

Final.

**Review of the current operation of
Fishery Research Advisory Bodies
(FRABs) and Subprograms**

Garth Newman

Project No. 1999/375.90

Contents

Contents	1
Summary	3
Background	5
Information sources	7
FRABs: Issues and recommendations	7
FRAB representation and expertise	7
Recommendations.....	9
Communication with stakeholders.....	10
Recommendations.....	10
Facilitation of research.....	11
Recommendations.....	12
Evaluation of R&D applications.....	13
Recommendations.....	16
Process timelines.....	17
Recommendations.....	18
Interaction between FRABs.....	19
Recommendations.....	20
Proposals of national significance	20
Recommendations.....	22
Strategic research planning	22
Recommendations.....	24
Subprograms: Issues and recommendations	24
Management of Subprograms	24
Recommendations.....	27
Facilitation of research.....	27
Recommendations.....	28
Evaluation of R&D applications and time lines	28
Recommendations.....	29
Strategic planning	29
Recommendations.....	30
Issues and recommendations concerning both FRABs and Subprograms.....	31
Interaction between FRABs and Subprograms.....	31
Recommendations.....	32
Guidelines for improving the interaction of FRABs and Subprograms within the FRDC system	33
Recommendations.....	34
Administration and finance	34
Recommendations.....	37
Summary of recommendations	38
FRABs:	38
FRAB representation and expertise	38
Communication with stakeholders.....	38

Facilitation of research.....	38
Evaluation of R&D applications.....	39
Process timelines.....	39
Interaction between FRABs.....	40
Proposals of national significance	41
Strategic research planning	41
Subprograms	41
Management of Subprograms	41
Facilitation of research.....	42
Evaluation of R&D applications and time lines	42
Strategic planning	42
FRABs and Subprograms	42
Interaction between FRABs and Subprograms.....	42
Guidelines for improving the interaction of FRABs and Subprograms within the FRDC system	43
Administration and finance.....	43
Appendix 1: Key features of the rural R&D Corporations.....	44
Appendix 2: FRAB Review Questionnaire.....	45
Appendix 3: Sub-program Review Questionnaire.....	51
Appendix 4: Criteria for the establishment of Subprograms	56
Appendix 5: FRDC Effects of Trawling Subprogram: Research priorities 1999/00 +....	57
Appendix 6: Roles of FRABs and Subprograms	61
Appendix 7: FRAB and Subprogram source and use of funds.....	62

Summary

The FRAB and Subprogram systems developed by the FRDC have improved the strategic directions of fisheries research, the focus of research and the quality of R&D applications. There has also been a valuable recognition of and response to the need to broaden the research portfolio, from a fisheries biology and assessment perspective to encompass the wider information needs of resource managers and industry operating at increasingly sophisticated levels requiring consideration of economic, conservation and social parameters. The systems have also ensured stakeholders an opportunity to participate in both the planning of research and the selection of projects for funding support. This has led to increased awareness and ownership of research outcomes.

The systems have evolved over a number of years under the general guidance of the FRDC. In the case of FRABs the Commonwealth, States and Territories have adapted the process to suit their respective needs, the resources they are willing to devote to the task and the particular business environments within which they have to operate. The development of Subprograms was a response to the need to achieve better coordination and management of suites of projects that focus on fairly specific requirements for a species, a fishery or a nationally significant theme.

A review of the arrangements appeared to be timely. There is sufficient experience within the system to clearly identify issues that require improvement and consolidate those practices that have been shown to work well. The material supplied by FRABs and Subprograms confirmed this observation. This material indicated a large measure of agreement on changes that are required, attributes which seemed to work well and on important problems.

There was also a discernible pattern within which the issues raised by FRABs and Subprograms could be slotted. The major components of this pattern were:

- * representation and expertise,
- * stakeholder communication,
- * facilitation and evaluation of research,
- * interaction between FRDC, FRABs and Subprograms,
- * Subprogram management,
- * research of national significance,
- * strategic planning and
- * administration and finance.

Issues raised by FRABs and Subprograms within each of these categories are discussed and recommendations are made for improving the system. The required changes are related to the more widespread adoption of practices that appear to work well, improving understanding of the systems in place, introducing mechanisms to facilitate interaction and better definition of the roles, responsibilities and management of the system.

The large and varied nature of the recommendations precludes their neat encapsulation within a concise conclusion. The material is however structured to allow for a systematic consideration of the recommendations. Some recommendations should be easy to implement but others will require a degree of cooperation and planning on the part of FRDC, FRABs and Subprograms. There are also a number of important recommendations that require more fundamental consideration and a re-evaluation of the manner in which the system could operate in terms of management of projects.

A draft report was tabled at the FRDC's Fifth National Workshop that was held in Canberra on 29-30 May 2000. The draft recommendations were discussed and this document incorporates the outcome of those discussions and agreement about the recommendations. An important product of National Workshops is an agreed action plan for the following year. The recommendations in this report thus form a major component of the action plan emanating from the Fifth National Workshop.

Background

The Fisheries Research and Development Corporation (FRDC) is one of fourteen R&D corporations. The procedures that FRDC adopt for R&D investment decisions are similar to those adopted by other R&D corporations, and are guided by the key features which have been defined for rural R&D Corporations. These features are listed in Appendix 1.

Fisheries Research Advisory Bodies (FRABs) and Subprograms are an important component of the FRDC decision-making system and they influence both planning and management. The latter is especially the case in relation to Subprograms. The FRAB and Subprogram processes have evolved under the guidance of the FRDC over a number of years. In the case of individual FRABs the Commonwealth, States and Territories have adapted the process to suit their respective needs, the resources they are willing to devote to the task and the particular business environments within which they have to operate.

The function of Subprograms is to coordinate, plan and manage projects in certain research fields and each Subprogram is administered by a Subprogram leader. Subprograms are created on a needs basis, as perceived by the FRDC and/or the relevant stakeholder group.

The importance of an effective system of advice to the FRDC is reflected by the fact that the Corporation has under its management a major portion, some sixty percent, of the total annual expenditure on fisheries R&D. The mechanisms established by the FRDC thus have the potential to coordinate all fisheries R&D expenditure, and many FRABs undertake this role. The FRDC meets some of the costs of operating the FRABs. However the FRDC is not the sole beneficiary of their outputs. Other beneficiaries include management agencies, other research funding agencies, research providers and industry. Some FRABs are responsible for advising respective State and Territory Ministers on fisheries matters.

The operations of Commonwealth, State and Territory FRABs, as well as Subprograms, are supported by annual FRAB National Workshops convened by the FRDC. These not only provide FRAB representatives and Subprogram Leaders with an update on FRDC initiatives and expectations but also an opportunity for FRABs and Subprograms to present information to FRDC and their peers on recent changes, improvements and problems they have encountered.

The system has evolved since 1992, with each FRAB and Subprogram developing operational mechanisms that reflect its circumstances.

In particular, there has been a proliferation of criteria for project selection, increased emphasis on strategic plans and varying mechanisms for ensuring stakeholder support. There are also varying degrees of integration of the FRAB process within State, Territory and Commonwealth fisheries management and research systems and questions about how FRABs and Subprograms should interact. The progressive improvement in the general quality of R&D applications from a wide spectrum of research providers has also increased the need for a more transparent and rigorous evaluation process by FRABs, Subprograms and the FRDC Board.

A review of the operations of all FRABs and Subprograms is timely and provides a valuable opportunity to apply more generally the effective aspects of specific FRABs and Subprograms and identify solutions to mutual problems. The objectives of the review are thus to:

- * Document FRAB and Subprogram procedures and provide a synthesis of the different procedures.
- * Identify the best practices as well as problems associated with the current FRABs and Subprograms.

- * Provide recommendations and guidelines for improving the FRAB and Subprogram processes.

Information sources

The review is based on the collection, analysis and appraisal of views expressed by all FRABs and Subprograms in existence on 25 February 2000. The major source of information was a structured questionnaire that sought information on organisation, administration and operational matters. Another section of the questionnaire sought views on benefits, problems and issues related to the current arrangements and suggestions for change. Separate questionnaires were designed for FRABs and Subprograms and these are attached as Appendices 2 and 3. Additional information was gathered during discussions with FRDC staff, FRAB Chairs and Executive Officers and Subprogram leaders.

Contributions were received from all FRABs and Subprograms.

The analysis of information is presented in three major sections of the report. The first deals with issues mainly associated with FRABs, the second with Subprograms and a third covers matters that predominantly affect both FRABs and Subprograms.

The issues raised in the analysis formed clear patterns, and categories of issues were therefore established to facilitate analysis and the formulation of recommendations. Where required draft roles and guidelines to improve current practice or arrangements are suggested for FRABs and Subprograms.

FRABs: Issues and recommendations

FRAB representation and expertise

FRAB sizes and compositions are quite variable. The Commonwealth and Victoria have relatively small FRABs, comprising six members. Other FRABs range from 9 to thirteen

members. More importantly, there is a mix of criteria for appointment to FRABs and this has some impact on their functioning.

In the Northern Territory the FRAB is comprised of government and industry, including recreational and traditional nominees. There is no specific selection on an expertise basis, but rather representation is the criteria and the expertise of the FRAB would be through the appointees' knowledge of their own and other sectors. The Queensland FRAB is similarly constituted from stakeholder nominees, with one independent scientist.

