste management	TAS	NHT Envirofund	Not supported in first round	No further action on project	Not funded. No further action on project	Program ceased by New Federal Govt in Feb 2008
Tasmanian Scallop Fisherman's Association – Industry Stocktakes	TAS	DAFF Advancing Agricultural Industries Program I-S	Not supported in first round	No further action on project	Not funded. No further action on project	Program ceased by New Federal Govt in Feb 2008
Queensland Seafood Industry Association	QLD	DAFF Advancing Agricultural Industries Program. IAP	Not supported in first round		Not funded. No further action on project	National priority drought relief. Program ceased by New Federal Govt in Feb 2008
NPF Industry Pty Ltd – Action Grant for Marketing	COM	DAFF Advancing Agricultural Industries Program. AG			No further action on project	Program ceased by New Federal Govt in Feb 2008
Empowering Industry R & D: Techniques for conditioning eels in intensive aquaculture. (IK21)	VIC	FRDC pre proposal submitted	Medium support		No further action at this stage	Insufficient resources to complete and focus on PET project instead
Empowering Industry R&D: Identification of a farmed based method to measure stress levels in Barramundi (Lates calcarifer) (IK28)	NT	pre proposal completed but not submitted			No further action at this stage	Issues at national association level and interactions with CRC need to be resolved
Empowering Industry R&D: Improving catch quality to achieve a premium in the SA sardine industry. (IK13)	SA	FRDC pre proposal submitted	Supported with modification		No further action at this stage	Industry focused on another successful TRF. Project may go to CRC or other funding source in future in future
Empowering industry R & D: Commercial potential of freshwater & marine plants as food	VIC				No further action at this stage	PI not in a position to finalise application.
Empowering Industry R&D: Calendar of the year (IK29)	VIC				No further action at this stage	Continue to work with WPPBA
Empowering Industry R&D: Self Management of the Tasmanian Scallop Fishery (PM03)	TAS	FRDC pre proposal submitted			No further action on project	The proposal was integrated with a broader project involving the Tasmanian scallop industry.

APPENDIX X: NATIONAL FUNDING OPTIONS* FOR R&D IN THE FISHING / SEAFOOD INDUSTRY

(***** The information provided here may be subject to change as the new federal Government is revising some of these funding opportunities and information was not available on possible replacement programmes)

FUNDER	PROGRAM	DETAILS
AusIndustry	Building Entrepreneurship in Small Business (BESB) UNDER REVIEW	Building Entrepreneurship in Small Business (BESB) is a suite of four competitive merit-based grant initiatives which support a new culture of entrepreneurship by providing grants focusing on the ongoing improvement of Australia's small business operating skills.
AusIndustry	Commercial Ready UNDER REVIEW	Commercial Ready is a competitive merit-based grant program supporting innovation and its commercialisation. It aims to stimulate greater innovation and productivity growth in the private sector by providing around $200 million per year in competitive grants to small and medium-sized businesses (SMEs). A wide range of project activities can be supported, extending from initial research and development (R&D), through proof of concept, to early-stage commercialisation activities. Grants of $250,001-$5,000,000 for up to 3 years duration
AusIndustry	Commercial Ready Plus UNDER REVIEW	Commercial Ready Plus offers small grants from $50,000 to $250,000 for projects up to 18 months duration, to SMEs and companies controlled by universities and public sector research organisations, for research and development, proof-of-concept, and early stage commercialisation activities.
AusIndustry	Commercialising Emerging Technologies (COMET) UNDER REVIEW	COMET is a competitive, merit based program that supports early-growth stage and spin off companies to successfully commercialise their innovations.
AusIndustry	Early Stage Venture Capital Limited Partnership (ESVCLP) UNDER REVIEW	The Early Stage Venture Capital Limited Partnership (ESVCLP) program is aimed at stimulating Australia's venture capital sector by making available to fund managers a world class investment vehicle. A venture capital fund registered as an ESVCLP will be entitled to flow-through income tax treatment and a complete tax exemption for income, both revenue and capital, received by partners, resident or non-resident.
AusIndustry	Industry Cooperative Innovation Program (ICIP) UNDER REVIEW	The Industry Cooperative Innovation Program is a merit based grants program aimed at encouraging business-to-business cooperation on innovation projects both within Australia and internationally that enhance productivity, growth and international competitiveness in Australian industries. The program has the particular focus of meeting strategic industry needs such as those identified through Action Agendas and supports projects which deliver industry-wide benefits.
AusIndustry	Innovation Investment Fund (IIF) UNDER REVIEW	The Innovation Investment Fund Program is a venture capital program that assists with the development of new managers in early stage venture capital investing. It invests in private sector venture capital funds to assist small companies in the early stages of development to commercialise the outcomes of Australia's strong research and development capability.
AusIndustry	R &D Tax Concession	R&D Tax Concession is a broad-based, market driven tax concession which allows companies to deduct up to 125% of qualifying expenditure incurred on R&D activities when lodging their corporate tax return. A 175% Incremental (Premium) Tax Concession and R&D Tax Offset are also available in certain circumstances.

