

**Development of options for improving
the planning and managing of abalone
and southern rock lobster wild catch
R&D**

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Edwards*



F I S H E R I E S
R E S E A R C H &
D E V E L O P M E N T
C O R P O R A T I O N



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Title: *“Development of options for improving the planning and managing of abalone and southern rock lobster wild catch R&D”*

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NON TECHNICAL SUMMARY

2001/072	Development of options for improving the planning and managing of abalone wild catch and southern rock lobster R&D
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OBJECTIVES:

1. Document all current and committed R&D expenditure on wild catch abalone, including prioritisation and assessment processes, project objectives, deliverables and time frames.
2. To prepare an options paper which identifies and critically assess against the status quo the possible alternative R&D management scenarios for wild catch abalone.
3. To prepare a formal cost benefit analysis as part of the options paper for each R&D management scenario.
4. To present the options paper at the inaugural National Abalone Workshop (2001/305).
5. Consult with industry and Government on the feasibility of establishing a FRDC sub-program for wild catch southern rock lobster. This would include consultations with peripherally impacted groups such as other FRDC rock lobster sub-programs, the New Zealand rock lobster industry and other Australian rock lobster industries.
6. Prepare a paper which identifies and critically assesses, against the status quo, the feasibility and costs and benefits of a southern rock lobster sub-program to achieve the aims of:
 - a. better co-ordination,
 - b. better collaboration,
 - c. facilitation of an expanded R&D program to address whole-of-chain issues
 - d. better use of available R&D funds
 - e. enhanced access to alternative sources of R&D funding
- 7 Presentation of the paper at the 2nd National Lobster Congress in Melbourne in September 2001.

NON TECHNICAL SUMMARY:

OUTCOMES ACHIEVED

The project produced two reports on options for improving R&D funding, planning and management of abalone and southern rock lobster research. These option papers were presented to respective stakeholders in both sectors with a view to endorse improved R&D funding, planning and management. Both sectors gave qualified support which resulted in the submission of proposals to FRDC and stakeholders to create subprogram for these two sectors. Subsequently, both of these proposals did not receive unanimous support from the stakeholders in both sectors. The FRDC

rejected both proposals but indicated they were still supportive of these initiatives if they received the support of stakeholders.

This project has contributed knowledge and analysis that has contributed to improved processes for funding, planning and managing R&D that

Abalone:

Recognizing that a need exists for better planning, management and co-ordination of national R&D related to the wild capture abalone industry, a number of options have been assessed as to their ability to deliver specific strategic and operational benefits. The result of that analysis and assessment indicates that there are only two options that could conceivably deliver those benefits.

These options are:

1. A subprogram structure
2. A national steering committee supplemented by an annual workshop.

While a national steering committee supplemented by an annual workshop may appear a less expensive option to achieve better R&D planning and co-ordination, such a structure would suffer not only from a lack of continuity but also a lack of resources. As a result, any significant work undertaken by the steering committee (e.g. preparation of a national R&D framework) would require additional, probably contracted, resources. Therefore, costs for the effective operation of such a structure would not be significantly different from a full subprogram structure.

In addition, a national steering committee/annual workshop approach would suffer from a lack of leadership focus and could not address the issue of improved communication in a consistent and ongoing way.

While both options need to be considered, it is recommended that, after consultations with all jurisdictions and industry in all States, the following approach be adopted:

1. A wild capture abalone subprogram be established by FRDC.
2. A part time subprogram leader be appointed to provide the necessary leadership and continuity of management, planning, communication and co-ordination among researchers, industry and Government managers. Such communication would include an annual abalone research workshop.
3. A Subprogram Steering Committee be appointed to oversee the operation of the subprogram. The composition of this Committee to be discussed at the National Abalone Convention in August 2001.
4. The Steering Committee, working with the subprogram leader, the States and SCFA, develop a national R&D strategy for wild capture abalone, building on the R&D Needs Review (McArthur Agribusiness, 1998). This R&D Strategy would recognize the responsibilities of the states for ensuring stock sustainability in their jurisdictions and for undertaking stock assessments to ensure such sustainability.
5. The Steering Committee, working with the subprogram leader and state abalone industries and jurisdictions, develop an agreed funding plan to support the national R&D strategy for wild capture abalone. Such a funding plan would include, at

minimum, the relative contributions of industry, FRDC and other funding providers over at least a 5-year period.

6. Project applications for FRDC funding that are directly related to abalone stock sustainability and stock assessment issues within any jurisdiction be prioritized first by the state FRABs and then sent to the subprogram. The subprogram leader would be responsible for working with researchers to ensure collaboration and coordination in the preparation of these projects. The subprogram would not change the priority ranking of these projects.
7. Other projects for FRDC funding be sent directly to the subprogram for prioritization and evaluation against the national R&D strategy. Other possible funding sources for individual projects would also be explored by the subprogram leader.
8. The subprogram leader to ensure that all concerned State FRABs are fully informed of subprogram activities, particularly the issues of research proposal prioritization and funding.
9. FRDC recognize the R&D priorities established by the subprogram and fund projects addressing those priorities as funds allow.
10. FRDC to ensure that industry levies from the abalone industry, together with dollar-for-dollar matching funds (up to 0.25% of the 3-year average GVP) are accounted for separately and that funds are thereby quarantined for use only on projects endorsed by the subprogram or with the approval of the subprogram. The costs of administration of the subprogram would have first priority for such funding.
11. FRDC to also fund projects endorsed by the subprogram that will provide direct or indirect benefits to the wild capture abalone fishery over and above the dollar-for-dollar matching funds.
12. FRDC to evaluate applications supported by the subprogram in accordance with its usual procedures. However, if FRDC rejects an application, then FRDC will provide the subprogram with a written explanation for such rejection.
13. A formal Memorandum of Understanding between the industry and FRDC not be prepared at this stage.
14. The subprogram be subject to performance indicators, measured on an annual basis.
15. A review of the performance of the subprogram be held after 3 years of operation.

Southern Rock Lobster:

Any new southern rock lobster subprogram needs to address both the strategic and operational aspects of a national approach to R&D. It also needs to acknowledge the legislated and implied responsibilities of Government and Industry. Given these responsibilities, and the progress that the industry has made in developing a unified, national profile, it is suggested that the following form a set of **5 guiding principles** to clearly relate the R&D subprogram to essential sustainability research as well as to industry development priorities for southern rock lobster:

Principle 1: Priority setting for R&D related to routine stock assessment and allocation issues remains within existing state processes and be the joint responsibility of State Governments and industry through those processes. This is essential since each jurisdiction has responsibility for management of its own rock lobster stocks.

Principle 2: Priority issues related to methodology development in support of sustainability assessment and ecosystem impact assessment and management be identified by FRDC working in co-operation with the States, FRABs and industry through the normal FRDC processes.

Principle 3: A national industry development strategy be completed (building on the work of Reid and Spawton (1999)), be endorsed by all State's industry bodies, and this used to guide the development of the southern rock lobster industry over the medium term.

Principle 4: A national R&D plan be developed that includes **both** the priority issues identified by FRDC for sustainability/ecosystem methodology development **and** the issues identified in support of the national industry development strategy.

Principle 5: As part of the subprogram management, funding be specifically allocated and identified annually for support of the two parts of the national R&D plan (research supporting sustainability and research supporting industry development), taking into account other available sources of R&D funding for both of these activities, including State funding.

The draft report was presented to the 2nd National Rock Lobster Congress (20-21 September 2001, Geelong –FRDC project 2001/304). It was recommended that the Congress endorse the following:

- 1. That the southern lobster industry in each State endorse in principle the creation of a FRDC southern rock lobster subprogram;*
- 2. That the Principles of the operation of the Subprogram (Section VI) be endorsed by the southern rock lobster industry in each State;*
- 3. That, subsequent to the endorsement of (1) and (2), FRDC be requested to establish a Southern Rock Lobster Subprogram;*
- 4. That a formal Memorandum of Understanding be developed between FRDC and the national industry to define the operation of the subprogram and the funding arrangements.*

There was support for the recommendations from all four states involved in the fishery for southern rock lobster. In addition, the Congress unanimously agreed that:

- ? A national southern rock lobster organization be formed to co-ordinate industry development strategies and supporting R&D programs.
- ? That a southern rock lobster subprogram be supported in principle and
- ? That FRDC be requested to implement such a subprogram.

KEYWORDS: abalone, *Haliotis*, southern rock lobster, *Jasus*, R&D planning.

Report 1: OPTIONS FOR THE MANAGEMENT OF WILD CATCH ABALONE RESEARCH AND DEVELOPMENT.

I. INTRODUCTION.

Australia has five major abalone fisheries that started in the 1960's. Each of the southern Australian States manage their commercial abalone fisheries primarily through a system of individual transferable quotas (ITQs) and, at the present time, the various resources are considered stable, with catches in recent years being more or less steady. However, there is some concern in Victoria, Tasmania and South Australia of at least localized stock depletion. Further, caution should be exercised to avoid complacency as to the health of the Australian stocks since, in other countries, stocks have sometimes appeared healthy prior to collapse. The Gross Value of Production (GVP) is a total of \$213m from blacklip abalone (*Haliotis rubra*), greenlip (*H. laevegata*), brownlip (*H. concipora*) and roe's abalone (*H. roei*).

There continues to be strong demand for the resource and a growing export value partly due to declines in other countries' wild stocks. The high GVP and per unit value of the product, the high and increasing export demand and the accessibility of the resource to illegal and recreational fishers results in the management of abalone stocks being a high priority area for most jurisdictions in the southern Australian states.

This management focus has been supported by extensive research and development (R&D) activities and funding over a number of years, much of which has been funded by FRDC, state governments and industry.

At the present time, informal contact and occasional meetings between state-based abalone researchers take place. However, each state essentially determines its own R&D priorities to support state-based management. This prioritization takes place, in the case of FRDC funded projects, through the established network of state fisheries research advisory Bodies (FRABs). Much of the expenditure on wild catch abalone R&D (89% in the last decade) is currently focussed on stock assessment issues and aspects of the biology of the main commercial species.

However, there has been concern that opportunities are being lost for more effective co-ordination of national R&D activities. In addition, the abalone industry, in recent years, has recognized the need for a broader coverage of R & D to address the vertical integration needs of the abalone fisheries, particularly R&D projects related to industry development, e.g. post-harvest issues. This broader scope of R&D support was recognized in an R&D Needs Review commissioned by FRDC in 1998 (McArthur Agribusiness, 1998).

Recognizing these concerns, FRDC convened a meeting in Canberra on 13th February 2001 to discuss opportunities for better co-ordination and management of national R&D activities related to the wild catch abalone sector. The meeting was attended by both government and industry representatives.

The significant points that flowed from the discussions at the meeting were:

- ? The recognition of the need to improve the way in which national priorities for wild catch Abalone R&D are planned and managed,
- ? Notwithstanding the above, the need to recognize, and take full account of, existing state/regional R&D priorities and the plans that underpin these priorities,
- ? The need for extensive consultation with all stakeholders to ensure that any new planning and management processes will add value to, rather than replace, existing processes.

