

05 NOV 1999

AQUACULTURE BEYOND 2000

CHANGING DIRECTION — WORKSHOP

CANBERRA 23/24 August 1999

Facilitator's Report

Prepared by
DENIS HUSSEY
Senior Associate



ACN 058 284 521

CANBERRA OFFICE

ACIL House
103-105 Northbourne Avenue
Canberra ACT 2601

telephone +61 2 6249 8055
facsimile +61 2 6257 4170

SYDNEY OFFICE

2nd Floor, Oracle Plaza
181 Miller Street
North Sydney NSW 2060

telephone +61 2 9957 6363
facsimile +61 2 9957 1805

BRISBANE OFFICE

Level 15
127 Creek Street
Brisbane QLD 4000

telephone +61 7 3236 3966
facsimile +61 7 3236 3499

MELBOURNE OFFICE

Level 3
95 Queen Street
Melbourne VIC 3000

telephone +61 3 9653 9337
facsimile +61 3 9653 9485

Contents

1. Introduction

2. Workshop Presentations

2.1 Relevant policies and programs

2.2 Markets and marketing

2.3 Research and development

2.4 Industry and business success in
aquaculture

2.5 An exciting industry with immense potential

3. Industry Vision and Growth Target

4. Major Issues

4.1 Industry coordination and organisation

4.2 Other major issues

5. Next Steps and Closing Comments

MAJOR WORKSHOP OUTCOMES

The workshop delivered clear commitment to, and provided a sound basis for:

The development of a national action plan for the Australian aquaculture industry— an Action Agenda for aquaculture.

The workshop developed and endorsed the following vision (including a growth target) and mission statements for the Australian aquaculture industry:

Vision:

By 2010 a vibrant and rapidly growing Australian aquaculture industry will achieve \$2.5 billion in annual sales by being the world's most efficient aquaculture producer.

Mission:

Total commitment to economic, social and environmental benefits from aquaculture.

Major issues expected to influence growth were identified and discussed at the workshop. Issues identified as highest priority were:

**Industry coordination and organisation;
Promoting the industry and ensuring it had access to resources;
Environmental issues;
Markets and marketing; and
Research and development.**

Industry representatives attending the workshop met separately during the second day and agreed to:

The formation of a new peak aquaculture industry body, the National Aquaculture Council (NAC), which would replace the Australian Aquaculture Forum. The NAC will be industry driven and will be open to industry organisations, businesses and individuals involved in aquaculture.

Based on the outcomes of this workshop, the Department of Agriculture, Fisheries and Forestry – Australia (AFFA) will provide a report to Cabinet by the end of November of 1999, recommending that an action plan for Australian aquaculture be progressed. The action plan will provide a mechanism for industry and government to work collaboratively to develop strategies to address the key issues identified at the workshop.

It is also proposed that immediately following the release of the workshop report, AFFA will progress the establishment of an industry Advisory Committee to provide advice to the Commonwealth on the development of the action plan.

1. Introduction

The aquaculture industry contributes over one quarter of Australia's fisheries production with output valued at around \$500 million. This 'emerging' industry has been growing rapidly and, given its potential for continuing rapid growth, is expected to become one of Australia's major primary industries.

The Federal Government's Aquaculture Beyond 2000 initiative recognises the importance and potential of aquaculture. As part of this initiative the Government intends, in conjunction with industry and the States, to develop an agreed national action plan (Action Agenda) for the Australian aquaculture industry to ensure its potential is fully realised. The Action Agenda will be an important means by which industry can coordinate activity, work with governments to determine how governments can best facilitate and support growth, and raise the profile and recognised significance of the industry.

As an early step in this process an Aquaculture Beyond 2000 Workshop was held in Canberra on 23/24 August 1999. This workshop was hosted by Agriculture, Fisheries and Forestry – Australia (AFFA), through the Aquaculture Committee of the Standing Committee on Fisheries and Aquaculture, and with the assistance of the Fisheries Research and Development Corporation (FRDC). It was attended by approximately 90 people representing a wide cross section of industry, government fisheries agencies and researchers. Attachment 1 lists the participants.

The main objective of the workshop was to prepare the groundwork and obtain stakeholder commitment for the development of the action plan. This involved reviewing the status and prospects for aquaculture, agreeing an industry vision and growth target, identifying and discussing the major issues expected to influence growth, and determining the machinery for completing the preparation of a plan.

Presentations on a range of topics were made to the workshop on the first day. Attachment 2 lists the speakers and their topics. These presentations, each followed by brief discussion and questions, set the scene for the workshop's second day when vision, targets, major issues and follow-up actions were discussed and agreed.

This report of the workshop has been prepared by the facilitator. It summarises the discussion and records the workshop decisions and matters of detail which were agreed. In the next section the main points made in the presentations are summarised. This includes key points made by the Federal Minister in his address to the workshop dinner. The remainder of the report covers the subsequent workshop discussion, and the major conclusions and actions agreed.