FUNDER	PROGRAM	DETAILS
AusIndustry	Small Business Field Officers Program. UNDER REVIEW	Small Business Field Officers provide a referral and general advisory service to small businesses, through a network of more than 65 locally-placed Field Officers. The service forms part of the Building Entrepreneurship in Small Business Program.
AusIndustry	Tradex UNDER REVIEW	The Tradex Scheme provides relief to persons or organisations via an up-front exemption from Customs duty and GST on imported goods intended for export or to be used as inputs to exports. The Scheme removes the need to 'drawback' these charges after export.
AusTrade	EMDG	The Export Market Development Grants (EMDG) scheme is a key Australian Government financial assistance program for aspiring and current exporters. Administered by AusTrade, the scheme supports a wide range of industry sectors and products, including inbound tourism and the export of intellectual property and know-how outside Australia.
DAFF	Food Innovation Grants Program UNDER REVIEW	Programs to support R&D, innovation and commercialisation of cutting edge technology $50,000 to $2m.
DAFF	New Industries Development Program and Agribiz UNDER REVIEW	NIDP helps agricultural, processed food, fisheries and forestry businesses to grow by providing grants and scholarships to take new products services or technologies to market.
DAFF	NLP Sustainable Practices Funds APPLICATIONS CLOSED	Uptake of sustainable production and other NRM practices Funds larger scale, strategic on-ground activities that allow for participation by Landcare and industry groups with the capacity to undertake larger projects.
DAFF	Pathways to Industry EMS Program COMPLETED	The Pathways to Industry Environmental Management Systems (2004-2007) assisted industry bodies to develop and implement EMS and other environmental assurance approaches that would position them to achieve: • the adoption of profitable and sustainable farming practices • improved natural resource management and environmental outcomes, and • an ability to demonstrate environmental stewardship to domestic and international markets.
DAFF	Rural Indigenous Engagement Pilot Program APPLICATIONS CLOSED	Grants of up to $50,000 are available for innovative projects that connect Indigenous Australians and the agriculture, fisheries and forestry sector.
Farmbi$	Industry training CEASED 30 JUNE 2008	FarmBi$ program will be concluding on 30 June 2008 and no applications after 31 March 2008
NHT	Envirofund CEASED 30 JUNE 2008	The Envirofund is the local action component of the Australian Government's $5 billion Natural Heritage Trust (the Trust). Focus on small projects aimed at conserving biodiversity and promoting sustainable resource use. Community groups and individuals can apply for grants of up to $50,000 to carry out on-ground and other actions to target local problems.
FRDC (Fisheries R&D Corp)	Range of funding options (Includes full applications as well as small and large tactical research fund [TRF] applications)	FRDC responds to Government, industry and market demands to: • Maintain and improve the management and use of aquatic natural resources to ensure their sustainability • Optimise resource access, resource allocation and opportunities for each sector of the fishing industry, within a rights-based framework

FUNDER	PROGRAM	DETAILS
		• Respond to, and take advantage of, increased demand for seafood and for recreational and customary fishing experiences. Enhance the profitability of the fishing industry. • Develop people who will help the fishing industry to meet its future needs. • Increase community and consumer support for the benefits of the three main sectors of the fishing industry
National Water Commission	Community Water Grants and Water Smart Australia Programmes UNDER REVIEW	CW Grants are available for projects related to water saving, efficiency recycling, and water treatment (maximum of $50,000 with projects that meet eligibility criteria may up to $250,000. Projects have a very strict eligibility criteria with a focus on on-ground work Water Smart Australia Programme aims to accelerate the development and uptake of smart technologies and practices in water use across Australia with a minimum funding of $1M.
Seafood CRC (Cooperative Research Centre)	Range of funding options APPLICATIONS OPEN	To make significant improvements along the entire Australian seafood value chain, with a strong focus in research areas: • Value chain profitability • Product quality and integrity • Health benefits of seafood • Education and training • Commercialisation and utilisation. Heavy emphasis is laid on commercialisation and utilisation of research results to ensure that the maximum benefits accrue to end-users of the research. Education and training activities are also prominent.