Given the above, the meeting agreed, and the FRDC Board subsequently endorsed, to progress the matter further. This would be done by the development of an options paper for improved delivery of abalone wild catch R&D. The preparation of this paper would involve extensive consultation with all stakeholders and would culminate in the presentation of the options paper to the Inaugural National Abalone Workshop to be held in Adelaide on 20-21 August 2001.

During the initial discussions with government and industry stakeholders, there was a recognition that current arrangements for managing wild catch abalone R&D activities in Australia could be improved, while maintaining the integrity of State-based research priority setting mechanisms. The areas of improvement are likely to come from:

- ? Better formal, national, co-ordination in the development of new R&D projects related to wild catch abalone. Such better co-ordination would likely involve the consideration of a linkage to a national abalone industry strategic plan.
- ? Expansion of R&D activities to include activities addressing the whole supply chain as needed rather than the current focus on the beginning of the supply chain and specifically on biology and stock assessment.
- ? Improved collaboration and communication between researchers, and between researchers, fisheries managers and fishing industry interests, including standardizing scientific methodology
- ? Better use of available R&D funding through such improved collaboration
- ? An enhanced ability for the national industry to access alternative sources of R&D funds.

This options paper is the first step in better defining the potential of these identified areas of improvement through better co-ordination and management of the national R&D portfolio.

The paper has been developed after extensive consultation with government fisheries managers, researchers and industry in all states. However, the recommendations and the assessment of the options are the authors and do not necessarily reflect the views of any one group.

II. THE EXISTING SYSTEM OF R&D MANAGEMENT AND CO-ORDINATION.

Although abalone R&D is funded variously by state agencies, by FRDC and through other processes, this paper will concentrate only on the FRDC component. This is probably the largest component in dollar terms and, in any case, such investment by

FRDC attracts state investment to the point where few projects fall outside the FRDC portfolio. There are obvious interactions between the R&D projects that are carried out within each jurisdiction, regardless of funding source. State-funded research tends to concentrate on stock and fisheries monitoring activities that relate directly to day-to-day management of the fishery whereas FRDC funded R&D projects are more methodologically based and output orientated.

The R&D management and co-ordination process can be considered as two distinct elements. These are:

1. **Strategic issues** such as R&D prioritization, funding and linkages to Government and industry development plans and objectives.
2. **Operational issues** such as communication and R&D co-ordination at all levels.

Both the existing system of R&D management and co-ordination and the recommendations for any change will focus on these two elements of the management and co-ordination process:

The Existing System.

(a) Jurisdiction.

Wild capture abalone management currently is the responsibility of the State Governments of Tasmania, Victoria, NSW, South Australia and Western Australia. Each jurisdiction commissions research (either explicitly or implicitly) to support the management of abalone fisheries within their jurisdiction.

(b) Research prioritization.

The system used for research prioritization varies between states and is often dictated by the extent of industry funding for R&D. All states have FRABs and, in addition, all but 2 States have specific abalone management committees (e.g. MACs or FMCs) that consist of both Government and industry representatives. These MACs or FMCs concern themselves, among other issues, with recommending overall research needs for the fishery, some of which is funded directly by state agencies. The FRABs are more closely linked to FRDC processes and funding and consider the research needs of other fisheries as well as abalone. The FRABs therefore usually only address part of the total research support process. In some states (e.g. Tasmania and South Australia) there is a formal linkage between the government/industry MACs and the FRAB through the development of a strategic research plan for the industry at the state level. Western Australia is also developing such an R&D strategy for wild capture abalone. Such strategic R&D plans guide both the MAC and the FRAB in research prioritization issues.

There is currently no on-going national approach to R&D prioritization in the wild catch abalone industry. However, in 1998, FRDC commissioned McArthur Agribusiness to examine national and state R&D needs and priorities for wild capture abalone fisheries. Their report, which identified a number of areas of high priority R&D, is used as background documentation for state-based research prioritization processes to varying degrees although no state uses it solely for

R&D prioritization. One reason for this is that, although only 3 years old, significant issues have emerged since 1998 (such as ESD and Environment Australia's Schedule 4 initiatives), which need to be addressed, but which were not considered as part of the report.

(c) R&D Funding

So far as can be ascertained, the total amount spent directly (i.e. excluding R&D such as MAC training which indirectly benefits the abalone industry) on wild capture abalone R&D in the past decade is approximately \$10.5 million. Of this, approximately \$4.6 million has been funded through FRDC projects and most of the remainder through State Government, direct and indirect industry funding and other funding sources. Indirect industry funding includes, in some states, contributing via license fees to the applicant's contribution of FRDC projects and providing matching funding for other funding agencies such as SPIRT grants.

Industry contributions to FRDC by way of levies during this time have been around \$1.9 million. Given the current GVP of the industry, total annual R&D spending is therefore approximately 0.5% of GVP and has been declining as the value of the industry has rapidly increased. This is low in comparison with other major commercial fisheries. Of the amount funded by FRDC, approximately 89% has been expended on projects related to biology and stock assessment (McArthur Agribusiness, 1998).

The abalone industry, like other sectors of the fishing industry, do not currently derive full benefit from the FRDC funding arrangements since, overall, levies paid are significantly less than the maximum of 0.25% of the 3-year average GVP (or AGVP) up to which dollar-for-dollar funding is available. The following table provides data for the past 5 years on AGVP, the FRDC funding available on the basis of dollar-for-dollar matching of actual industry contributions and the funding available as a proportion of the maximum amount which could be available and the additional funding which would be available if the industry had contributed the full 0.25% of GVP.

	1996/97	1997/98	1998/1999	1999/2000	2000/2001
AGVP of national abalone industry	\$156.4 m	\$147.6 m	\$158.8 m	\$167.9 m	\$195.8 m
Estimated actual FRDC funding available based on matching industry contributions*	\$130,400	\$191,400	\$280,900	\$286,500	\$313,300 (est)
Potential funding available on the basis of 0.25% of AGVP	\$391,000	\$369,000	\$397,000	\$419,800	\$489,500
Funding available as a proportion of potential funding *	33.3%	51.9%	70.8%	68.3%	64.0% (est)
Funding foregone. i.e. Potential funding minus actual funding	\$260,600	\$177,600	\$116,100	\$133,300	\$176,200

* For Tasmania, SA, Victoria, WA and NSW only

(d) Linkages to industry strategies.

In no state has an industry development strategy been articulated and therefore state R&D strategies are not linked in any way to such industry development plans. Where MACs or FMCs exist, there is recognition of industry development issues. However, these issues are not seen in a strategic context because of the absence of explicit industry strategies. This often results in a concentration on short term issues at the expense of longer term development. This lack of an industry strategy undoubtedly contributes greatly to the concentration on stock assessment/biology R&D, which has largely been driven by researchers and fisheries managers with a longer term, stock-orientated view. There is simply a lack of clarity and common perception as to the future directions of the industry and what R&D programs are needed to support those directions.

(e) Co-ordination between Fisheries Managers.

Apart from the Standing Committee on Fisheries and Aquaculture (SCFA) and its committees and the annual meeting of the Fisheries and Resource Managers Association, there are no formal co-ordination mechanisms between fisheries managers responsible for state-based abalone fisheries. The only abalone-related issue that SCFA has considered over the past decade is a National Docketing System designed to detect and control illegal trade in abalone, as well as other fish. After a long gestation period, this has now been implemented.

Informal discussions between state-based managers certainly occurs and experiences are shared and attempts are being made to formalize such discussions. These informal discussions have no doubt contributed to the many common features of abalone management regimes within the various states.

Despite these contacts and the initiatives being undertaken to formalize discussions between fisheries managers, the management decisions being made in all states are based on essentially the same type of (although updated) data as was used a decade ago. These data are biological in nature and usually include some

measures of stock abundance. However, the processes for using these data to support Total Allowable Catch (TAC) recommendations are poorly, if at all, defined and other, non-biological data are simply not, or rarely, available. Inputs into management decision making from an industry development, economic or financial aspect (which would be expected to show strong commonality across states) therefore rely heavily on direct industry contact, discussions and views, including through MAC or FMC processes. There is currently no systematic data collection on these broader fisheries management issues to support management decisions.

(f) Co-ordination between Researchers.

A National Steering Committee was established to enable abalone researchers primarily to investigate the extension of abalone modeling (developed and undertaken in NSW) to other jurisdictions. This committee has met on a number of occasions to address this specific issue. Informal links between the small number of abalone researchers in Australia are strong and information is shared as to the progress of research etc. However, there has been no significant capacity, probably because of the project-based nature of abalone research, to develop, test and demonstrate common or potentially common methodologies. The national modeling project is a stark exception to this situation although even this was not universally agreed to.

Despite the informal contacts, duplication of project proposals for FRDC funding occurs, including, in 2001, funding applications for competing stock assessment models.

All current government abalone researchers in Australia are working on issues related to the biology or stock assessment of abalone and all have biological or stock assessment backgrounds and qualifications. There is a small amount of economic monitoring occurring in some states, funded directly by the states or industry. There are no links, either formal or informal, across disciplines to other researchers in areas such as economic assessments or industry development issues.

Advantages of the Current Arrangements.

During discussions with stakeholders in all states, a common question was “why change a system that is working well?” The current arrangements therefore have some (although not wide-spread) support throughout the states, particularly among researchers. Some of the advantages of the current system of R&D support for the wild catch abalone industry are seen as:

- ? The system of working through state FRABs and other state-based processes is a familiar system that most stakeholders understand.
- ? There is a clear focus on state needs, although such needs are derived in different ways in different states. However, these R&D needs are not always funded (see below).
- ? There is a clear linkage to state government objectives of resource sustainability.

Disadvantages of the Current Arrangements.

During discussions in the preparation of this options paper, the following disadvantages were documented:

- ? Projects identified as high-priority within the state-based processes are not assured of funding by FRDC.
- ? As a result, there is a lack of certainty in medium term funding for R&D.
- ? There is a concentration of research spending on biology and stock assessment.
- ? There is a perception that progress on key R&D issues (e.g. stock abundance methodologies) has been poor and the substantial investment in this R&D activity has not resulted in methodologies which are robust enough to be of practical use in abalone fisheries management.
- ? There is a perception of a 'leakage' of levies from the wild capture industry to fund other sectors, including abalone aquaculture.
- ? There are funding shortfalls resulting in the inability to carry out priority projects. FRDC levies paid by industry nationally are currently only around 60% of the maximum potential contribution of 0.25% of GVP.
- ? There is intermittent communication between researchers. This has resulted in some duplication of projects presented to FRDC for funding and inefficiencies on methodology development.
- ? There are no communication mechanisms for researcher dialogue across disciplines.
- ? There are no linkages to industry development plans.
- ? There is no mechanism for communication between industry and researchers except on a state basis.

III. IS THERE A NEED FOR BETTER R&D MANAGEMENT AND CO-ORDINATION?

The objective of this options paper is to examine the NEED for any changed arrangements in the management of abalone R&D and not to assume that such a need *ipso facto* exists. If there is a need, then the most appropriate methods of achieving better planning, management and co-ordination of R&D will be examined.

In establishing whether a need for better co-ordination exists, there is a common view across most States that the perceived and real disadvantages of the current arrangements (outlined above) considerably outweigh the perceived advantages. Different sectors and different States obviously have varying views on specific advantages and disadvantages of the current arrangements. However, most sectors and States perceived that, overall, the disadvantages of the current arrangements outweighed the advantages.