The NSW, SA and WA FRABs have a mix of nominees from stakeholder associations and persons nominated specifically for their expertise. The Commonwealth and Victorian FRABs are appointed on an expertise rather than a representational basis.

FRABs were acknowledged to provide a valuable forum for discussion by stakeholders. The range of expertise and the independence of FRABs were identified as being two important requirements. The comment that one particular FRAB was "not hostage to a particular institution" is particularly apt in relation to the need for independence.

It is important that the expertise of the FRABs reflect the content of the FRDC's three research programs that are:

- * Natural Resources Sustainability
- * Industry Development
- * Human Capital Development

The expertise required therefore includes fisheries biology and management, economics, social sciences, conservation and specific knowledge on aquaculture, post harvest technology, marketing, training and extension.

Some valid concerns were expressed that expertise in health and safety, post harvest technology, marketing and training was not available within FRABs which are not as

well equipped to advise on these issues as on resources sustainability. Specialist expertise in economics and conservation was also lacking in some FRABs.

FRAB membership should ideally be independent and provide objective advice. In practice to acquire the full spectrum of expertise requires that there be representation from research and other technical disciplines as well as from individuals with expertise in relation to sectors of the fishery. All FRAB members, but particularly those who are nominated by stakeholder organisations, need to be aware that their role is to provide balanced advice, and not advocate on behalf of their constituency. This is sometimes a difficult role to play but it is pivotal to the objectivity required by a successful FRAB.

A number of FRABs also have representatives who are major research providers, and who could have a vested interest in the advice provided by the FRAB. Their position, and the requirements for their objective participation, is similar to that of the stakeholder nominees.

Recommendations

1. That FRAB membership be selected on the basis of expertise appropriate to supplying advice on the R&D applications associated with the three R&D programs of the FRDC.
2. That the Chair of the FRAB be independent of the stakeholder groups
3. That the Chair of the FRAB, with the assistance of FRAB members, be responsible for ensuring that members with some allegiance to stakeholder groups can operate in a fashion which allows them to be objective and not obliged to their constituency.

Communication with stakeholders

The FRABs provide an important role in stakeholder communication and FRAB responses identified this as an area in which there had been some positive progress. In the case of FRABs with a high proportion of stakeholder representatives, communication with these groups should be assured. In FRABs with an expertise-based membership, stakeholder communication needs to be more explicit.

Most FRABs have strategic plans, organisational material and defined processes for canvassing R&D applications and explaining the appraisal principles they apply in the selection process. Strategic planning will be dealt with in more detail later but having these materials in readily available documentation is important to demystify the FRAB process and its objectives. The FRDC website (www.frdc.com.au) assists as it includes an inventory of R&D strategies.

A number of FRABs report that they have established websites to facilitate easy stakeholder communication. Another important innovation is the holding of meetings at different locations, which provides FRABs with the opportunity to meet local stakeholders and research providers and observe issues first hand.

A useful form of communication is an annual meeting between the FRAB and stakeholders, including research providers, to provide an update on new developments, strategies and priorities and to address specific issues of concern to stakeholders. The presence of FRDC representatives at these meetings is also important as it provides an opportunity to pose direct questions about FRDC matters.

Recommendations

1. That FRABs have available a documentation package which includes strategic directions, timelines for research proposals, material to facilitate the submission of

pre-proposals and other information to help stakeholders and research providers provide relevant, quality and timely R&D applications for FRDC funding.

2. That consideration is given to using websites to facilitate communication.
3. That FRABs improve communication through holding annual meetings or seminars with research providers and other stakeholders to provide updated relevant information and to hear the views of these stakeholders.

Facilitation of research

There is no doubt that the FRAB process has greatly facilitated better and more effectively targeted R&D applications. This is a consequence of a number of developments. The first is the direction provided by the FRDC 5 Year R&D Plan that sets out the scope and emphasis of the research the Corporation wishes to support. The plan has identified research needs in broad terms, but the information does not indicate specific priorities. As acknowledged by the FRDC in its plan these specific priorities, within the broad guidelines set, are better established for particular sectors by the stakeholders within those sectors. A number of FRABs have either established or helped establish strategic plans to provide guidance in relation to the research required by their fisheries. Provided this material is explicit it can focus R&D applications and attract relevant research.

The holding of an annual seminar or meeting with research providers, discussed in the previous section, can also assist in focussing research providers on priority problems.

A major factor in facilitating research has been the establishment of firm timetables for the preparation and consideration of R&D applications and the better understanding of the process by providers. A number of FRABs provide feedback at the pre-proposal

stage, as well as on the proposal, and this has the dual purpose of improving relevant R&D applications and discouraging those that are inappropriate.

There have been examples of duplication, unhelpful competition and a lack of awareness related to the preparation of R&D applications. This is generally due to a lack of sensible consultation between research providers. There is an onus on FRABs to encourage better liaison between research providers and end users and good communication between FRABs to circumvent these problems.

The development of a full application requires much effort, as does its subsequent evaluation by either a FRAB or a Subprogram. The smooth facilitation of appropriate applications is therefore in the interest of both the applicant and those who have to evaluate the application.

Recommendations

1. That explicit research strategies continue to be provided by FRABs to clarify research needs for providers and that these be available and regularly reviewed in the light of progress with research and changing issues.
2. That clearly defined systems for the submission of pre-proposals as well as R&D applications are maintained and that FRABs provide the proponents with feedback on their R&D applications at all stages.
3. That FRABs be aware of the need to avoid duplication and communicate about R&D applications that might entail counterproductive duplication.
4. That FRABs actively canvass research needs over a wide range of providers if in their opinion suitable R&D applications are not forthcoming.

Evaluation of R&D applications

The evaluation of R&D applications and the provision of advice to the FRDC about these R&D applications are major and important components of the FRAB system. Some FRABs also provide proponents with an evaluation. The latter has merits in that it allows for a more transparent system as well as providing feedback to improve the standard of R&D applications.

The evaluation system works best if there are criteria that are established by the FRAB and known and accepted by the research providers and industry stakeholders. Without exception FRABs have selection criteria and most are based on the components of attractiveness and feasibility, which are the major criteria used by the FRDC. There are differences in the way in which the criteria are expressed but the principles are by and large similar and further conformity would not seem to be required nor might it be feasible.

The FRABs screening process plays an extremely important role in reducing the number of R&D applications that have to be considered by the FRDC Board. Most FRABs successfully limit the number of final R&D applications recommended to the FRDC Board to about ten or twelve. This requires some significant culling because three or four fold that number could be submitted to the FRAB.

The process of calling for pre-proposals is adopted by most FRABs and this is useful in that advice can be given to proponents at an early stage and unsuitable R&D applications can be culled at that stage. Comments from the FRAB at this early stage can also improve the quality of promising R&D applications. Accordingly FRABs that do not have a pre-proposal facility should seriously consider its implementation.

The wide spectrum of experience on most FRABs ensures that screening of applications is fair and effective but also that the FRDC Board receives considered advice on the R&D applications that finally reach its table. The move towards expertise based FRABs, or at

least having a proportion of members appointed for their expertise rather than representation, should be pursued to ensure objective and expert advice.

In some FRABs there is a close association between MACs and FRABs. This is of assistance in the evaluation process because the MACs are in a good position to appraise FRABs of current management needs.

A number of problems have been raised about the important role of project evaluation.

Ironically one is the consequence of the improved quality of R&D applications, which means that the selection of R&D applications has become very exacting. The submission of high proportions of quality R&D applications that have to be culled because of funding constraints requires that priorities be clearly specified in strategic plans and be helpful in proposal selection.

The above difficulty is exacerbated by the wide spectrum of good projects which are being submitted, requiring FRABs to make choices between a range of projects from stock sustainability, through industry and human capital development. The claims of aquaculture versus wild fisheries on the research dollar is another relatively recent development which is of import. Additional difficulty is presented by the need to evaluate R&D applications that address a particularly specific problem as opposed to R&D applications to provide information on very broad issues. The FRABs must meet this challenge through a combination of more exact strategic guidance from FRDC and more rigorous re-evaluation of their own strategic priorities.

In addition some R&D applications are for highly technical work in new and important fields, which are unfamiliar to technical experts on the FRABs. The proper evaluation of these requires specialist knowledge, which might only be available to FRABs through the use of specialised consultants or independent and expert peer review.

Most FRABs provide fairly detailed appraisals of the R&D applications that they submit to FRDC as their high priorities. In a number of instances the FRDC Board may not agree with these appraisals but there is no direct feedback from the FRDC Board to the FRAB as to why the FRABs recommendations were not adopted. The role of the FRABs is to provide advice and it is acknowledged that the FRDC Board might not always accept this advice but it is important that the FRABs understand the reasons for the FRDC Board's disagreement.

It would be of assistance to the FRDC if reports from FRABs on their priority R&D applications were standardised or at least formatted in a comparable way and at a similar level of detail.