Government managers and researchers in Tasmania, which is the largest producer of abalone, however strongly believe that the current system is working well for them and should not be changed. Their view is that the costs involved in any new national approach would outweigh the benefits and that existing State processes in Tasmania effectively address both Government and industry research priorities in a co-operative way. These, and other, responses are detailed in Appendix 1. Many of these views co-

incide with those presented at the Workshop convened by FRDC on 13th February 2001 to examine this issue.

There is, therefore, a general agreement and a clear case for better national co-ordination of wild capture abalone R&D, although the form and structure of this national co-ordination is not universally agreed. It should be noted, however, that some jurisdictions (particularly Tasmanian Government managers and researchers) do not support the view that any change is necessary. They are concerned that increased administrative costs will outweigh any additional benefits derived from a national approach to R&D. There is, however, general agreement that existing state R&D prioritization processes should not be compromised by any national approach.

In further examining this need, it is clear that there are two distinct issues involved in any consideration of better national R&D co-ordination for the wild catch abalone sector:

1. The **strategic** issues of R&D prioritization, funding and the linkages to (and support for) both industry development plans and Government objectives of resource sustainability and allocation.
2. The **operational** issues of facilitating national communication at all levels (industry/researchers, among researchers, among industry, FRDC/researchers etc).

Strategic Issues.

There is currently no national abalone industry development plan and, more importantly, the industry is generally fractured and dis-united. An R&D strategy that attempts to support a well-defined industry development plan is therefore, at the present time, impractical.

This is not to say that the industry does not have real or perceived common problems, despite the various species that are fished. Many of these common problems are of the highest priority for industry and relate to marine planning and parks, illegal fishing, marketing, transport, ranching, disease, interactions with the aquaculture industry and, most importantly, access security.

But, the level of communication, consultation and trust within the national industry is not yet sufficient to enable the development of an agreed national industry vision and development plan to address these important common problems.

At the government level, all jurisdictions have legislation that has resource sustainability (and the associated goals of robust stock assessments) as its clear and explicitly stated prime objective with allocation issues and industry economic efficiency also being of high priority. In all jurisdictions, the practical emphasis has been first on resource sustainability issues. It is therefore easier to envisage a national R&D strategy that supports these government and jurisdictional objectives.

In fact, this is the current situation where R&D projects nationally are almost exclusively supporting government sustainability objectives.

While resource sustainability would be an obvious and important component of any industry development plan, it is not the only component. Issues such as economic assessments, marketing, transport, ranching etc (all of which were identified in the Abalone R&D Needs Review of 1998) and their interactions are also important in any comprehensive industry strategic development plan. An R&D strategy that clearly and explicitly supports such an all-inclusive development plan (and which incorporates both government and industry goals) should therefore be the long term objective.

The issue of current R&D prioritization processes is therefore complicated by the existence of both clearly defined State objectives of resource sustainability and (sometimes) allocation and poorly defined, common industry problems at both the national and State level. It is therefore not surprising to find that, at the present time, it is clearly the State objectives that are driving the R&D prioritization process in all jurisdictions. The national industry common issues have simply not been articulated so they can be included in state-based or national R&D prioritization processes.

The current arrangements where there is a concentration almost solely on state-based, resource sustainability objectives has, in the authors view, adversely impacted on funding for wild capture abalone R&D. Federal Government funding agencies often view the industry in a wider context than do state-based management agencies. As a result, the common, national industry issues (despite not being well defined or articulated) are given greater importance than they might be by state-based agencies.

R&D spending as a proportion of industry GVP is low at around 0.5% and has been declining as the value of the industry has rapidly increased. This is unsustainable if the long term development of the industry and sustainable management of the resource is to be supported. A target figure of at least 0.75% of GVP should be aimed for in the near term (1-2 years) and 1% within the medium term (5 years). These targets are still relatively low in comparison with other major commercial fisheries. This implies a total R&D expenditure on wild catch abalone of around \$1.6 million annually initially, rising to \$2.1 million (at current GVPs) within 5 years. Current state-funded programs (funded through industry license fees in some jurisdictions) contribute approximately \$600,000 of this which leaves around \$1.0 million to be funded annually from other sources, including FRDC.

Operational Issues.

There is a clear and agreed need to improve the communication and co-ordination in relation to wild catch abalone R&D (see Appendix 1). However, these communication and co-ordination needs are on a number of levels:

Among researchers. Current informal communication mechanisms (supplemented by the national steering committee) are evidently not meeting the needs of all researchers with researchers in all states reporting that benefits would flow from more formal and consistent communications among researchers. The impact of inadequate communication would clearly be in research inefficiencies and duplication.

Between current researchers and other disciplines. Both the R&D Needs Review (McArthur Agribusiness, 1998) and this paper have indicated that the scope of R&D

activities needs to be broadened to include industry development issues. However, there is currently no mechanism to facilitate communication between researchers of different disciplines. It is vital that such inter-disciplinary and cross-disciplinary links are developed so that research efficiencies can be realized and individual projects seen in a more strategic context.

Between Industry and Researchers and Government Managers. For those states that have joint government/industry management or advisory committees, there is good communication between industry, Government and research representatives on strategic as well as operational issues. However, even for these states, there is virtually no formal communication between the industry generally (e.g. through industry associations) and the managers and researchers. In many states, strong operational links have been developed between individual researchers and industry (in fact, often stronger than management/industry links). However, the policy and strategic context in which the R&D is operating (i.e. why we are doing this) is often unclear, particularly to industry.

Between the Wild Capture Abalone Industry and the Abalone Aquaculture Sub-Program. There was a general view in all jurisdictions that the technical and research interactions between the wild caught and aquaculture industries were not highly significant and were probably limited to aspects of marketing, brood stock issues and ranching. As a result, the consensus view was that there is a need to maintain good communication with the abalone aquaculture sub-program although the extent of interactions did not warrant any formal communication mechanisms.

IV. THE OPTIONS FOR R&D CO-ORDINATION.

Having established that there is an agreed need for better wild capture abalone R&D co-ordination, there are a number of options which can be examined to fulfil this need. Some of these options were canvassed at the Workshop convened by FRDC in Canberra in February 2001 and others have been identified as part of the consultation process in preparing this options paper.

Broadly, the options identified are:

- ? National steering committee consisting of some mix of industry, government managers, researchers and perhaps independents and/or other interested parties.
- ? Abalone wild capture subprogram operated in a similar way to other FRDC managed subprograms. Appendix 2 provides details of the FRDC sub-program arrangements.
- ? Annual workshop/conference.
- ? Multi-lateral co-ordination between the states along the lines of the Tri-State rock lobster arrangements.
- ? A combination of the above. The most likely combination would be of a national steering committee and an annual workshop/conference. Other combinations involving the subprogram structure would involve significant duplication.

Objectives.

In assessing the various options, the degree to which each option addresses the *objectives and principles* of better co-ordination is paramount. Given the views of stakeholders, and the identification (above) of the advantages and disadvantages of current arrangements, the objectives and principles being aimed for are:

- ? Priority setting for R&D related to stock sustainability and allocation issues remains within existing state processes. This is essential since each jurisdiction has responsibility for management of its own wild abalone stocks.
- ? Priority industry development issues along the entire production chain are articulated and those that are common across jurisdictions are identified. The R&D Needs Review (McArthur Agribusiness, 1998) partly fills this need although the document needs updating in the light of recent challenges.
- ? The development of an agreed strategic framework for abalone R&D between the various states, industry and FRDC, taking into account these state and industry R&D priorities. As noted earlier, it is premature to expect this framework to support a national industry development plan although this should be the long term goal.
- ? A clear focus on the delivery of specific R&D outputs and outcomes that are defined within the strategic framework.
- ? An improvement in the success rate of R&D applications which are prepared under this framework and which are submitted to FRDC for funding. It would be expected that applications prepared under this framework would include a broader mix of R&D than is currently the situation.
- ? An enhanced ability to access alternative funding sources.
- ? An increase in the funding for wild capture abalone R&D. This increase should flow from both an increase in the success rate of FRDC applications and increased funding from non-FRDC sources. This increased funding is essential if broader R&D issues are to be addressed without detracting from current stock assessment research.
- ? Improved communication between researchers of all disciplines and among researchers, managers and industry leading to reduced duplication of project proposals and improved research efficiencies in methodology development, sharing resources etc. At minimum, this should involve an annual research workshop together with the continuing communications through media such as a research newsletter etc. Continuity of such communication and co-ordination was generally agreed to be very important.
- ? Most importantly, benefits should outweigh the costs of administration of better co-ordination. While the costs of any co-ordination mechanism can be readily assessed, the benefits derived can be both tangible and non-tangible. Some of the tangible benefits are increased R&D funding, greater success rates of project applications etc. However, during discussions with stakeholders, the intangible benefits such as closer co-operation between researchers and between researchers and industry were identified as equally important.

Analysis of Options.

The extent to which the various identified options can address these *principles and objectives* are as follows:

Objective	National Steering Committee	Sub-Program	Multi-lateral co-ordination	Annual Workshop	Combination of Steering Committee and annual workshop
Updating of R&D Needs Review.	Possible but resources may be a problem. Work may need to be contracted out.	Achievable.	Possible, depending on resources available.	Not achievable	Possible but resources may be a problem
Development of an agreed strategic framework for R&D.	Right structure, continuity & representation. Resources for consultation an issue. Achievable but only with additional resources.	Right structure, continuity & representation. Achievable.	Difficult because of lack of continuity and researcher dominance.	More difficult because of time & no continuity. Probably not achievable.	Right structure, continuity & representation. Resources an issue for consultation. Achievable but additional resources needed.
Facilitate R&D delivery focussed on outputs and outcomes.	Achievable once strategic framework for R&D is in place. Steering Committee can monitor.	Achievable. Good structure for monitoring R&D delivery.	Possible provided strategic framework for R&D is in place. Resources needed for monitoring.	No continuity makes monitoring difficult, even with strategic framework for R&D in place.	Achievable because of steering committee structure.
Improvement of success rate of R&D proposals	Achievable if framework is agreed.	Achievable if framework is agreed.	Achievable if framework is agreed	Difficult because of dependence on strategic framework	Achievable if framework is agreed.
Improved ability to access alternative funding sources	Not achievable without resources.	Achievable.	Unlikely	Not achievable	Not achievable without resources.
Increase in R&D funding	Yes, for FRDC projects.	Yes for both FRDC and other funded projects	Possible	Difficult	Yes, for FRDC projects
Facilitates enhanced communications at all levels.	No.	Yes	Yes, but discontinuous	Yes but discontinuous and only for time of workshop	Yes, but discontinuous and only for time of workshop
Costs	Basic \$20,000pa plus est. \$25,000 for contracted work.	Est. \$60,000 - \$80,000 pa	Small. Perhaps \$8000 pa	Negligible. Est. \$5000.	Basic \$25,000 pa plus est. \$25,000 for contracted work.
Benefits	Projects part of a strategic R&D plan. Greater success rate of proposals leading to probable increase in funding	Projects part of a strategic R&D plan. Greater funding from more diverse sources. Better communication and co-ordination.	Enhanced communications. Update of R&D needs review.	Enhanced communication.	Projects part of a strategic R&D plan. Greater success rate of proposals leading to probable increase in funding. Better communication but limited to workshop.