Similarly there is a need to standardise reports on the material submitted to FRABs for comment in February. The purpose of these comments is to keep the FRABs apprised of relevant R&D and to enable them to comment on the all applications that attribute such a flow of benefits (FOB). The FRABs are also required to ratify or otherwise alter the percentage of FOB to their jurisdictions

The length and nature of these comments needs to be such that FRABs can effectively convey their views, that the material can be handled by the FRDC information systems, that the FRDC Board receives adequate but not overwhelming material and that the content allows objective decisions to be made. The FRDC and FRAB representatives should review the most appropriate format for these reports.

In relation to the evaluation of all projects with a FOB to the FRABs' jurisdiction a number of FRABs make the point that a large number of projects have to be examined, and in many cases the information supplied is insufficient to allow for a proper evaluation. The suggestion has been made that R&D applications attributing a high FOB to another State, for instance 20% or more, are referred to that State's FRAB prior to submission to the FRDC in December.

Recommendations

1. That the current system of clear and stepwise procedures for evaluating R&D applications according to documented criteria be continued and that information on the procedures be made available to all stakeholders and research providers. The principles upon which these procedures are based are similar and there would appear to be no need to strive for a highly standardised approach for all FRABs.
2. That the scope of strategic plans cover all three FRDC programs but within these programs fairly specific priorities be identified to help research providers focus their R&D applications as well as to assist in the evaluation of R&D applications.
3. That some facility be provided, either by FRDC or by FRABs to procure specialist inputs, through consultancy or independent peer review for R&D applications of a specialist nature, where the required expertise is not otherwise available to the FRAB.
4. That FRDC and FRAB representatives review the format for provision of comments by FRABs on full applications submitted in December as well on the comments required on FOB material submitted in February.
5. That those FRABs without a pre-proposal stage in their process consider introducing this step.
6. That the FRDC Board provide feedback to FRABs about their decisions to reject R&D applications which have been accorded high priority by FRABs and reported as such to the FRDC.

Process timelines

The FRDC funding cycle commences in May and R&D applications close on 1 December. This date is an absolute deadline and the various activities of the FRABs are determined by it.

The schedules that could be derived from the responses were as follows.

	Cwth	NSW	NT	Qld	SA	Tas	Vic	WA
Call for pre-proposals	*	July	May	June	June		May	June
Pre-proposal evaluation	*	Sept	Aug	Sept	Aug		Aug	Aug
R&D application evaluation	Oct	Nov	Nov		Oct /Nov		Nov	

* These functions are undertaken by MACs.

By comparison, the schedules for Subprograms, which are discussed in more detail later in this report, are as follows:

	Expression of interest call	Pre-proposal	Full R&D application
Abalone Aquaculture	Yes	Aug	Nov
Aquaculture Diet Development	No	-	-
Effects of Trawling	Yes	-	-
Rock Lobster Post Harvest	No	Sept	Nov
Rock lobster Enhancement and Aquaculture	No	Sept	Nov
Southern Bluefin Tuna Aquaculture	No	July	Nov

All FRABs agreed that better synchronisation of FRAB schedules would have benefits for research providers, FRABs, Subprograms and for FRDC. In particular this lack of consistency in timing needs to be addressed if there is to be better collaboration between FRABs and between FRABs and Subprograms. Better synchronisation is also required if a better means of handling R&D applications of national significance, which are discussed later, is to be introduced.

Most FRABs believed that consistent timelines were feasible as long as meeting dates were not too pedantically set. There should also be sufficient flexibility to ensure that FRDC staff can attend all meetings.

Recommendations

1. That there be an agreement to introduce consistent timelines for the activities of FRABs and Subprograms to assist research providers as well as ensure better interaction between FRABs, between FRABs and Subprograms, and to better deal with R&D applications of national significance.
2. That the schedule adopted by FRABs be determined by two firm FRDC deadlines, which are 1 December for final submission of R&D applications and early February for submission of advice on R&D applications with a FOB to the FRAB's State.
3. That the schedule of FRABs and Subprogram meetings be finalised at the annually held National Workshop but that as a guide the meetings be set as follows:

Actively promote strategic R&D
directions to research providers

February to April

Call for pre-proposals

Late May – Early June

Consideration of Pre-proposals	Late August – Early September
Consideration of R&D applications	Late October – Early November
Advice to FRDC on priorities of applications submitted to FRAB or Subprogram	1 December
Advice to FRDC on FOB R&D applications	Early February

4. That once set the schedule be made available to all research providers on the FRDC website so that they can plan their proposal process accordingly.

Interaction between FRABs

Almost all FRABs reported that they had little interaction with other FRABs and that this only took place when problems arose, usually after complaints from research providers.

A recent problem has been the uncoordinated submission of material by research providers to the principal FRAB as well as to other FRABs to whose State a FOB is attributed. There has been some encouragement to do this but through lack of coordination of both process and schedules FRABs often cannot respond. When they do their response may be at odds with that of the principal FRAB and confuse the research provider. This lack of response or conflicting responses impacts adversely on the FRAB system's image.

The National Workshop was recognised as a valuable opportunity for FRAB interaction but the meeting does not help resolve the need for better coordination of FRAB activities during the year.

The resolution of these problems could be achieved through better synchronisation of FRAB activities and the provision of guidelines for the referral of R&D applications to other FRABs that will receive a FOB from the particular proposal.

Recommendations.

1. That guidelines be established so that R&D applications which attribute 20 percent or more FOB to another State be referred to that State for comment, and that these comments be taken into account by the FRAB of the State in which the proposal originated, i.e. the principal FRAB. The principal FRAB should be responsible for providing other FRABs with this material and should be the recipient of those FRABs' advice.
2. That there be an agreement to introduce consistent timelines for the activities of FRABs and Subprograms to assist research providers as well as ensure better interaction between FRABs, between FRABs and Subprograms, and to better deal with R&D applications of national significance.
3. That research providers be encouraged to submit copies of their pre-proposals to the FRABs of any jurisdictions to which a FOB of more than 20 percent is attributed.

Proposals of national significance

There are an increasing number of R&D applications being submitted which address issues of national as opposed to State, Territory or Commonwealth importance. These present challenges to the current system. Examples of national projects would be national recreational fishing surveys, fish health, national seafood consumption, ESD case studies, national compliance and fishing rights issues.

A large component of a FRAB's advice relates to the importance of the R&D to its State's particular needs. There is also some measure of competition for funds which, whether admitted or not, causes some reservation about enthusiastic support for national projects which could attract funds away from State based projects. This problem could be alleviated with better communication between FRABs and better articulation of the real benefits provided by the work to other States. FRDC is emphasizing the benefits of a national approach but it would seem that at this stage the States have not fully embraced the initiative.

Although the FOB system should in theory attribute the investment to States in relation to the benefits gained by such projects, the FRABs are also concerned about the actual dollars that flow into their jurisdiction.

R&D applications of national significance are usually submitted to FRABs of the State from which the proposal emanates. More recently these have also been referred to the Research Committee of SCFA, ASIC and Recfish as appropriate for appraisal.

The SCFA Research Committee has high-level fisheries science representation from all jurisdictions so it is well equipped to undertake a technical overview of these issues. There are however no other stakeholders involved in the process nor would the group claim to have expertise in economics and social sciences. The practice of involving ASIC and Recfish acknowledges the problem of stakeholder inputs and is a step towards resolving it.

In any event all FRABs are given the opportunity to comment on R&D applications of national significance when advice is sought in the February round. FRABs should review these R&D applications from a national perspective.

Recommendations.

1. That the current practice of involving the SCFA Research Committee, ASIC and Recfish in the evaluation of R&D applications of national significance be continued until such time as the national equivalent of a FRAB can be constituted.
2. The FRDC need to develop a mechanism whereby advice can be given by a group with the required expertise, and which would draw upon the views of stakeholder groups.
3. That in the interim research providers be informed that they can liaise directly with the SCFA Research Committee in relation to R&D applications of national significance.
4. That R&D applications of national significance also be referred to FRABs at the pre-proposal or R&D application stage so that all FRABs have an opportunity to provide informed advice to FRDC on the R&D applications in February

Strategic research planning

A strategic plan is an important requirement for guiding research providers, allowing the correct mix of research to be canvassed and for evaluating R&D applications in a systematic and objective manner.

The FRDC 5 year R&D Plan provides a broad focus for research, but is insufficiently targeted to screen R&D applications within its broad categories. A number of FRABs

have either established or helped establish strategic plans to provide guidance in relation to the research required by their fisheries.

These plans need to be as explicit as possible, without constraining the imagination and innovation of research providers. Plans need to define outcomes and performance measures. They need to be dynamic and subject to regular review, but not with such frequency that their credibility and acceptance as valid directions of future needs are questioned. The essence of a good strategic plan is that it is realistic in identifying research needs and reconciling them with the facilities and funding that are likely to be available. Failure to take these factors into account is common and results in plans that are essentially wish lists that cannot be fulfilled.

Most FRABs reported having a strategic plan. In some cases the situation is more complex in that MACs set priorities. These priorities would be specific to a particular sector and reconciliation of priorities within sectors could be difficult to achieve under these circumstances. The FRDC system places emphasis on the servicing of its three research programs in a balanced fashion and this balance needs to be reflected in FRAB strategies.