From the above analysis, it appears that the option that delivers maximum benefits from both the strategic and operational viewpoint is the sub-program option. However, this option is also the most costly at an estimated \$60,000 - \$80,000 pa. The monetary value of the benefits from this option is difficult to quantify in advance but, drawing on the experience of other subprograms, the benefits are likely to exceed the costs. Another possible option is the National Steering Committee/Annual workshop combination.

The other option that could deliver both the operational and strategic benefits is a National Steering Committee supplemented by an annual workshop. To achieve the benefits, however, additional resources would need to be made available to allow the Steering Committee to undertake work such as the preparation of a strategic framework etc. This would likely result in a total administrative cost that was not significantly different to the operation of a sub-program.

In addition, the operational aspects of enhanced communication would be restricted to the annual workshop period and would therefore lack continuity. This, combined with a lack of leadership focus would result in difficulties in maintaining continuity of communication and strategic focus within a year.

Although it remains as an option for further consideration, the National Steering Committee/Workshop option is therefore not recommended.

In conclusion, a sub-program structure is recommended since it is the only option that delivers both the strategic and operational objectives that have been identified by various jurisdictions.

V. R&D CO-ORDINATION AND SUBPROGRAM ORGANISATION.

FRDC has an established model for the operation of sub-programs (Appendix 2) although this model is not prescriptive and allows for considerable variation to accommodate differing circumstances and needs in different industries.

Building on this model, it is recommended that a wild capture abalone sub-program operate in the following way:

- ? A part time sub-program leader be appointed to provide the necessary continuity of communication, management, planning and co-ordination among researchers, industry and Government managers. Such activities would include an annual abalone research workshop..
- ? A Sub-Program Steering Committee be appointed to oversee the operation of the sub-program. Ideally, this Steering Committee should be expertise-based and may include specialist, independent members external to the industry. However, the Steering Committee should also represent the views of the various industry sectors in particular. A suggested composition is (a) 1 processing/exporter sector representative (b) 1 diver representative (c) 2 quota holder/investor representatives (d) 2 researcher representatives, 1 in stock assessment/biology and 1 in economic assessments (e) 1 fisheries manager representative appointed by SCFA (d) 1 FRDC representative. There does not appear to be an overwhelming case for an independent chair and hence it is suggested that the chair be chosen from among the members. The sub-program leader would report to the Steering Committee and be an *ex officio* member of the Steering Committee. It is recognized that such a structure does not address the very real problem of providing adequate industry representation, particularly when the industry nationally is not united and sectorial issues are very important. Because of this, it is suggested that the composition of the Steering Committee be further discussed at the National Abalone Convention in August 2001.
- ? The Steering Committee, working with the subprogram leader, would be responsible for developing a national R&D strategy for wild capture abalone, building on the R&D Needs Review (McArthur Agribusiness, 1998). This R&D Strategy would recognize the responsibilities of the states for ensuring stock sustainability in their jurisdictions and for undertaking stock assessments to ensure such sustainability.

- ? Applications for FRDC funding that are directly related to abalone stock sustainability and stock assessment issues within any jurisdiction (including modeling and surveys) would be prioritized first by the State FRABs and then sent to the Sub-Program. The subprogram leader would be responsible for working with researchers to ensure collaboration and co-ordination in the preparation of these applications. The sub-program would not change the priority ranking of these projects.
- ? Other applications for FRDC funding would be sent directly to the sub-program for prioritization and evaluation against the national R&D strategy. Other possible funding sources for individual projects would also be explored by the sub-program leader.
- ? The subprogram leader would ensure that all concerned state FRABs are fully informed of subprogram activities, particularly the issues of R&D application prioritization and funding.
- ? FRDC would recognize the R&D priorities established by the sub-program and fund projects addressing those priorities as funds allow.
- ? FRDC would ensure that industry levies from the abalone industry, together with dollar-for-dollar matching funds (up to 0.25% of the 3-year average GVP) are accounted for separately and that funds are thereby quarantined for use only on projects endorsed by the sub-program or with the approval of the subprogram. The costs of administration of the sub-program would have first priority for such funding.
- ? FRDC may also fund projects endorsed by the subprogram that will provide direct or indirect benefits to the wild capture abalone fishery over and above the dollar-for-dollar matching funds.
- ? FRDC will evaluate applications supported by the subprogram in accordance with its usual procedures. However, if FRDC rejects an application, then FRDC will provide the subprogram with a written explanation for such rejection.
- ? Because there is currently no unified national industry or industry body, a formal Memorandum of Understanding between the industry and FRDC is impractical. However, this should be a long term goal to provide funding certainty in support of a strategic R&D plan.
- ? The subprogram would be subject to specific, measurable performance indicators (see below) to ensure that benefits are accruing to the national industry as a result of the subprogram structure. These performance indicators would be measured on an annual basis and reported to each jurisdiction, FRDC and to industry by the Steering Committee.
- ? Using the performance criteria as a guide, a review of the performance of the subprogram would be held after 3 years of operation.

VI. PERFORMANCE INDICATORS & OUTCOMES.

A clear view of most stakeholders was that any new co-ordination structure should be subject to specific and measurable performance indicators to ensure that that the new structure is delivering benefits to R&D support for the abalone industry. Clearly specified outcomes should also be agreed upon and measured on an annual basis. This process should also be combined with a review process so that changes can be made if the new co-ordination process is not working to the benefit of all stakeholders. This

aspect is particularly important for a subprogram structure that, although capable of delivering significant benefits, is also the most costly option.

The performance indicators identified as being the most important to stakeholders and relevant to the operations of a subprogram are as follows:

- ? The dollar value of funding available for abalone R&D, both from FRDC and other sources.
- ? The success rate of FRDC research applications.
- ? The quality of research applications
- ? The costs of administration and management in comparison with the benefits derived.
- ? The degree of communication, co-ordination and collaboration among researchers and between industry and researchers. This can be measured by annual surveys.

The desired outcomes of a new sub-program structure are essentially strategic in nature and as follows:

- ? A national R&D strategy which is adequately funded and which clearly supports long term industry development plans as well as Government resource sustainability objectives.
- ? A more efficient process for planning, managing, funding, undertaking and monitoring research projects linked to the national R&D strategy.
- ? A continuous improvement in the quality and co-ordination of research undertaken in support of a national R&D strategy.

VII. SUMMARY OF RECOMMENDATIONS.

Recognizing that a need exists for better planning, management and co-ordination of national R&D related to the wild capture abalone industry, a number of options have been assessed as to their ability to deliver specific strategic and operational benefits. The result of that analysis and assessment indicates that there are only two options that could conceivably deliver those benefits.

These options are:

3. A subprogram structure
4. A national steering committee supplemented by an annual workshop.

While a national steering committee supplemented by an annual workshop may appear a less expensive option to achieve better R&D planning and co-ordination, such a structure would suffer not only from a lack of continuity but also a lack of resources. As a result, any significant work undertaken by the steering committee (e.g. preparation of a national R&D framework) would require additional, probably contracted, resources. Therefore, costs for the effective operation of such a structure would not be significantly different from a full subprogram structure.

In addition, a national steering committee/annual workshop approach would suffer from a lack of leadership focus and could not address the issue of improved communication in a consistent and ongoing way.

While both options need to be considered, it is recommended that, after consultations with all jurisdictions and industry in all States, the following approach be adopted:

16. A wild capture abalone subprogram be established by FRDC.
17. A part time subprogram leader be appointed to provide the necessary leadership and continuity of management, planning, communication and co-ordination among researchers, industry and Government managers. Such communication would include an annual abalone research workshop.
18. A Subprogram Steering Committee be appointed to oversee the operation of the subprogram. The composition of this Committee to be discussed at the National Abalone Convention in August 2001.
19. The Steering Committee, working with the subprogram leader, the States and SCFA, develop a national R&D strategy for wild capture abalone, building on the R&D Needs Review (McArthur Agribusiness, 1998). This R&D Strategy would recognize the responsibilities of the states for ensuring stock sustainability in their jurisdictions and for undertaking stock assessments to ensure such sustainability.
20. The Steering Committee, working with the subprogram leader and state abalone industries and jurisdictions, develop an agreed funding plan to support the national R&D strategy for wild capture abalone. Such a funding plan would include, at minimum, the relative contributions of industry, FRDC and other funding providers over at least a 5-year period.
21. Project applications for FRDC funding that are directly related to abalone stock sustainability and stock assessment issues within any jurisdiction be prioritized first by the state FRABs and then sent to the subprogram. The subprogram leader would be responsible for working with researchers to ensure collaboration and co-ordination in the preparation of these projects. The subprogram would not change the priority ranking of these projects.
22. Other projects for FRDC funding be sent directly to the subprogram for prioritization and evaluation against the national R&D strategy. Other possible funding sources for individual projects would also be explored by the subprogram leader.
23. The subprogram leader to ensure that all concerned State FRABs are fully informed of subprogram activities, particularly the issues of research proposal prioritization and funding.
24. FRDC recognize the R&D priorities established by the subprogram and fund projects addressing those priorities as funds allow.
25. FRDC to ensure that industry levies from the abalone industry, together with dollar-for-dollar matching funds (up to 0.25% of the 3-year average GVP) are accounted for separately and that funds are thereby quarantined for use only on projects endorsed by the subprogram or with the approval of the subprogram. The costs of administration of the subprogram would have first priority for such funding.
26. FRDC to also fund projects endorsed by the subprogram that will provide direct or indirect benefits to the wild capture abalone fishery over and above the dollar-for-dollar matching funds.
27. FRDC to evaluate applications supported by the subprogram in accordance with its usual procedures. However, if FRDC rejects an application, then FRDC will provide the subprogram with a written explanation for such rejection.

28. A formal Memorandum of Understanding between the industry and FRDC not be prepared at this stage.
29. The subprogram be subject to performance indicators, measured on an annual basis.
30. A review of the performance of the subprogram be held after 3 years of operation.

VIII. PRESENTATION TO THE NATIONAL ABALONE CONVENTION, ADELAIDE, 20/21 AUGUST 2001.

A draft of this paper was circulated in late May 2001 to all parties that had been involved in the initial consultations or who had expressed interest in the work and comments invited. Six formal responses were received (2 from Tasmanian Government managers and researchers, 1 from the Chair of the Tasmanian AbFAC, 1 from NSW Fisheries and 2 from South Australian Government managers and researchers) and these are summarized in Appendix 1, together with views from the consultation meetings. Although industry groups expressed strong support for the concept of improved national R&D management during consultations (see Appendix 3), no formal responses to the draft were received from any industry group.

The draft report was modified as a result of the comments and a final draft report of the consultations and the above recommendations was presented to the first National Abalone Convention, which was held in Adelaide on 20/21 August 2001. An informal meeting of industry representatives from each State took place at which a consensus view could not be reached as to the need for a wild catch abalone R&D subprogram, or any other change from the current arrangements. As a result, no motion was put to the convention and consequently no endorsement of a subprogram or other arrangements was made by the Convention.

However, it is understood that further discussions are taking place, particularly with the Tasmanian abalone industry, with a view to seeking an early adoption of a national approach to abalone R&D.

Report 2: IMPROVED MANAGEMENT OF SOUTHERN ROCK LOBSTER RESEARCH AND DEVELOPMENT.

I. INTRODUCTION.

The southern rock lobster (*Jasus edwardsii*) supports major commercial fisheries in Tasmania, Victoria, South Australia and Western Australia with total catches from these states being around 4900t. in 1999/2000. Of this catch, South Australia is the largest producer with approximately 55% of the total catch, followed by Tasmania (30%), and Victoria (11%). The fishery is valued at around \$180 million beach price and is therefore one of Australia's major export-orientated fisheries. The fishery, being based primarily in regional rural areas, is also a major contributor to the economies of rural, coastal areas in the southern States. Studies in South Australia (Econsearch, 2001) have shown that indirect economic impacts of lobster fishing on regional economies is greater than the direct impacts.

Management arrangements vary between the States with some jurisdictions having a quota system in place while others rely on input controls. Other management arrangements, such as size limits etc, also vary between jurisdictions.

Despite the various management arrangements in the different States, the industry has, over the past few years, been pro-active in addressing significant challenges in a unified way. The FRDC-sponsored First National Lobster Congress in Adelaide in 1999 was a major step forward in uniting the industry nationally. This initiative has been followed by the discussions at a national level of immediate industry priorities and the development, in South Australia, of a long term strategic plan for the industry (Reid and Spawton, 1999).

The significant progress that has been made in facilitating industry cohesion nationally provides a firm basis for the consideration of a national approach to R&D in support of industry development and resource sustainability objectives.

II. OBJECTIVES/TERMS OF REFERENCE OF THE STUDY.

The agreed terms of reference of this study, which was funded by FRDC were:

1. Consult with industry and Government on the feasibility of establishing a FRDC sub-program for wild catch southern rock lobster. This would include consultations with peripherally impacted groups such as other FRDC rock lobster sub-programs, the New Zealand rock lobster industry and other Australian rock lobster industries.
2. Prepare a paper which identifies and critically assesses, against the status quo, the feasibility and costs and benefits of a southern rock lobster sub-program to achieve the aims of
 - a. better co-ordination,
 - b. better collaboration,

- c. facilitation of an expanded R&D program to address whole-of-chain issues
 - d. better use of available R&D funds
 - e. enhanced access to alternative sources of R&D funding
3. Presentation of the paper at the 2nd National Lobster Congress in Melbourne in September 2001.

III. The Existing System of R&D Management and Co-ordination.

R&D for southern rock lobster is funded variously by state agencies, by FRDC and through other processes. The FRDC component is probably the largest component in dollar terms and, in any case, such investment by FRDC attracts additional state investment. There are obvious interactions between the R&D projects that are carried out within each jurisdiction, regardless of funding source. State-funded research tends to concentrate on stock and fisheries monitoring activities that relate directly to day-to-day management of the fishery whereas FRDC funded R&D projects are more methodologically based and output orientated.

The various components of the current system of R&D management and co-ordination for southern rock lobsters are:

(e) Jurisdiction.

Rock lobster management currently is the responsibility of the State Governments of Tasmania, Victoria, South Australia and Western Australia. Each jurisdiction commissions research (either explicitly or implicitly) to support the management of the fisheries within their jurisdiction.

(f) Research prioritization.

The system used for research prioritization varies between states and is often dictated by the extent of industry funding for R&D. All states have FRABs and, in addition, all but 2 States have specific rock lobster management committees (e.g. MACs or FMCs) that consist of both Government and industry representatives. These MACs or FMCs concern themselves, among other issues, with recommending overall research needs for the fishery, some of which is funded directly by state agencies. The FRABs are more closely linked to FRDC processes and funding and consider the research needs of other fisheries as well as southern rock lobster. The FRABs therefore usually only address part of the total research support process. In some states (e.g. Tasmania and South Australia) there is a formal linkage between the government/industry MACs and the FRAB through the development of a strategic research plan for the industry at the state level. Such strategic R&D plans guide both the MAC and the FRAB in research prioritization issues.

(g) R&D Funding

So far as can be ascertained, the total amount spent directly (i.e. excluding R&D such as MAC training which indirectly benefits the industry) on southern rock lobster R&D in the past decade in all jurisdictions is approximately \$16 million. Of this, approximately \$7.1 million has been funded through FRDC projects

(including the existing rock lobster enhancement and rock lobster post-harvest subprograms) and most of the remainder through State Government, direct and indirect industry funding and other funding sources. Indirect industry funding includes, in some states, contributing via license fees to the applicant's contribution of FRDC projects and providing matching funding for other funding agencies such as SPIRT grants.

Current national industry contributions to FRDC by way of levies are approximately \$280,000 per annum, or approximately 0.16% of GVP. This compares with a maximum potential levy (and matching funds) of around \$360,000 per annum. As a result, some \$160,000 (\$80,000 of industry funds and \$80,000 matching funds) is currently being lost per annum through under-investment by industry in FRDC. Given the current GVP of the industry, total annual R&D spending is therefore approximately 0.9% of GVP. This compares favorably with Western rock lobster (0.5% of GVP) and abalone (0.5% of GVP).

(h) Industry Involvement in R&D Prioritization.

There has been some progress in the development of a national industry development strategy (e.g. Reid and Spawton, 1999), particularly as a result of the first Lobster Congress and the initiatives of the South Australian industry. However, in no state are R&D strategies yet linked explicitly to such industry development plans. Stock sustainability issues dominate the research agenda in most states and, given that each State Governments have responsibility for ensuring such stock sustainability, it is not surprising that researchers and Government managers play a large role in the setting of research priorities in this area. Where MACs or FMCs exist, there is a recognition (often secondary) of industry development issues. However, these issues are not yet seen in a strategic context. This often results in a concentration on short term problem solving at the expense of longer term development.

IV. THE STRATEGIC AND OPERATIONAL ASPECTS OF A NATIONAL R&D SUBPROGRAM.

It is clear that there are two distinct issues involved in any consideration of better national R&D co-ordination for the southern rock lobster sector:

1. The *strategic* issues of R&D prioritization, funding and the linkages to (and support for) both industry development plans and Government objectives of resource sustainability and allocation.
2. The *operational* issues of facilitating national communication at all levels (industry/researchers, among researchers, among industry, FRDC/researchers etc).

Strategic Issues and Responsibilities.

(a) **Supporting Resource Sustainability.**

Long term sustainability of the rock lobster resource is both a legislated State Government responsibility (with some directions from Commonwealth Government agencies, such as Environment Australia) AND the foundation of a profitable and viable industry. The goals of resource sustainability should, therefore, be common to both Government and industry. There are certainly issues to be addressed in the type

of research that is needed to ensure sustainability, the efficiency and cost-effectiveness of such research and the funding of the research.

However, responsibility for developing a research and monitoring program designed to (i) undertake routine stock assessments (ii) address broader ecosystem impact and management issues and (iii) develop the methodologies for undertaking such research in an effective and efficient manner should be **jointly** with State and Commonwealth Governments and industry. Current management structures (e.g. MAC and FMC arrangements) in most states achieve this joint responsibility to undertake (i), arrangements between Commonwealth and State Governments and industry are being developed to achieve (ii) while FRDC funds much of (iii). These arrangements appear to work reasonably well and should be retained.

(b) Supporting Industry Development Strategies.

Considerable progress has been made by the southern rock lobster industry in developing a national approach to future industry development. The next essential step is the development of an R&D strategy that **supports** such a development strategy. This is clearly an **industry** responsibility, operating within the management boundaries that have been set to ensure resource sustainability.

Operational Issues.

There are clear benefits to be gained in improving the communication and co-ordination in relation to southern rock lobster R&D. However, these communication and co-ordination needs are on a number of levels:

(a) Among researchers. Current informal communication mechanisms are evidently not meeting the needs of all researchers with researchers in all states reporting that benefits would flow from more formal and consistent communications among researchers. The impact of inadequate communication would clearly be in research inefficiencies and duplication.

(b) Between current researchers and other disciplines. Current research outside the existing subprograms is concentrated on biological issues although the scope of R&D activities needs to be broadened to include industry development issues. There is currently no mechanism to facilitate communication between researchers of different disciplines.

(c) Between Industry and Researchers and Government Managers. For those states that have joint government/industry management or advisory committees, there is good communication between industry, Government and research representatives on strategic as well as operational issues. In many states, strong operational links have been developed between individual researchers and industry (in fact, often stronger than management/industry links). However, the policy and strategic context in which the R&D is operating (i.e. why we are doing this) is often unclear, particularly to industry.

(d) Between the Existing Lobster Subprograms and Researchers and Industry. There are good mechanisms for providing both industry and Government input into the 2 existing subprograms and for the dissemination and communication of results. However, recognizing that the 2 subprograms serve both southern and western rock lobster fisheries, the key element that is missing so far as southern rock lobster is

concerned is the integration of the work of these subprograms into an overall industry strategy.

V. THE FRDC SUB-PROGRAM STRUCTURE.

FRDC have the ability to create subprograms to assist in the administration of national R&D issues. Currently, there are two lobster-related subprograms, both based in Perth:

- ? The rock lobster enhancement and aquaculture subprogram, and
- ? The rock lobster post harvest subprogram.

Subprograms can be created by FRDC either at its own initiative OR at the request of a stakeholder group.

The way in which FRDC creates and manages subprograms is best illustrated by the following extract from their operating procedures:

Managed Subprograms.

On occasion, 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 co-ordination, 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 managed subprogram. An example is the Rock Lobster Enhancement and Aquaculture Subprogram.

Formation of a managed subprogram 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 maximize investment in that field, avoid duplication and achieve the greatest potential return;
- ? invite R&D applications to address those priorities;
- ? maximize 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 investment in that field;
- ? standardize on the best scientific methods;
- ? communicate regularly with potential beneficiaries; and
- ? influence the adoption of R&D results.

The cost of this service depends on the level of management that is required. The focus may be on a species, a fishery, or a nationally significant theme. Normally, a managed subprogram pursues one or more strategies within an FRDC R&D program.

The FRDC appoints a subprogram leader who reports to a steering committee, which in turn is advised by a scientific committee. The subprogram leader and the steering committee may be independent of the collaborating researchers.

VI. The Relationship Between Sustainability Research, Industry Development and the Subprogram.

Any new southern rock lobster subprogram needs to address both the strategic and operational aspects of a national approach to R&D (see section IV). It also needs to acknowledge the legislated and implied responsibilities of Government and Industry (see section IV – Strategic Issues and Responsibilities). Given these responsibilities, and the progress that the industry has made in developing a unified, national profile, it is suggested that the following form a set of **5 guiding principles** to clearly relate the R&D subprogram to essential sustainability research as well as to industry development priorities for southern rock lobster:

Principle 1: Priority setting for R&D related to routine stock assessment and allocation issues remains within existing state processes and be the joint responsibility of State Governments and industry through those processes. This is essential since each jurisdiction has responsibility for management of its own rock lobster stocks.

Principle 2: Priority issues related to methodology development in support of sustainability assessment and ecosystem impact assessment and management be identified by FRDC working in co-operation with the States, FRABs and industry through the normal FRDC processes.

Principle 3: A national industry development strategy be completed (building on the work of Reid and Spawton (1999)), be endorsed by all State's industry bodies, and this used to guide the development of the southern rock lobster industry over the medium term.