Some FRABs report that FRDC decisions often do not support R&D applications that are responding to the jurisdictions priority needs, as expressed in their strategic plan. The input of all stakeholders into a strategic plan is usually considerable and the consequent plan should be a valid reflection of the priority needs of the jurisdiction concerned, essentially a considered balance and composite of the priorities of fishing sectors within the jurisdiction. If there is a serious lack of concordance between FRDC decisions and the needs identified by the strategic plan, which are expressed in the form of R&D applications, action is required to reconcile differences.

The FRDC plan is an important component of the FRDC process, which is taken seriously by the FRABs. Likewise the FRDC should regard the FRAB strategy documents as an explicit response to the FRDC plan. Feedback on the FRABs' priority

R&D applications from FRDC would assist in the understanding of any discordance between FRDC decisions and FRAB evaluations that were underpinned by research priorities established by their strategic plans.

Recommendations

1. That in view of the important role played by strategic plans all FRABs be instrumental in the formulation of such plans.
2. That FRABs adopt a dynamic strategic planning process that entails regular revision of plans and evaluation and reporting of the progress made towards achieving the plan's objectives.
3. That the FRDC be aware of and take FRAB strategic plans into account in their decision making process and that they provide feedback to FRABs which will allow FRABs to better understand FRDC decisions, especially those which disagree with the FRABs recommendation.

Subprograms: Issues and recommendations

Management of Subprograms

On occasions it becomes evident that a planned R&D outcome could be achieved more successfully if a number of related projects were managed more intensively by employing higher levels of coordination, integration and communication than for individual projects. In that event the FRDC, either on its own initiative or at the request of a stakeholder group establishes a Subprogram. The Subprogram provides an effective means of focusing research effort, coordinating the expertise from a number of sources and ensuring that research is not hampered by State boundaries. At present about five percent of the total number of projects funded by the FRDC are managed through subprograms.

It was however clear from responses that some FRABs do not have a clear understanding of the criteria for creation of Subprograms. Often their first opportunity to comment on the creation of a Subprogram is when the application for funding for the Subprogram's management is provided for comment and by this time the arrangement is usually fairly firmly in place.

A Subprogram leader is responsible for each Subprogram and is assisted by a Steering Committee in this task. The Steering Committees usually comprise nominations from relevant industry groups, some have scientific representation and at least one Subprogram indicated that an expertise based Steering Committee was being sought.

The Subprogram leader and the Steering Committee have a Scientific Committee to provide them with technical advice. There is a lack of conformity in relation to the selection criteria for the Scientific Committee. One Subprogram had no Scientific Committee, two committees comprised the principle investigators of projects within the Subprogram and the remaining three had participants selected on the basis of expertise and representation.

The roles played by the Subprogram leader, the Steering Committee and the Scientific Committee are variable. This is because the Subprograms are very different and a uniform approach is not possible. Nevertheless, it is suggested that the Steering Committee be mainly responsible for:

- * Establishing strategic directions for the Subprogram.
- * Facilitating collaboration between research providers and principle stakeholders.
- * Seeking and facilitating appropriate funding from FRDC and other sources.
- * Facilitating extension of research results to ensure that benefits flow to stakeholders.
- * Provide ongoing direction of projects and evaluation of progress towards outcomes.

The role of the Scientific Committee would be to:

- * Operate in a collegiate fashion to optimise the scientific potential of Subprogram participants.
- * Coordinate R&D to avoid duplication and optimise facilities and expertise.
- * Standardise scientific methods applied and ensure quality control.
- * Facilitate extension of research results to ensure that benefits flow to stakeholders.
- * Apply peer review to evaluate quality and progress within the Subprogram.

Steering Committees with a mix of representation and expertise would seem to be desirable. If the role of the Scientific Committee were mainly as outlined above, a Committee comprising principle investigators of projects within the Subprogram umbrella would be appropriate.

The Subprogram leader has an important task in that the success of the Subprogram depends largely on the individual's leadership qualities, scientific acumen, enthusiasm and ability to manage programs as well as their interactions with a wide range of stakeholders. There is confusion on the part of some FRABs about the role of the Subprogram leader and it is difficult for them to ascertain the boundary at which the Subprogram managers' role ceases and FRDC picks up responsibility for project management as part of its normal role. The Subprogram leader also needs to be able to work effectively within the FRDC system, and be aware of its systems and philosophy.

Ideally the Subprogram leader needs to be independent of the researchers within the Subprogram and undertake the task of objectively managing the Subprogram and its interfaces on behalf of the FRDC. In addition, the appointment of Subprogram managers should be a competitive process, with defined appointment criteria.

As an alternative to having a number of part-time managers each responsible for one Subprogram there has been a suggestion that managers be located at FRDC and be responsible for more than one Subprogram. Such an arrangement could provide benefits of scale, coordinated administration and more direct communication with FRDC about management of Subprograms. A disadvantage could be that these managers would be more geographically remote from program locations and might need to manage a number

of programs not within their particular specialty. The costs and benefits of any change to the current system would need to be very carefully examined. At the Workshop there was general support for continuation of the Subprogram arrangements and that the recommendations identified in the report should ensure better communication and collaboration between FRABs, Subprograms and the FRDC.

Recommendations

1. That criterion for the establishment of Subprograms, as listed in Appendix 4, be adopted and that the reasons for the creation of new Subprograms be discussed with relevant FRABs and Subprograms.
2. That the role of the Subprogram, the Subprogram leader and the Steering Committee and Scientific Committees be clarified.
3. That guidance be provided on criteria for participation on Steering and Scientific Committees in relation to their respective roles
4. That the appointment of Subprogram managers be competitive.

Facilitation of research

The focussed nature of the Subprogram and the mechanism it provides to promote collaboration between projects should facilitate research within the tight spectrum of the Subprogram. Subprogram Steering Committees have representation of stakeholders who are active in industries associated with the Subprogram and this facilitates the focus of research and the ability to quickly adjust to industry needs. Depending on the ability of the Subprogram leader the system allows for coordination and peer review, which is advantageous in view of the common thrust of projects within the Subprogram. In some cases the Subprograms also attract leveraged funds, from industry and other participants

who provide in kind support. There are also some examples of Subprograms establishing useful links with other R&D corporations and funding sources.

None of the Subprograms reported having a strategic plan although a number indicated that these are being developed. Some Subprograms do however have documentation that clearly defines their research priorities and plans. One such example is a particularly explicit document that outlines the research priorities of the Effects of Trawling Subprogram. (Appendix 5)

Three Subprograms call for expressions of interest to undertake research, the rest do not specifically elicit R&D applications although one Subprogram reported that the Scientific Committee sometimes initiated R&D applications. In this regard the FRABs could assist the process by ensuring that research providers with an interest in Subprogram topics are made aware of the opportunities which Subprograms provide.

Recommendations

1. That all Subprograms provide a clear statement of priorities similar to that adopted by the Effects of Trawling Subprogram to explain the Subprogram's requirements to stakeholders and research providers.
2. That Subprograms adopt a system of calling for expressions of interest which assures that all potential research providers are aware of the needs of the Subprogram and have an opportunity to submit R&D applications to fulfill these needs.

Evaluation of R&D applications and time lines

There are no uniform patterns adopted by Subprograms in relation to evaluation of R&D applications, but some Subprograms have developed systems that seem well adapted to the task.

In all but one Subprogram the evaluation of R&D applications is done by the Steering Committee. Most but not all Subprograms have a system of pre-proposals, followed by the evaluation of R&D applications and the criteria for evaluation are variable with most but not all Subprograms' adopting the attractiveness/feasibility model for proposal appraisal.

Although strategic plans were being developed and thus not available, the Rock lobster Enhancement and Aquaculture and the Effects of Trawling Subprograms had well-structured operational plans that provide a good framework for stimulating and evaluating R&D applications.

The existing schedules for dealing with R&D applications have been presented in the section dealing with FRAB process time lines.

Reference to that information confirms that Subprogram timelines are comparable to those of the FRABs and that the consideration of pre-proposals and full R&D applications by Subprograms could be synchronized with the FRABs' with activities.

A number of Subprograms supported the concept of more consistency in the timelines adopted by Subprograms and FRABs, and stressed that this would assist interaction between Subprograms FRABs.

Recommendations

1. That all Subprograms introduce a system of pre-proposals, which is adopted by most Subprograms and FRABs.

Strategic planning

Most Subprograms stated they were in the process of establishing strategic plans.

Whereas the FRAB plans identify priorities across disciplines but within their jurisdiction, the Subprogram plans are discipline focussed and not bound by jurisdictions. Nevertheless, the Subprogram is initiated because there is perceived to be a need within a specific area and if valid, this need should be identified in the plans of one or more FRABs. Subprogram strategic planning should therefore take cognisance of existing FRAB strategies and visa versa. Clearly Subprogram plans will also be in accord with the FRDC 5 year R&D Plan.

The Subprogram Steering Committees have strong industry participation and, as long as these participants are representative, industry inputs to the plan should be assured. The plan should also document the Subprograms objectives and justify the establishment of the Subprogram. Equally important the plan should provide an indication of the duration of the Subprogram or criteria for winding it down in accord with the FRDC's tenet of research contestability on a needs basis.