Principle 4: A national R&D plan be developed that includes **both** the priority issues identified by FRDC for sustainability/ecosystem methodology development **and** the issues identified in support of the national industry development strategy.

Principle 5: As part of the subprogram management, funding be specifically allocated and identified annually for support of the two parts of the national R&D plan (research supporting sustainability and research supporting industry development), taking into account other available sources of R&D funding for both of these activities, including State funding.

VII. RECOMMENDATIONS FOR SUBPROGRAM IMPLEMENTATION.

It is clear that, given the state of development of the southern rock lobster industry, a subprogram structure for R&D can better facilitate the support of a national industry

development strategy while not detracting from responsibility for, or research supporting, stock sustainability issues.

FRDC has an established model for the operation of sub-programs although this model is not prescriptive and allows for considerable variation to accommodate differing circumstances and needs in different industries.

Building on this model, the following actions are recommended to achieve the objectives of a subprogram as set out in Section II:

- ? All concerned state southern rock lobster industries support in principle the creation of a FRDC southern rock lobster subprogram as well as the principles of the subprogram operation as set out in Section VI.
- ? A sub-program leader be appointed to provide the necessary continuity of communication, management, planning and co-ordination among researchers, industry and Government managers as well as providing the co-ordinating link with the rock lobster enhancement and the rock lobster post-harvest subprograms. Such activities would include an annual rock lobster research workshop with specific links to the biennial Rock lobster Congress.
- ? A Sub-Program Steering Committee be appointed to oversee the operation of the sub-program. Ideally, this Steering Committee should be industry-led and expertise-based and may include specialist, independent members. A suggested composition is (a) 3 industry representatives (to include all sectors) (b) 2 research specialists; (c) 1 fisheries manager representative (perhaps appointed by SCFA) (d) 1 FRDC representative. There does not appear to be an overwhelming case for an independent chair and hence it is suggested that the chair be chosen from among the members. The sub-program leader would report to the Steering Committee and be an *ex officio* member of the Steering Committee.
- ? The Steering Committee, working with the subprogram leader, would be responsible for developing a national southern rock lobster R&D strategy, based on the Principles of Section IV.
- ? A formal Memorandum of Understanding be developed between FRDC and the national industry. In this case, the 'national industry' would be the relevant industry bodies of Tasmania, Victoria, South Australia and Western Australia. This MOU would define the operation of the subprogram, the funding arrangements and would guarantee the flow of funds to support southern rock lobster R&D nationally. This is essential to enable long term planning of R&D in support of an industry development strategy. A suggested checklist of issues that need to be addressed within an MOU are included as Appendix 4.
- ? The subprogram would be proactive in soliciting research proposals (within the annual R&D budget) to support the national R&D strategy rather than responding to research applications. This would include the subprogram leader establishing close links with the other 2 rock lobster-related subprograms to ensure activities under those subprograms are aligned with the national southern rock lobster R&D strategy. The subprogram leader would also be responsible for working with researchers to ensure collaboration and co-ordination in the preparation of research proposals.
- ? The subprogram leader would also be responsible for identifying and developing other funding sources for supporting projects carried out under the R&D strategy.

- ? Research applications that are received by FRDC that are directly related to southern rock lobster would be assessed and prioritized by the Subprogram.
- ? The subprogram leader would ensure that all concerned state FRABs are fully informed of subprogram activities, particularly the issues of R&D application prioritization and funding.
- ? FRDC would recognize the R&D priorities established by the sub-program and fund projects as funds allow and in accordance with the provisions of the MOU.
- ? FRDC would ensure that industry levies from the southern lobster industry, together with matching funds (as agreed to in the MOU, but not less than dollar-for-dollar) are accounted for separately and that funds are thereby quarantined for use only on projects endorsed by the sub-program or with the approval of the subprogram. The costs of administration of the sub-program would have first priority for such funding.
- ? FRDC may also fund projects endorsed by the subprogram that will provide direct or indirect benefits to the southern rock lobster industry (e.g. training and skills development) over and above the agreed matching funds.
- ? FRDC will evaluate applications supported by the subprogram in accordance with its usual procedures. However, if FRDC rejects an application, then FRDC will provide the subprogram with a written explanation for such rejection.
- ? The subprogram would be subject to specific, measurable performance indicators (see below) to ensure that benefits are accruing to the national industry as a result of the subprogram structure. These performance indicators would be measured on an annual basis and reported to each jurisdiction, FRDC and to industry by the Steering Committee.
- ? After the subprogram is established, the issue of including other south rock lobster fisheries (particularly New Zealand) within the subprogram arrangements be investigated by the subprogram and FRDC.
- ? Using the performance criteria as a guide, a review of the performance of the subprogram would be held after 3 years of operation.

VIII. PERFORMANCE INDICATORS & OUTCOMES.

It is important that any new R&D subprogram delivers improvements over the current system and these improvements be measurable and monitored. The subprogram should therefore be subject to specific and measurable performance indicators to ensure that that the new arrangements are delivering benefits to R&D support for the southern rock lobster industry. These performance indicators should also be incorporated into the MOU between the industry and FRDC. This process needs also be combined with a review process so that changes can be made if the new subprogram process is not working to the benefit of all stakeholders.

The performance indicators identified as being the most important to stakeholders and relevant to the operations of the subprogram are as follows:

- ? The extent to which R&D supports a clearly defined industry development strategy AND contributes to improved ability to ensure sustainability of the rock lobster resources.

- ? The dollar value of funding available for southern rock lobster R&D, both from FRDC and other sources.
- ? The success rate of FRDC research applications.
- ? The quality of research applications
- ? The costs of administration and management in comparison with the benefits derived. While the costs of the subprogram can be readily assessed, the benefits derived can be both tangible and non-tangible. Some of the tangible benefits are increased R&D funding, greater success rates of project applications etc. However, during discussions with stakeholders, the intangible benefits such as closer co-operation between researchers and between researchers and industry were identified as equally important.
- ? The degree of communication, co-ordination and collaboration among researchers and between industry and researchers. This can be measured by annual surveys.

The desired outcomes of a new sub-program structure are essentially strategic in nature and as follows:

- ? A national R&D strategy which is adequately funded and which clearly supports long term industry development plans as well as Government resource sustainability objectives.
- ? A more efficient process for planning, managing, funding, undertaking and monitoring research projects linked to the national R&D strategy.
- ? A continuous improvement in the quality and co-ordination of research undertaken in support of a national R&D strategy.

IX. RECOMMENDATION TO THE 2ND NATIONAL ROCK LOBSTER CONGRESS, GEELONG, 20/21 SEPTEMBER 2001.

The draft report was presented to the 2nd National Rock Lobster Congress. It was recommended that the Congress endorse the following:

- 5. *That the southern lobster industry in each State endorse in principle the creation of a FRDC southern rock lobster subprogram;***
- 6. *That the Principles of the operation of the Subprogram (Section VI) be endorsed by the southern rock lobster industry in each State;***
- 7. *That, subsequent to the endorsement of (1) and (2), FRDC be requested to establish a Southern Rock Lobster Subprogram;***
- 8. *That a formal Memorandum of Understanding be developed between FRDC and the national industry to define the operation of the subprogram and the funding arrangements.***

There was support for the recommendations from all four states involved in the fishery for southern rock lobster. In addition, the Congress unanimously agreed that:

- ? A national southern rock lobster organization be formed to co-ordinate industry development strategies and supporting R&D programs.
- ? That a southern rock lobster subprogram be supported in principle and
- ? That FRDC be requested to implement such a subprogram.

REFERENCES.

McArthur Agribusiness, 1998. Wild Abalone Fisheries Research and Development Needs Review. FRDC Project 98/170, 108pp.

Econsearch (2001). Economic Indicators for the SA Southern and Northern Zone fishery, 1999/00; Report prepared for Primary industries and Resources, SA, February 2001.

Reid and Spawton (1999). Planning for Future Competitiveness 2000-2005. Report prepared for the South Australian Rock Lobster Industry;21pp.

Appendix 1: Summary of Responses to Draft Options Paper for Wild Capture Abalone R&D in Australia and to Consultations.

(Note: Details of consultations are contained in Appendix 3 – record of meetings. This Appendix contains the author’s summary of the main points raised during those consultations with specific reference to national co-ordination needs for abalone R&D and the type of structure to achieve this national co-ordination. It also contains a summary of written responses to the draft options paper.)

From:	Form:	Summary of comments:
TAFI, Tasmania	e-mail 5/7/01 and consultations, 23/4/01	? Not fully supportive of sub program structure ? Believes the draft paper minimizes the value of existing R&D planing structures in Tasmania ? Agree that national R&D co-ordination and communication can be improved ? Do not support analysis of options. Case for National Steering Committee appears stronger because of lesser cost. ? Concern that draft paper minimizes the importance of current research on stock assessment in favor of industry development activities.
DPIWE, Tasmania	e-mail 25/6/01 and consultations 23/4/01.	? Concern that costs would outweigh the benefits of any sub program. ? Do not believe that a sub-program would see more money invested in abalone R&D. Administrative costs of a sub-program would therefore impact existing research programs. ? Any new structure must be a win-win situation, not one State benefiting at the expense of others. ? Believes that managing under a single jurisdiction minimizes bureaucratic and jurisdictional complexities. Therefore does not see any advantage in implementing another layer of bureaucracy.
A. Harrison, Chair, AbFAC, Tasmania	e-mail, 14/6/01 and consultations 24/4/01.	? Concerns that a single abalone ‘industry’ does not exist in Australia and therefore any benefits of a national approach would be dissipated. ? Tasmania currently served well by current R&D system. Questioned the need for change. ? If a sub-program is implemented, then an MOU is needed to ensure and define benefits.
SARDI, South Australia	Letter 26/6/01 and consultations 8/5/01	? Strongly supportive of sub-program structure and the development of a national approach to abalone R&D. ? Believes sub-program structure would address current issues such as leakage of funds to other sectors and funding of projects identified as high priority through State-based processes. ? Agree that national R&D co-ordination and communication among researchers can be improved.
PIRSA, South Australia	e-mail 27/7/01 and consultations 8/5/01	? Pointed out that national docketing system is now operational and achieving results. ? Believes sub-program structure would address current issues such as leakage of funds to other sectors and funding of projects identified as high priority through State-based processes
From:	Form:	Summary of comments:
Victorian Abalone	Consultations 9/5/01	? R&D needs review requires updating to take into account issues such as marine parks etc