Recommendations

1. That Subprograms establish strategic plans that include the objectives of the Subprogram, the rationale for its establishment and the likely duration or criteria for winding up the Subprogram.
2. That the strategic plans be sufficiently explicit in the identification of priority needs to ensure that research providers can respond with suitably targeted R&D applications and understand the basis for their evaluation.
3. That the strategic plans of appropriate FRABs and the FRDC be considered when Subprograms draft their own documents.

Issues and recommendations concerning both FRABs and Subprograms

Interaction between FRABs and Subprograms

The Interaction between FRABs and Subprograms was one of the most contentious issues raised by both FRABs and Subprograms.

The purpose and role of Subprograms was not always clear to FRABs and there was concern about the respective responsibilities of the two groups and how the roles of the groups fit within the FRDC process. As has been discussed the rationale for creating new Subprograms was also not understood by some FRABs.

Few FRABs reported constructive interaction with Subprograms and most claimed that they had no opportunity to comment on Subprogram R&D applications, in fact some claimed that Subprograms do not seek input from FRABs. There was concern about the number of R&D applications that were flowing through and being initiated by the Subprogram system without reference to FRABs. Any lack of an opportunity to comment on Subprogram R&D applications undermines the FRABs task of providing research advice to both FRDC and State or other agencies. Likewise the Subprograms reported some difficulties in getting timely advice from FRABs and referral of applications to Subprograms where these fell within the ambit of the Subprogram.

Generally the Subprograms' confirmed the FRAB's observation that there was an urgent need to clarify roles, formalise interactions and improve working relationships. An exception was the Southern Bluefin Tuna Aquaculture Subprogram, which indicated that interaction between it and the SA Fisheries R&D Board was improving, a view shared by the FRAB.

The Subprograms need to be aware of the priorities of the FRABs and visa versa. It is also important that FRABs provide early advice to Subprograms on any R&D applications that they receive which are relevant to the objectives of the Subprograms.

Some Subprograms circulate information on priorities to FRABs but this is not a formal process. In the case of one Subprogram proponents were encouraged to circulate their R&D applications to relevant FRABs to gain their support. In another case the Subprogram leader sent R&D applications to relevant FRABs but a lack of synchronisation of meeting times made it impossible for one FRAB at least to provide its advice to the Subprograms. There was recognition by the Subprograms that FRAB support for an R&D application was important in terms of securing a positive decision from FRDC. Conflicting advice from the FRABs and the Subprograms must be avoided if at all possible

It is clear that the real or perceived problems in relation to the respective roles, functions and responsibilities must be resolved for they are causing confusion within FRABs and Subprograms.

The situation also was reported to be confusing research providers who were not in the Subprogram fold, and there was a perception that providers who were not within the particular Subprogram's "club" were at a disadvantage. This perception does not do the FRDC competitive process justice and it needs to be fixed immediately.

The concerns raised by both Subprograms and FRABs are symptomatic of the evolution of approaches to fulfill two different roles required to service the FRDC's needs. The intent of both groups has been admirable but their modus operandi needs to be reconciled.

Suggestions for role descriptions to resolve the difficulties that have been discussed were made and have since the workshop been incorporated in the FRDC's draft R&D Plan 2000-2005. These appear in Appendix 6

Recommendations

1. That the roles of the FRABs and Subprograms as outlined in Appendix 6 be adopted.

2. That the scheduling of the activities of FRABs and Subprograms is such that the required information flows and interactions are feasible.

Guidelines for improving the interaction of FRABs and Subprograms within the FRDC system

It is evident from the previous section of this report that there is a lack of effective interaction between FRABs and Subprograms and this is of concern to both groups. There is unanimity that the problem needs to be fixed.

If the current system is to be improved the following guidelines for interaction are suggested.

- * Subprograms should provide FRABs with an Annual Operating Plan and copies of their Strategic Plans when the latter become available.
- * Pre-proposals or R&D applications for R&D that might be suitable for inclusion in a Subprogram could be received by either the Subprogram or the FRAB. Pre-proposals would greatly assist interaction and should be adopted by all FRABs and Subprograms.
- * All pre-proposals or R&D applications deemed to be suitable for inclusion in an existing Subprogram but received by FRABs should be referred to the Subprogram and the proponent should be informed that future dealings should be with the Subprogram.
- * The Subprogram's assessment of pre-proposals, including those R&D applications received directly and from the FRABs, should be sent to FRABs for their comment.

- * The Subprogram's assessment of R&D applications needs to be sent to relevant FRABs for comment and this comment needs to be included in any advice submitted to the FRDC.
- * If required the Subprogram leader should attend key FRAB meetings to ensure good communication about and support for Subprogram R&D applications.

The above process will require a great deal of cooperation between FRABs and Subprograms in relation to the scheduling of meetings and the quick flow of information. Both parties should attempt to achieve this, as the alternative would be that FRABs only have an opportunity to proffer their advice to the FRDC in the February round of comments. Conflicting advice at this stage means that the FRDC might require extensive revision or even reconsideration of R&D applications at a late stage, which will cause inconvenience and delay.

Recommendations

1. That guidelines for interaction between FRABs and Subprograms discussed above be adopted so as to ensure that the responsibilities of the two groups are clearly understood and that the required interaction between the two groups is facilitated.

Administration and finance

The annual source and uses of funds were collated from information supplied by both FRABs and Subprograms.

The budgets of the individual FRABs and Subprograms are tabulated in Appendix 7.

The figures extracted from the appendix appear below and indicate that the total costs of running the two activities amounts to about \$800 000 of which Subprograms account for

\$560 000 or about 70 percent. The total cost to FRDC is \$465 000 of which Subprograms account for 80 percent.

The figures reflecting management costs within and outside the Subprogram structure cannot be directly compared. Whereas the management costs of projects within a Subprogram are explicitly identified against the Subprogram, those for other projects are included in the funding of the particular project or borne by the agency providing the research.

	FRABs	Sub-programs	Total
Source of funding			
FRDC	\$90,400	\$374,325	\$464,725
Others	\$163,700	\$185,235	\$348,935
Total	\$254,100	\$559,560	\$813,660
Use of funding			
Administration	\$155,111	\$326,605	\$481,716
Sitting fees	\$35,006		\$35,006
Travel	\$23,683	\$142,758	\$166,441
Others	\$36,400	\$79,897	\$116,297
Surplus/Deficit	\$3,900	\$10,300	\$14,200
Total	\$254,100	\$559,560	\$813,660

It should be noted that the sitting fees for FRABs are either low or non-existent and that no sitting fees are paid for Subprograms. The quality and expertise of participants, and

time they devote to the task is a valuable contribution. To commission such expertise would be a very significant expense.

Issues raised in responses from the FRABs and Subprograms included the following.

There was some confusion about the true nature of the administrative costs that are associated with expenditure on program support. The funds allocated to support FRABs are sourced from the FRDC communication budget and are relatively modest. As indicated earlier, Subprogram project management costs are explicitly identified against the Subprogram whereas those for other projects are included in the funding of the particular project or borne by the agency providing the research. Essentially with these projects the FRDC aims to cover the marginal costs of undertaking R&D, but it maintains flexibility on this point to ensure that funding issues do not prevent a successful output from research.

Some concern was expressed about the uncertainty attached to indicative budgets for the Subprograms research portfolio and the lack of ability to plan for continuity. There was also concern about the amount provided for Subprogram administration, and the need for agencies to contribute. One Subprogram expressed concern that R&D applications for the management of the Subprogram had to compete for funds against research proposals and that these two types of R&D application could not be evaluated on the same basis.

In the recent past the nature of FRDC funded R&D has become broader and more complex. Whereas previously the focus of R&D was mainly on fisheries biology and stock assessment, more recent projects have expanded the R&D undertaken to respond to the needs of the recreational, traditional and environmental sectors. There is thus the need to consider novel methods of collecting funds that somehow accommodate the potential value of these other sectors and their need for R&D.

Administration interaction between FRABs and the FRDC is generally smooth and effective. The presence of FRDC representatives at FRAB meeting is especially

important to clarify issues related to the FRDC and help coordinate the FRAB process between States.

The same sentiments were generally expressed by Subprograms.

It was recognised that the small staff of the FRDC and the large volume of material which they have to handle within tight times lines has led to the development of very efficient data management systems. Although there were initially some teething troubles these have been resolved and the systems are user friendly and save all concerned much time and effort.

Recommendations

1. That FRDC review the costs of projects undertaken within and outside of the Subprogram system to provide information on the management costs associated with the projects it funds.
2. That the FRDC develop a policy on the question of on-costs charged by certain but not all research providers.

Summary of recommendations

FRABs:

FRAB representation and expertise

1. That FRAB membership be selected on the basis of expertise appropriate to supplying advice on the R&D applications associated with the three R&D programs of the FRDC.
2. That the Chair of the FRAB be independent of the stakeholder groups
3. That the Chair of the FRAB, with the assistance of FRAB members, be responsible for ensuring that members with some allegiance to stakeholder groups can operate in a fashion which allows them to be objective and not obliged to their constituency.

Communication with stakeholders

1. That FRABs have available a documentation package which includes strategic directions, timelines for research R&D applications, material to facilitate the submission of pre-proposals and other information to help stakeholders and research providers provide relevant, quality and timely R&D applications for FRDC funding.
2. That consideration is given to using websites to facilitate communication.
3. That FRABs improve communication through holding annual meetings or seminars with research providers and other stakeholders to provide updated relevant information and to hear the views of these stakeholders.

Facilitation of research

1. That explicit research strategies continue to be provided by FRABs to clarify research needs for providers and that these be available and regularly reviewed in the light of progress with research and changing issues.
2. That clearly defined systems for the submission of pre-proposals as well as R&D applications are maintained and that FRABs provide the proponents with feedback on their R&D applications at all stages.
3. That FRABs be aware of the need to avoid duplication and communicate about R&D applications that might entail counterproductive duplication.

4. That FRABs actively canvass research needs over a wide range of providers if in their opinion suitable R&D applications are not forthcoming.

Evaluation of R&D applications

1. That the current system of clear and stepwise procedures for evaluating R&D applications according to documented criteria be continued and that information on the procedures be made available to all stakeholders and research providers. The principles upon which these procedures are based are similar and there would appear to be no need to strive for a highly standardised approach for all FRABs.
2. That the scope of strategic plans cover all three FRDC programs but within these programs fairly specific priorities be identified to help research providers focus their R&D applications as well as to assist in the evaluation of R&D applications.
3. That some facility be provided, either by FRDC or by FRABs to procure specialist inputs, through consultancy or independent peer review for R&D applications of a specialist nature, where the required expertise is not otherwise available to the FRAB.
4. That FRDC and FRAB representatives review the format for provision of comments by FRABs on full applications submitted in December as well on the comments required on FOB material submitted in February.
5. That those FRABs without a pre-proposal stage in their process consider introducing this step.
6. That the FRDC Board provide feedback to FRABs about their decisions to reject R&D applications which have been accorded high priority by FRABs and reported as such to the FRDC.

Process timelines

1. That there be an agreement to introduce consistent timelines for the activities of FRABs and Subprograms to assist research providers as well as ensure better interaction between FRABs, between FRABs and Subprograms, and to better deal with R&D applications of national significance.
2. That the schedule adopted by FRABs be determined by two firm FRDC deadlines, which are 1 December for final submission of R&D applications and early February for submission of advice on R&D applications with a FOB to the FRAB's State.

3. That the schedule of FRABs and Subprogram meetings be finalised at the annually held National Workshop but that as a guide the meetings be set as follows:

Actively promote strategic R&D directions to research providers	February to April
Call for pre-proposals	Late May – Early June
Consideration of Pre-proposals	Late August – Early September
Consideration of R&D applications	Late October – Early November
Advice to FRDC on priorities of applications submitted to FRAB or Subprogram	1 December
Advice to FRDC on FOB R&D applications	Early February

4. That once set the schedule be made available to all research providers so that they can plan their R&D application process accordingly.

Interaction between FRABs

1. That guidelines be established so that R&D applications which attribute more than a 20 percent FOB to another State be referred to that State for comment, and that these comments be taken into account by the FRAB of the State in which the R&D application originated, i.e. the principal FRAB. The principal FRAB should be responsible for providing other FRABs with this material and should be the recipient of those FRABs' advice.
2. That there be an agreement to introduce consistent timelines for the activities of FRABs and Subprograms to assist research providers as well as ensure better interaction between FRABs, between FRABs and Subprograms, and to better deal with R&D applications of national significance.
3. That research providers be encouraged to submit copies of their pre-proposals to the FRABs of any jurisdictions to which a FOB of more than 20 percent is attributed.

Proposals of national significance

1. That the current practice of involving the SCFA Research Committee, ASIC and Recfish in the evaluation of R&D applications of national significance be continued until such time as the national equivalent of a FRAB, as discussed at the FRAB Workshop, can be constituted.
2. That cognisance be taken of the fact that some Subprograms effectively undertake a national role in relation to their particular R&D topic.
3. The FRDC need to develop a mechanism whereby advice can be given by a group with the required expertise, and which would draw upon the views of stakeholder groups.
4. That research providers be informed that they can liaise directly with the SCFA Research Committee in relation to R&D applications of national significance.
5. That R&D applications of national significance also be referred to FRABs, ASIC and Recfish at the pre- proposal or R&D application stage so that all FRABs have an opportunity to provide advice to FRDC on the R&D applications in February

Strategic research planning

1. That in view of the important role played by strategic plans all FRABs be instrumental in the formulation of such plans.
2. That FRABs adopt a dynamic strategic planning process that entails regular revision of plans and evaluation and reporting of the progress made towards achieving the plan's objectives.
3. That the FRDC be aware of and take FRAB strategic plans into account in their decision making process and that they provide feedback to FRABs which will allow FRABs to better understand FRDC decisions, especially those which disagree with the FRABs recommendation.

Subprograms

Management of Subprograms

1. That criterion for the establishment of Subprograms, as listed in Appendix 4, be adopted and that the reasons for the creation of new Subprograms be discussed with relevant FRABs and Subprograms.

2. That the role of the Subprogram, the Subprogram leader and the Steering Committee and Scientific Committees be clarified.
3. That guidance be provided on criteria for participation on Steering and Scientific Committees in relation to their respective roles.
4. That the appointment of Subprogram managers be competitive

Facilitation of research

1. That all Subprograms provide a clear statement of priorities similar to that adopted by the Effects of Trawling Subprogram to explain the Subprogram's requirements to stakeholders and research providers.
2. That Subprograms adopt a system of calling for expressions of interest which assures that all potential research providers are aware of the needs of the Subprogram and have an opportunity to submit R&D applications to fulfill these needs.

Evaluation of R&D applications and time lines

1. That all Subprograms introduce a system of pre-proposals, which is adopted by most Subprograms and FRABs.

Strategic planning

1. That Subprograms establish strategic plans that include the objectives of the Subprogram, the rationale for its establishment and the likely duration or criteria for winding up the Subprogram.
2. That the strategic plans be sufficiently explicit in the identification of priority needs to ensure that research providers can respond with suitably targeted R&D applications and understand the basis for their evaluation.
3. That the strategic plans of appropriate FRABs and the FRDC be considered when Subprograms draft their own documents.

FRABs and Subprograms

Interaction between FRABs and Subprograms

1. That the roles of the FRABs as outlined in Appendix 6 be adopted.

2. That the scheduling of the activities of FRABs and Subprograms is such that the required information flows and interactions are feasible.

Guidelines for improving the interaction of FRABs and Subprograms within the FRDC system

1. That guidelines for interaction between FRABs and Subprograms as discussed earlier be adopted so as to ensure that the responsibilities of the two groups are clearly understood and that the required interaction between the two groups is facilitated.

Administration and finance

1. That FRDC review the costs of projects undertaken within and outside of the Subprogram system to provide information on the management costs associated with the projects it funds.
2. That the FRDC develop a policy on the question of on-costs charged by certain but not all research providers.

Appendix 1: Key features of the rural R&D Corporations

- The rural R&D Corporations (RDCs) are not research grant agencies; the PIERD Act requires them to treat R&D as an investment in economic, environmental and social benefits to their respective industries and to the people of Australia.
- The RDCs are empowered to intervene anywhere in the innovation process — not just in traditional research.
- RDCs are required to focus their activities around strategic R&D plans and annual operational plans that must be approved at ministerial level.
- RDCs are fully accountable to their major stakeholders and to the wider community.
- Because of the tight focus on achieving outcomes, RDCs emphasise brokering active collaboration between researchers, and between researchers, resource managers and primary industry interests.
- RDCs apply significant resources to the challenging task of translating research outputs into practical outcomes.
- In addition to their collaboration on specific R&D matters, RDCs work closely together on policy issues to increase the effectiveness and efficiency of the national application of rural R&D.

Appendix 2: FRAB Review Questionnaire

Introduction

This questionnaire comprises sections dealing with three broad categories of information.

The first section deals with factual information about the organisation and administration of FRABs.

The second section seeks information on the manner in which the FRABs undertake the task of providing advice on research priorities to FRDC and other organisations.

The information requested in these two sections is similar to that presented at the annual FRAB National Workshops convened by the FRDC. An update of the material presented at the 1999 Workshop should provide much of the information required for Sections 1 and 2 of the Questionnaire.

The third section provides an opportunity for FRAB representatives to record views on the benefits, problems and issues related to the current system, both from the perspective of the operation of their FRAB and that of the system as a whole. The section is a mix of generalised questions relating to benefits, problems and issues and more focussed questions dealing with issues raised in responses to the draft proposal circulated to FRAB Chairs.

It would be appreciated if you could complete the questionnaire on behalf of your FRAB and preferably email it to Garth Newman on garthnewman@bigpond.com or post hard copy to Garth Newman, 33 Stephens St, North Balwyn, VIC 3104. The deadline for replies is **25 February 2000**.