Industry (SIV)		<ul style="list-style-type: none"> ? Strategic directions of R&D needs to be separated from project proposal evaluation ? Supportive of sub-program structure for wild capture abalone ? Industry committed to progress greater degree of self management
WA Industry	Consultations MAC chair, 14/5/01	<ul style="list-style-type: none"> ? Supportive a national approach to abalone R&D. ? Industry views need to be fully taken into account. ? Supportive of sub-program structure.
WA Fisheries, research and management staff.	Consultations 14/5/01	<ul style="list-style-type: none"> ? Perception that existing sub-programs operate around the FRAB process ? A need to separate strategic issues from communication and co-ordination issues. Better national co-ordination and communication is needed. ? Supportive of a sub-program structure but questions whether industry is ready and whether it is too early for a full sub-program.
NSW abalone industry	Consultations 7/5/01	<ul style="list-style-type: none"> ? Better co-ordination of R&D needed while ensuring that State issues are addressed as well as national issues. ? Needs to be more focus on issues of industry concern such as marketing, value adding and labeling. ? Supportive of sub-program structure particularly if it means more external funding.
NSW Fisheries	Letter 16/7/01 and consultations 8/5/01	<ul style="list-style-type: none"> ? Supportive of sub-program structure and shift of emphasis of R&D. ? Performance indicators are necessary and should address issues such as less duplication of R&D and industry performance. ? Interaction with other sub-programs needs to be addressed
Fisheries Victoria	Consultations 7/5/01	<ul style="list-style-type: none"> ? Reasonable processes already in place for R&D priority setting etc. ? A partnership approach is needed involving industry, Government and researchers ? Success factors need R&D supporting a clear industry strategy (similar to wine industry), addressing duplication and co-ordination issues in stock assessment/biology research and addressing issues related to 'scale' of management. ? Capacity building within the industry is also a key issue for success. ? Supportive of a sub-program structure in that it provides the best focal point for industry and Government to address industry development strategies.
MAFRI, Victoria	Consultations 8/5/01	<ul style="list-style-type: none"> ? Existing issues of research co-ordination need to be addressed. Research duplication is not such an issue. ? R&D needs review requires updating. ? Biology/stock assessment issues are being addressed through modeling project. However, there is a need to develop projects in other areas. ? Processes are in place for integrating research processes and industry needs through FAG. However, there is a concern at the number of committees etc that are involved in decision making. ? A sub-program does not address market failure. A national steering committee may be a better option than a sub-program structure. ? A sub-program (or other structure) must deliver benefits in excess of administrative costs. ? Intangible issues (such as perceptions of success) are important in performance measures.

Appendix 2: FRDC guidelines for Management by Sub-Programs.

Managed Subprograms.

On occasion, 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 co-ordination, 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 managed subprogram. An example is the Rock Lobster Enhancement and Aquaculture Subprogram.

Formation of a managed subprogram 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 maximize investment in that field, avoid duplication and achieve the greatest potential return;
- ? invite R&D applications to address those priorities;
- ? maximize 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 investment in that field;
- ? standardize on the best scientific methods;
- ? communicate regularly with potential beneficiaries; and
- ? influence the adoption of R&D results.

The cost of this service depends on the level of management that is required. The focus may be on a species, a fishery, or a nationally significant theme. Normally, a managed subprogram pursues one or more strategies within an FRDC R&D program.

The FRDC appoints a subprogram leader who reports to a steering committee, which in turn is advised by a scientific committee. The subprogram leader and the steering committee may be independent of the collaborating researchers.

Appendix 3: Records of meetings during stakeholder consultation.

SCHEDULE OF MEETINGS.*

DATE	PLACE	WITH WHOM
23 rd April 2001	TAFI, Tasmania	TAFI and DPIWE staff
24 th April, 2001	TAFI, Tasmania	Tasmanian Abalone Fisheries Advisory Committee (AbFAC)
25 th April, 2001	Hobart	Chair, AbFAC
27 th April, 2001	Perth	Fisheries WA Research Director
1 st May, 2001	PIRSA, Adelaide	PIRSA & SARDI staff
2 nd May, 2001	Merimbula, NSW	NSW Abalone Industry Association
4 th May, 2001	Cronulla, NSW	NSW Fisheries and research staff
7 th May, 2001	Melbourne	Executive Director, Victorian Fisheries
8 th May, 2001	Queenscliff, Vic.	MAFRI staff
9 th May, 2001	Melbourne	Seafood Industry Victoria, Abalone committee
14 th May, 2001	Perth	Fisheries WA research staff and industry reps.

* In addition, a number of informal meetings were held with individual Government, research and industry representatives.

RECORD OF MEETING.

Date: 23rd April 2001.
With Whom: TAFI and DPIWE staff , Tasmania.
Place: TAFI Meeting Room, Taroona, Tasmania
Present: Dr. G. Morgan
Mr. M. Tokley
Mr. Alex Shapp
Prof. Colin Buxton
Dr. Malcolm Haddon
Mr. Dennis Witt.

Summary views from Meeting:

Interaction with State-Based Processes and Priorities.

- ? It is important that State-based R&D prioritization processes remain and national priorities do not impact adversely on these.
- ? The priorities identified in the Wild Capture Abalone R&D Needs Review are still broadly relevant and Tasmania uses this document to guide its R&D priorities.
- ? Any co-ordination mechanism should lead to more certain funding of identified high priority projects, both national and State.
- ? A firm belief that a subprogram structure is unnecessary and that the added expense would reduce funding to research projects

Form of Co-ordination Mechanism.

- ? There was significant discussion as to whether there were enough areas of commonality to justify a co-ordinated approach to abalone R&D. In particular, research activities such as fisheries-independent surveys were considered to be site specific and techniques developed in one area could not be easily applied to other areas.
- ? Also, it was considered that there was a danger that seeking areas of research commonality would result in unacceptable compromise of methodology etc.
- ? It was suggested that there were basic philosophical differences in research methodology between States and these differences would not be easily fixed.
- ? It was also suggested that the success of any co-ordination mechanism for wild catch abalone R&D depends on the personalities involved as much as the process. Unless the personality issue is addressed, a new structure or co-ordination process may not address the real issue and will also involve expenditure.
- ? A strong view was expressed that any co-ordination structure should not be driven by industry but should seek the views of all stakeholders. The process should not be industry-centric.
- ? There is no philosophical opposition to a sub-program structure, provided it is appropriately designed. The design should, at minimum, build on existing (State-based) structures and benefits should clearly outweigh costs. There was a suggestion that a Steering Committee approach would be a more appropriate (and cost effective) option. The view was that there was no obvious advantage to be had by moving to a subprogram structure.
- ? Any co-ordination mechanism must be a win/win situation and not some States benefiting at the expense of other States.

Interaction with Abalone Aquaculture Sub-Program.

- ? The FRDC abalone aquaculture sub-program was seen as ‘sucking’ money from the wild capture abalone sector. However, doubt was expressed as to whether a sub-program structure was needed to address this issue. Possibilities for addressing this interaction could be an annual workshop or a forum modeled on the rock lobster Tri-State conferences. Both of these options would be cheaper than a sub-program.
- ? Interactions between abalone wild catch and abalone aquaculture sectors could be handled informally. However, an important issue was the relationship between the existing FRAB process and any sub-program. This interaction is not clear even in existing sub-programs.

Performance Measures.

- ? Measures of success of any new co-ordination mechanism should include the success rate of project proposals (particularly high priority ones) and not just the flow of R&D funds. Additional funding is irrelevant if high priority areas are not being addressed.
- ? Greater researcher collaboration also identified as an important measure of performance.

Funding and Costs

- ? There was a general view that the administrative costs of any co-ordination mechanisms must not be excessive and that the benefits derived must clearly exceed those costs.
- ? In the light of the commonly used apportionment of costs, there was some concern that Tasmania may be required to fund around 50% of the administrative costs of any new co-ordination mechanism.
- ? Because of the way in which the FRDC levy is collected in Tasmania, it was suggested that there was little scope for increased industry funding. This may mean that administrative costs would need to be met from existing funds, thereby reducing funds for undertaking projects. On the basis of \$70,000 per annum for administrative costs, it was suggested that a sub-program structure would be the equivalent of one abalone research project.

RECORD OF MEETING.

Date: 24th April 2001.
With Whom: Tasmanian Abalone Fisheries Advisory Committee (AbFAC).
Place: TAFI Meeting Room, Taroona, Tasmania
Present: Dr. G. Morgan
Mr. M. Tokley
Mr. Tony Harrison, Chair
AbFAC Members

AND

Date: 25th April 2001
With Whom: Chair, AbFAC
Place: Mures restaurant, Hobart
Present: Dr. G. Morgan
Mr. Tony Harrison

Summary views from Meeting:

Dr. Morgan presented the background and need for developing the options paper on wild catch abalone R&D co-ordination mechanisms and also outlined the process involved in its preparation. This process would culminate with the presentation of the paper at the National Abalone Convention in Adelaide in August 2001.

The Chair then invited observations and questions from the members. These were limited and were as follows:

- ? It was suggested that Tasmania was served well by the existing State-based R&D processes and therefore why should there be any change? Dr. Morgan reiterated the areas of concern such as project proposal duplication and the emphasis on biology/stock assessment funding.
- ? In the same vein, it was questioned whether a sub-program structure was needed to expand the areas of R&D into marketing etc. Dr. Morgan replied that there were a number of options being examined, including a sub-program structure. One test to be applied to these options should be the extent to which they are better able to identify industry development priorities and to ensure that the required R&D is undertaken to address these priorities. This implied a structure of some sort linking industry development and R&D activities.
- ? A strong view was expressed that in any new arrangements, a formal Memorandum of Understanding was necessary between FRDC and the industry to define the obligations of both parties and to ensure that benefits flowed to industry.
- ? The Chair of AbFAC re-iterated the views expressed at the AbFAC meeting and also added that he had concerns that a single abalone 'industry' does not exist in Australia and therefore any benefits of a national approach would be dissipated.

RECORD OF MEETING.

Date: 1st May 2001
With Whom: PIRSA and SARDI staff, South Australia
Place: PIRSA office, Adelaide, SA
Present: Dr. G. Morgan, Mr. M. Tokley, Mr. Will Zacharin, Ms. Merilyn Nobes,
Dr. Anthony Cheshire, Dr. Howell Williams

Dr. Morgan presented the background and need for developing the options paper on wild catch abalone R&D co-ordination mechanisms and also outlined the process involved in its preparation. This process would culminate with the presentation of the paper at the National Abalone Convention in Adelaide in August 2001.

Summary Views from Meeting:

- ? State processes should be taken into account, particularly the operation of the FMCs. The relationship between any subprogram and the FMCs should be clear.
- ? Important issues are (a) improved collaboration (b) costs of administration of the subprogram (c) success rate of FRDC proposals. Costs are not the only issue in assessing benefits.
- ? There needs to be a coherent and consistent mechanism for stock assessment in any national priority setting. All research needs (biological and industry-related) need to be taken into account and industry need to be committed to a comprehensive research program.
- ? An area to be addressed is how to ensure that current research priorities don't inhibit new research areas. Current researchers need to be distanced from priority setting although need to remain involved. Having independent experts on any steering committee is a possible mechanism to achieve this.
- ? There needs to be a mechanism for ensuring the funding of State-based projects that don't have national relevance and funding needs to be allocated accordingly.
- ? There is almost no overlap between R&D related to abalone aquaculture and wild catch abalone. This is not an issue in considering national R&D co-ordination for wild catch abalone.
- ? A mechanism for better national co-ordination would solve the personality-driven issues in current abalone research.
- ? Clear performance indicators and specified outcomes of a national approach to abalone R&D are important. Performance indicators should be measured annually and outcomes every 3-5 years. An important outcome would be an improvement in the quality of research.
- ? Supportive of a new nationally co-ordinated approach to abalone R&D (whatever the mechanism) although care should be taken that it supplements and doesn't replace core State R&D programs.