Respondent details

Respondent:	
FRAB	
Position:	
Phone number:	
Email:	

Section 1: Organisation and administration

Please enter your information in the cell below the relevant question. Do not be constrained by the space provided in this version of the table

1.1 FRAB Members and their affiliation. *(Please enter the names of all FRAB members and their affiliation.)*

1.2 Appointment criteria. *(The appointment criteria for FRABs vary, some are expertise based other are based on representation of government, industry, recreational or conservation sectors. Please briefly describe the appointment criteria for your Group.)*

1.3 Authority responsible for appointments. *(Please indicate whether the Minister or another authority has the responsibility for appointing FRAB members.)*

1.4 Reporting relationships of the FRAB. *(To what authority if any, does your FRAB as a group report.)*

1.5 Administrative support. *(Briefly describe the administrative support to your group in terms of the source, staff involved and their functions. An estimate of the person years involved in administrative support should be supplied.)*

1.6 FRAB Budget. *(Supply dollar values within the categories identified; please*

<i>use as many rows as are required.)</i>			
Source of funding	Amount	Use of funding	Amount
FRDC		Administration	
Others (Please specify)		Sitting fees	
		Travel	
		Others (Please specify)	
Total		Total	

1.7 Mission statements, Roles and Terms of Reference. *(If your FRAB has established formal statements on any or all of the forgoing please list the information otherwise indicate nil.)*

Mission statement:	
Role:	
Terms of reference:	

1.8 Interaction with other relevant bodies. *(Identify interactions between your FRAB and other bodies that occur in the conduct of FRAB operations. These could be illustrated in the form of organisational charts.)*

--

Section 2: FRAB operations

Please enter your information in the cell below the relevant question. Do not be constrained by the space provided in this version of the table

2.1 Strategic research planning. *(Please indicate whether the FRAB has or uses a strategic research plan, the time lines for plan, the frequency of review and the strategic planning process.)*

2.2 Process for eliciting proposals. *(The processes that are used to elicit proposals should be briefly described. The description should include time lines adopted for the process.)*

2.3 Selection criteria and process for allocating priorities to projects. *(Provide the criteria, if any used by your FRAB to help determine the priority of specific proposals and the process applied by the Committee to evaluate proposals.)*

Section 3: Benefits, problems and issues

Please enter your information in the cell below the relevant question. Do not be constrained by the space provided in this version of the table

3.1 Benefits of the current system. *(Please identify, in point form, those aspects of your FRAB's operation that you believe work well and could or should be adopted by other FRABs which may not have these attributes in place. These benefits should cover all aspects of the FRAB's operation.)*

3.2 Problems with the current system. *(Please identify, in point form, the problems which your FRAB is experiencing with the current system and which need to be addressed at the Fifth National Workshop. If possible provide your views on how these problems should be rectified.)*

3.3 Interaction between FRABs and Sub-programs. *(Please indicate how your FRAB interacts with appropriate Sub-programs, if at all, and how this interaction could be improved if this is required.)*

3.4 Interaction between FRABs. *(Please indicate how your FRAB interacts with other FRABs, if at all, and how this interaction could be improved if this is required.)*

3.5 Interaction between FRAB, Sub-program and FRDC Administrations. *(Is there scope for closer interaction between FRAB, Sub-program and FRDC Administrations to better assist FRDC and take advantage of economies of scale)*

3.6 Consistency of process and timelines. *(Do you believe greater consistency of*

process and time-lines between FRABs would be of significant benefit and is this feasible)

3.7 Provision of advice on nationally significant proposals. *(What mechanisms do you use or would you advocate for dealing with projects which are nationally significant but cannot be strongly advocated in terms of State priorities and the general limits placed on funding allocated by FRDC to your particular State)*

3.8 FRAB representation in relation to the scope of FRDC's priorities. *(Does your FRAB representation reflect the spread and balance of the advice required by FRDC as indicated by the components of the FRDC Strategic Plan)*

3.9 Views on changes required to the FRAB system to improve its operation. *(Please provide, in point form, the important suggestions you can make to improve the operations of your FRAB, the FRAB process and the interaction of FRABs between one another, the FRDC and the Sub-programs.)*

3.10 Any other comments which could contribute to improved FRAB effectiveness

Appendix 3: Sub-program Review Questionnaire

Introduction

This questionnaire comprises sections dealing with three broad categories of information.

The first section deals with factual information about the organisation and administration of Sub-programs.

The second section seeks information on the manner in which the Sub-programs undertake the task of providing advice on research priorities to FRDC and other organisations.

The information requested in these two sections is similar to that presented at the annual FRAB National Workshops convened by the FRDC. An update of the material presented at the 1999 Workshop should provide much of the information required for Sections 1 and 2 of the Questionnaire.

The third section provides an opportunity for Sub-program representatives to record views on the benefits, problems and issues related to the current system, both from the perspective of the operation of their Sub-program and that of the system as a whole. The section is a mix of generalised questions relating to benefits, problems and issues and more focussed questions dealing with issues raised by FRAB Chairs.

It would be appreciated if you could complete the questionnaire on behalf of your FRAB and preferably email it to Garth Newman on garthnewman@bigpond.com or post hard copy to Garth Newman, 33 Stephens St, North Balwyn, VIC 3104. The deadline for replies is **25 February 2000**.

Respondent details

Respondent:

Sub-program

Position:

Phone number:

Email:

Section 1: Organisation and administration

Please enter your information in the cell below the relevant question. Do not be constrained by the space provided in this version of the table

1.1 Sub-program Committees, their members and their members affiliation. *(Please enter the names of all Sub-program members and their affiliation.)*

--

1.2 Appointment criteria. *(Please briefly describe the appointment criteria for Sub-program Committees.)*

--

1.3 Administrative support. *(Briefly describe the administrative support to your group in terms of the source, staff involved and their functions. An estimate of the person years involved in administrative support should be supplied.)*

--

1.4 Sub-program Administration Budget. *(Supply dollar values within the categories identified; please use as many rows as are required.)*

Source of funding	Amount	Use of funding	Amount
FRDC		Administration	
Others (Please specify)		Sitting fees	
		Travel	
		Others (Please specify)	
Total		Total	

1.5 Mission statements, Roles and Terms of Reference. *(If your Sub-program has established formal statements on any or all of the forgoing please list the information*

--

<i>otherwise indicate nil.)</i>	
Mission statement:	
Role:	
Terms of reference:	

1.6 Interaction with other relevant bodies. (*Identify interactions between your Sub-program and other bodies that occur in the conduct of Sub-program operations. These could be illustrated in the form of organisational charts.*)

--

Section 2: Sub-program operations

Please enter your information in the cell below the relevant question. Do not be constrained by the space provided in this version of the table

2.1 Strategic research planning. (*Please indicate whether the Sub-program has or uses a strategic research plan, the time lines for plan, the frequency of review and the strategic planning process.*)

--

2.2 Process for eliciting proposals. (*The processes that are used to elicit proposals should be briefly described. The description should include time lines adopted for the process.*)

--

2.3 Selection criteria and process for allocating priorities to projects. (*Provide the criteria, if any, used by your Sub-program to help determine the priority of specific proposals and the process applied to evaluate proposals.*)

--

Section 3: Benefits, problems and issues

Please enter your information in the cell below the relevant question. Do not be constrained by the space provided in this version of the table

3.1 Benefits of the current system. *(Please identify, in point form, those aspects of your Sub-program's operation that you believe work well and could or should be adopted by other Sub-programs which may not have these attributes in place. These benefits should cover all aspects of the Sub-program's operation.)*

3.2 Problems with the current system. *(Please identify, in point form, the problems which your Sub-program is experiencing with the current system and which need to be addressed at the Fifth National Workshop. If possible provide your views on how these problems should be rectified.)*

3.3 Interaction between FRABs and Sub-programs. *(Please indicate how your Sub-program interacts with appropriate Sub-programs and how this interaction could be improved if this is required.)*

3.4 Interaction between FRAB, Sub-program and FRDC Administrations. *(Is there scope for closer interaction between FRAB, Sub-program and FRDC Administrations to better assist FRDC and take advantage of economies of scale)*

3.5 Consistency of process and timelines. *(Do you believe greater consistency of process and time-lines between FRABs and Sub-programs would be of significant benefit and is this feasible)*

3.6 Views on changes required to the Sub-program system to improve its operation. *(Please provide, in point form, the important suggestions you can make to improve the operations of your Sub-program, the Sub-program process and the interaction of Sub-programs between one another, the FRDC and FRABs.)*

--

3.7 Any other comments which could contribute to improved Sub-program effectiveness

--

Appendix 4: Criteria for the establishment of Subprograms

On occasions, it becomes evident that a planned R&D outcome could be achieved more successfully if a number of related projects were managed more intensively, by employing higher levels of coordination, integration and communication than for individual projects. Under these circumstances the establishment of a Subprogram needs to be considered. Subprograms can either be species based, such as the Southern Bluefin Tuna Aquaculture Subprogram or based on topics which can refer to a range of species or a general requirement such as the Aquaculture Diet Development Subprogram.

To assist this consideration the following criteria are provided for the establishment of a Subprogram.

1. FRDC Board has identified an important need for the R&D and this view is supported by the relevant FRABs.
2. The R&D requirements for specific sectors or topics would best be addressed by a suite of complementary projects that might extend over a period of time and these are best managed in a joint fashion.
3. There should be stakeholder support for the suite of programs and the concept of their joint management
4. There should be clear indications that adoption of the Subprogram approach will increase the probability of improved communication with stakeholders and adoption of the resulting technology.
5. Subprograms should be contemplated when the nature of the R&D is such that funding sources in addition to FRDC are available and the Subprogram structure can assist in securing these additional sources of funding.

Appendix 5: FRDC Effects of Trawling Subprogram: Research priorities 1999/00 +

<i>Research Areas</i>	<i>Research Inputs (Priority order)</i>	<i>Outputs</i>	<i>Outcomes</i>
<i>Benthic communities/ physical impacts</i>	<ol style="list-style-type: none"> 1. <i>Management scenario modelling of the physical impacts of trawling including the assessment of MPAs, fisheries closures, effort restrictions and economic impacts and the development of environmental standards.</i> 2. <i>Impacts of trawling on soft sediment communities.</i> 3. <i>Assessment of VMS technology for understanding and quantifying the extent and interannual variability of trawl effort (to identify the spatial extent of any impacts).</i> 4. <i>Mapping of seabed habitats (includes community structure)</i> 5. <i>Development of new fishing gear to minimise physical impacts.</i> 6. <i>Recovery dynamics</i> 7. <i>Dynamics of benthic communities.</i> 	<ol style="list-style-type: none"> 1. Identification of precautionary management strategies, with default approaches and measurable indicators, which would achieve ecosystem integrity and health by minimising the impact of fishing practices on the environment. 2. Provide scientific support for incorporation of precautionary management strategies into fishery management plans. 3. Measurable environmental indicators for use in fisheries management to achieve biodiversity and conservation objectives. 4. Develop performance measures and monitoring methods to support ongoing fisheries management. 5. Development of new fishing gear and practices to minimise the impact of trawling on marine ecosystems 6. Effective extension and communication process (needs to be part of all research inputs) 	<ol style="list-style-type: none"> 1. Adoption of new gear and practices to minimise the impact of trawling on marine ecosystems 2. Increased confidence by all stakeholders that marine biodiversity and ecosystem integrity is being adequately managed in fisheries jurisdictions 3. Ecological sustainable resource base. 4. Increased certainty among all stakeholders in the equitable allocation of fisheries resources. 5. Australia meeting international obligations e.g. WHAs, biodiversity convention 6. To ensure that the trawl method is acceptable to all stakeholders 7. Agreement on acceptable levels of change to the benthic community that maintain ecosystem integrity

	8. Measure the survival of animals escaping from trawls	7. Improved tools for fisheries research including: <ul style="list-style-type: none"> • rapid assessment methods; • spatial statistical methods; • Decision Support System and visualisation methods; • modelling techniques 8. Improved gear and enhanced capacity in gear technology	8. Ensure continuing access to world markets
<i>Trawl Bycatch</i>	<ol style="list-style-type: none"> 1. Bycatch sustainability criteria 2. Methods for measuring and monitoring bycatch, and the effectiveness of bycatch reduction strategies 3. New and improved fishing gear to decrease by-catch 4. Measuring fishing efficiency and selectivity of fishing gear incorporating BRDs, TEDs, mesh size and gear modifications 5. Quantification of the direct impacts on associated populations and communities of bycatch species 6. Development of BRD and TED accreditation/certification systems 	<ol style="list-style-type: none"> 1. Increased uptake of improved fishing practices, BRDs and gear modifications 2. Identify precautionary management strategies, with default approaches and measurable indicators, which would achieve ecosystem integrity and health by minimising the impact of fishing practices on the environment. 3. Provide scientific support for incorporation of precautionary management strategies into fishery plans. 4. Develop measurable indicators for use in fisheries management to achieve biodiversity and conservation objectives. 5. Develop performance measures and monitoring methods to support ongoing fisheries management. 	<ol style="list-style-type: none"> 1. Adoption of gear and practices to minimise the impact of trawling on marine ecosystems 2. Agreement on acceptable levels of bycatch 3. Increased confidence that marine biodiversity and ecosystem integrity is being adequately managed 4. Ecological sustainable resource base. 5. Certainty among all stakeholders in the equitable allocation of fisheries resources. 6. More reliable and more widely accepted identification of marine species at risk. 7. Improved design of recovery plans. 8. <i>Ensure continuing access to</i>

		6. Effective extension and communication process 7. Improved tools for fisheries research: <ul style="list-style-type: none"> • Bycatch assessment • Bycatch monitoring 	<i>world markets</i>
<i>Socio-economic</i>	1. <i>Assessment of the socio-economic benefits and costs of bycatch reduction and improved habitat protection</i> 2. <i>Economics of closed areas</i> 3. <i>Monitoring public opinion and awareness</i>	1. <i>Information and advice to fisheries stakeholders on the socio-economic performance of bycatch reduction strategies and improved habitat protection</i> 2. <i>Improved communication and education of all stakeholders</i>	1. <i>Greater acceptance by fisheries stakeholders of management strategies to minimise the effect of trawling</i> 2. <i>Increased value of product</i> 3. <i>Reduced operating costs</i>
<i>Accreditation</i>	1. <i>Develop and apply recognised environmental standards for certification of trawling (JASANZ?)</i>	1. <i>Fishers achieve recognised levels of certification that incorporate environmental objectives</i>	1. <i>Fishing practices recognised by all stakeholders as achieving worlds best practice</i>

Appendix 6: Roles of FRABs and Subprograms

FRABs

FRABs operate in each state and the Northern Territory; for FRAB for the Commonwealth fisheries is the Australian Fisheries Management Authority's research Committee.

The FRABs have an extremely important role in maximising the efficiency of the FRDC's planning and funding process. Their role is to:

- * develop strategic plans for R&D to take into account other strategic plans, and subsequently maintain strategic directions and be responsive to changing circumstances;
- * set R&D priorities to maximise investment, avoid duplication and achieve the greatest potential return;
- * invite R&D applications to address those priorities
- * encourage collaboration between researchers and between researchers, fisheries managers and fishing industry interests;
- * identify appropriate funding sources (including the FRDC);
- * advise the FRDC on the priority and appropriateness of applications attributing benefit to their related fisheries or industry sectors; and
- * assist the FRDC with communication and extension of R&D results

Subprograms

Formation of managed subprograms provides a higher level of service in project management. The role of managed subprograms is to:

- * develop strategic plans for R&D that take into account other strategic plans, and subsequently maintain strategic directions and be responsive to changing circumstances;
- * set R&D priorities to maximise investment in that field, avoid duplication and achieve the greatest potential return;
- * invite R&D applications to address those priorities
- * maximise collaboration between researchers and between researchers, fisheries managers and fishing industry interests;
- * attract other R&D funding and influence the way in which other funding entities apply their investments in that field
- * standardise on the best scientific methods
- * communicate regularly with potential beneficiaries; and
- * influence the adoption of R&D results

Appendix 7: FRAB and Subprogram source and use of funds

	NSW	Victoria	SA	QLD	NT	WA	TAS	CTH	Total
Source of funding									
FRDC	\$15,000	\$10,000	\$15,000	\$15,000		\$15,000	\$10,400	\$10,000	\$96,400
Others	\$39,100	\$14,000	\$33,000	\$6,000	\$4,000	\$4,000	\$10,000	\$53,600	\$157,700
Total	\$54,100	\$24,000	\$48,000	\$21,000	\$4,000	\$19,000	\$20,400	\$63,600	\$254,100
Use of funding									
Administration	\$44,100	\$2,411	\$34,500	\$6,500	\$4,000	\$14,000	\$10,000	\$39,600	\$155,111
Sitting fees	\$6,000	\$7,406	\$10,000	\$3,000		\$600	\$8,000		\$35,006
Travel		\$4,183	\$3,500	\$4,000		\$6,000	\$2,000	\$4,000	\$23,683
Others	\$4,000	\$10,000		\$1,000		\$1,000	\$400	\$20,000	\$36,400
Surplus/Deficit				\$6,500		-\$2,600			\$3,900
Total	\$54,100	\$24,000	\$48,000	\$21,000	\$4,000	\$19,000	\$20,400	\$63,600	\$254,100

	Abalone Aquaculture	Aquaculture Diet Development	Rock Lobster Enhancement Aquaculture	Rock Lobster post Harvest	Southern Blue Fin Tuna	Effects of Trawling	Total
Source of funding							
FRDC	\$65,000	\$29,850	\$90,000	\$79,150	\$71,125	\$39,200	\$374,325
Others		\$96,150		\$9,000	\$57,765	\$22,320	\$185,235
Total	\$65,000	\$126,000	\$90,000	\$88,150	\$128,890	\$61,520	\$559,560
Use of funding							
Administration	\$47,000	\$116,650	\$35,500	\$37,200	\$60,735	\$29,520	\$326,605
Sitting fees							
Travel	\$13,000	\$7,600	\$40,000	\$37,300	\$26,858	\$18,000	\$142,758
Others	\$11,200	\$1,750	\$14,500	\$4,650	\$33,797	\$14,000	\$79,897
Surplus/Deficit	-\$6,200			\$9,000	\$7,500		\$10,300
Total	\$65,000	\$126,000	\$90,000	\$88,150	\$128,890	\$61,520	\$559,560

Subprogram/FRAB application process

This process is for applications which directly relate to a Subprogram's R&D activity.