RECORD OF MEETING.

Date: 2nd May 2001
With Whom: NSW Abalone Industry Association.
Place: Merimbula, NSW
Present: Dr. G. Morgan
Mr. M. Tokley
Approximately 80 members of the NSW Abalone Industry Association.

Summary Views from Meeting:

Dr. Morgan presented the background and need for developing the options paper on wild catch abalone R&D co-ordination mechanisms and also outlined the process involved in its preparation. This process would culminate with the presentation of the paper at the National Abalone Convention in Adelaide in August 2001.

- ? There needs to be more emphasis on research issues that are of concern to industry. These include marketing, value adding and labeling. Ranching was seen as a major issue, including aspects of disease control as well as rehabilitation of currently under-populated areas. The industry members were of the view that current research did not address their priorities.
- ? There was a clear wish to see that State R&D issues are addressed as well as national issues. This was particularly important in NSW because of its relatively small industry and because the important issues in NSW (particularly ranching) were not necessarily high priorities for other States.
- ? There needs to be more external funding (i.e. not paid for by industry) for abalone R&D.
- ? The meeting was supportive of an R&D sub-program structure particularly if it means more external funding.

RECORD OF MEETING.

Date: 4th May 2001
With Whom: NSW Fisheries research and management staff
Place: Cronulla, NSW
Present: Dr. G. Morgan
Mr. M. Tokley
Dr. D. Worthington
Dr. S. Keneally
Mr. R. Chick.

Summary Views from Meeting:

- ? Dr. Keneally provided an overview of current R&D prioritization processes and funding arrangements in NSW, with particular emphasis on abalone.
- ? The issues that were seen as important by NSW Fisheries were achieving less duplication in R&D, enhancing industry performance and economics and ensuring that NSW benefited from a national R&D approach that did not preclude addressing of State priorities.
- ? The view was that NSW is a relatively minor player in abalone fisheries and hence the issue of the most appropriate structure for better R&D co-ordination was essentially a FRDC decision. However, if a Steering Committee approach was adopted, then there should be a representative from each State to ensure that smaller State's issues are not overwhelmed by the larger abalone producing States.
- ? Interactions between existing FRDC subprograms and any new wild capture abalone structure should be on an issue-by-issue basis as the needs arise.
- ? NSW supports the concept of a national approach to abalone R&D and of a subprogram structure to achieve this, since it will result in shift in emphasis of research towards real industry issues as well as addressing sustainability issues.

RECORD OF MEETING.

Date: 7th May 2001
With Whom: Executive Director, Victorian Fisheries.
Place: Melbourne, Vic
Present: Dr. G. Morgan
Mr. M. Tokley
Mr. R. McLoughlin.

Dr. Morgan presented the background and need for developing the options paper on wild catch abalone R&D co-ordination mechanisms and also outlined the process involved in its preparation. This process would culminate with the presentation of the paper at the National Abalone Convention in Adelaide in August 2001.

Summary Views from Meeting:

- ? Although reasonable processes for R&D prioritization were in place in Victoria, there is a gap in R&D co-ordination, particularly in stock assessment. FRDC should provide that co-ordinating role.
- ? Abalone fisheries management in Victoria is relying on the recent developed stock assessment model, and the fisheries managers have confidence in the model. The FAG (an industry/Government advisory group) also has confidence in this modeling approach although some sectors of industry do not yet share that confidence.
- ? There is a need to address broader R&D issues, including economic and marketing research as well as quality issues, which are becoming important in the canned abalone sector.
- ? Victorian Fisheries encourages a partnership approach to R&D involving Government managers, industry and researchers and this approach should also be used in any national R&D structure. In doing this, the processing sector should also be included. Significant research on ranching in Victoria has not been pursued because of opposition from environmental groups.
- ? Capacity building in the industry is important, to enable industry to fully participate in a partnership approach to R&D.
- ? Success factors for a national R&D approach would be (a) a clear industry commitment to the development and implementation of a national industry development strategy (similar to the wine industry) and a clear role for R&D in supporting that industry development strategy; (b) better stock assessment and biological research co-ordination, including addressing the issue of the appropriate 'scale' of management.
- ? Mr. McLoughlin agreed that a subprogram structure would provide the best focal point (for both industry and Government) for support of an industry development strategy. He also believed that a successful industry development strategy could be prepared despite the complications of 4 different species. He compared this to the wine industry strategic plan that also dealt with a number of varieties and products.
- ? A Memorandum of Understanding (similar to that between the tuna industry and FRDC) would be advantageous in guaranteeing research outcomes and funding levels.
- ? Co-ordination between State governments is needed to support an industry plan so national production levels could be guaranteed.

RECORD OF MEETING.

Date: 8th May 2001
With Whom: Marine Fisheries Research Institute (MAFRI)
Place: MAFRI, Queenscliff, Victoria
Present: Dr. G. Morgan
Mr. M. Tokley
Dr. D. Evans
Dr. H. Gorefine

Summary Views from Meeting:

- ? A clear need exists for a national approach to abalone R&D although it is mostly an issue of personalities and co-ordination. Duplication of research is not such a problem.
- ? Organizations such as BRS are not currently being involved in discussions and there is a need to include them in R&D prioritization issues.
- ? Fisheries Victoria have examined R&D priorities for the next 5 years in collaboration with industry. The priorities established were more or less consistent with the abalone R&D needs review with the exception that issues such as ESD were now included. There is a need to review the R&D Needs Review document from a national perspective.
- ? A subprogram structure does not address any issue of market failure. Although it is unclear what the best mechanism is for addressing co-ordination issues, a biennial conference seems to have some appeal. Also a Steering Committee structure would seem more appropriate than a subprogram structure although any Steering Committee would need to include all stakeholders.
- ? Support for a subprogram would be provided only if it was clear that benefits outweighed costs. Intangible benefits (such as feelings of ownership) were just as important as tangible benefits.
- ? MAFRI have undertaken significant work in modeling abalone populations and are confident that these models provide a sound basis for management of the fishery. However, the model developed has potential to be used in other jurisdictions.
- ? A process already exists in Victoria, through the FAG, to integrate research processes and industry. However, more needs to be done to cement the links to industry. There are a number of committees that are involved in some way in Government/industry links and the inter-relationships and responsibilities of these committees frequently overlap.
- ? A suggestion was made that the present aquaculture subprogram could be modified to incorporate industry development issues across both the abalone wild capture and aquaculture industries. This structure would be particularly suited to addressing issues such as marketing.

RECORD OF MEETING.

Date: 9th May 2001
With Whom: Seafood Industry Victoria (SIV) abalone committee
Place: SIV Boardroom, Melbourne, Vic.
Present: Dr. G. Morgan
Mr. M. Tokley
Mr. Ross Hodge
Mr. Robert Coffey
Mr. Paul Welsby
Mr. Wayne Hagggar
Mr. Alex Ziolkowski
Mr. Alan Taylor.

Dr. Morgan presented the background and need for developing the options paper on wild catch abalone R&D co-ordination mechanisms and also outlined the process involved in its preparation. This process would culminate with the presentation of the paper at the National Abalone Convention in Adelaide in August 2001.

Summary Views from Meeting:

- ? The abalone R&D Needs Review needs to be updated to include current issues such as ESD and marine parks. In assessing R&D needs, the duplication of project proposals is a particularly important issue.
- ? The current arrangements for R&D are perceived as researcher-driven and not industry-driven. The 'privatization' of MAFRI was a benefit and resulted in a close co-operation between researchers and industry. However, now that MAFRI had again been made part of Government, this co-operative approach had been diminished.
- ? The clear message that SIV were receiving was that FRDC wanted industry to be pro-active and to propose projects that were of importance to them. However, State Government processes prevented this.
- ? A model that had worked well in Victoria was to include independent members on steering committees. This would also work with abalone R&D steering committees. However, the technical evaluation of proposals needed specialist expertise that could include specialists independent of MAFRI. It was important to separate the strategic issues of R&D from the proposal evaluation processes.
- ? The Victorian industry was intent, in the long term, on self-management. The group unanimously supported the concept of a sub-program structure although the details would need to be discussed further.

RECORD OF MEETING.

Date: 14th May 2001
With Whom: Fisheries WA research and management staff.
Place: WAML, Waterman, WA
Present: Dr. G. Morgan
Mr. K. Friedman
Dr. J. Penn (part of meeting)
Dr. Nick Caputi
Mr. B. Hancock
Mr. J. Froud

Dr. Morgan presented the background and need for developing the options paper on wild catch abalone R&D co-ordination mechanisms and also outlined the process involved in its preparation. This process would culminate with the presentation of the paper at the National Abalone Convention in Adelaide in August 2001.

Summary Views from Meeting:

- ? There is a need for better research co-ordination nationally and no mechanism or structure currently exists to facilitate this.
- ? Strategic R&D issues need to be separated from co-ordination issues. The best mechanism for achieving better R&D co-ordination was employment of a 'runner' to administer the co-ordination process.
- ? While supportive of a subprogram structure as a goal, a full subprogram structure may be premature because of the inability of the industry to assimilate responsibility for strategic issues. Some form of pre-cursor to a subprogram might be better.
- ? The abalone R&D Needs Review was not being used in priority setting, was used as a reference only and was not found to be useful. Current priorities are stock assessment and modeling.
- ? There is a clear perception among stakeholders that current subprograms operate around the FRAB process. This contributes to making the FRAB less effective.
- ? Although broodstock issues are on ongoing concern, there was not seen to be a great overlap between aquaculture and wild catch abalone R&D.
- ? Clear performance indicators need to be established for any national R&D management mechanism. The important performance indicators were seen as (a) the level of researcher co-ordination (b) industry profitability (c) the relevance of the research to WA (d) funding levels for research to address WA State priorities, mainly in stock assessment.

Appendix 4 – Checklist of issues that need to be addressed and negotiated as part of a memorandum of understanding (mou) between frdc and the southern rock lobster industry. The checklist is not an exhaustive list.

- ? Funding arrangements. The contributions guaranteed by the industry and the returns guaranteed by FRDC.
- ? Call for project applications. The role of the subprogram steering committee and FRDC and the relationship of projects to the industry development strategy and the R&D plan.
- ? Project approval process. The roles of the subprogram steering committee and FRDC in approving projects, the ground rules for approving projects, the protocols for advising each other on approval issues and dispute resolution procedures.
- ? The power of the steering committee to represent and to commit each State's industry and the limits of that power. This is an important issue. Whether an MOU needs to be developed between each State industry body and the subprogram to define these powers.
- ? The composition of the steering committee, including whether the committee is representative of state industry organizations or expertise based..
- ? The form of the relationship between the subprogram and the 2 existing subprograms. Do specific southern rock lobster-related projects currently administered by the rock lobster enhancement and rock lobster post harvest projects need to be transferred to the subprogram?
- ? FRDC additional support. How is the process for approval, communication and administration to be handled for projects that deliver benefits across a number of fisheries, including southern rock lobster? Examples are training and skills development, access security and issues that have relevance to both southern and western rock lobster (such as post harvest issues, aquaculture, live holding etc).
- ? Subprogram administration. The procedure for selecting and appointing the subprogram leader, whether steering committee members receive remuneration, administrative support, the powers of the subprogram leader and the annual administration budget.