2. Workshop Presentations

Workshop presentations and addresses covered a diversity of issues, analyses and views in four broad areas: policies and programs relevant to aquaculture including the principles and practicalities of Action Agendas; markets and marketing; research and development; and the development and characteristics of successful aquaculture industries and businesses. The main points made by presenters are summarised under these four topics.

2.1 Relevant policies and programs

In addressing the workshop dinner the Minister for Agriculture, Fisheries and Forestry, the Hon Warren Truss, highlighted the recent rapid growth of aquaculture in Australia and its potential to become a much larger, mainstream primary industry. He stressed the importance of industry, governments and other stakeholders working together to identify and overcome constraints to aquaculture production, marketing and perceived and genuine concerns to further development. The Aquaculture Beyond 2000 initiative indicated the Government's strong desire to have this happen, and to build on past achievements in growing a sustainable aquaculture industry.

The Minister also described a number of other Commonwealth strategies to support and assist development of rural industries, including aquaculture. These were the Action Plan for Agriculture, Food and Fibre, the Advancing Australian Agriculture initiative, and the Prime Minister's Supermarket to Asia initiative. It was envisaged that an Action Agenda for aquaculture would be linked to and build upon these more general initiatives.

All these initiatives, and the Government's desire to work with the aquaculture industry, recognised that government has an important role to play in partnership with industries and their leaders. This partnership is based on a mutual understanding that there are roles which naturally fall to government and others that are better undertaken by industry.

The Supermarket to Asia (STA) initiative was the subject of a specific presentation at the workshop. The Prime Minister's Supermarket to Asia Council is responsible for a range of activities and programs all aimed at boosting Australia's food and fibre exports. The focus is on practical research and help to businesses wanting to initiate and/or grow exports.

The Food and Fibre Chains Program and the New Industries Development Program were two STA initiatives particularly relevant to aquaculture businesses with export orientation or interest. These programs were briefly outlined to the workshop. Financial and practical assistance was available to supplement the resources being deployed by individual businesses which were developing export strategies, improving chain performance and lowering costs, and developing new products and new export markets.

It was stressed that these programs were not welfare or 'business survival' oriented. The STA was focussed on helping grow the exports and export profitability of businesses which were, or had the potential to be, commercially successful and leaders in their field.

The tourism industry has a national action plan (Action Agenda) and its origins, characteristics and achievements were described to the workshop by way of an example. It was pointed out that prior to this plan the tourism industry had many of the features which currently

characterise aquaculture. The tourism industry lacked self-esteem, was diverse and fragmented, and was struggling to organise itself effectively at a national level. However, a few inside and outside the industry recognised its potential for significant growth.

While it took some time for a national plan to be prepared and implemented, once this was achieved it provided a focus for national, coordinated efforts (on the part of industry and governments), a much improved working relationship with governments and their agencies, and the platform for developing policies and actions conducive to industry growth.

The tourism industry's experience highlighted the importance, in successful industry planning, of being well organised as an industry, ensuring key industry people are involved and can speak for industry, and developing political champions for the industry and its development and growth objectives. On balance, the action agenda had been overwhelmingly positive and constructive for the tourism industry.

2.2 Markets and marketing

There were a number of presentations on aquaculture markets and marketing. They were focussed on the seafood outputs from aquaculture. While each presentation covered particular aspects of the topic, there were a number of common themes.

While world consumption of seafood is expected to continue growing, the availability of wild catch is reaching its limits. A growing gap between expected consumption and supply from the wild catch industry represents the expanding potential for aquaculture. However, successfully exploiting this potential demand will always be challenging. At the limit, whatever is produced can be sold at a price. Securing profitability, however, requires the development of markets and market relationships, and delivering what the market wants (understanding and meeting consumer needs).

While the consumption of seafood is expected to grow, aquaculture's output must compete with an array of alternatives offering consumers steadily increasing choice. In addition, consumers were demanding more (eg. convenience, freshness, safe and contaminant free, attractive appearance) while insisting on, and being offered, value for money. The very competitive global market was certain to become even more competitive.

From a practical perspective, different shades of opinion about markets and marketing were evident from the presentations. Some incline to the view that market growth will occur and that while marketing is not unimportant, commercial success will hinge most critically on production businesses picking the right species, and being efficient and low cost by world standards. Others, while recognising the importance of the production end of the chain, place more emphasis on understanding what consumers need and want before going too far.

Clearly, all elements are important to commercial success. As one speaker noted, regardless of whether the emphasis is on understanding the market and then producing to meet it, or getting production right and then considering how to persuade consumers to buy at your price, good, factually-based market research is required to maximise success. More generally, and as emphasised by another speaker, industry/business success depends on being market driven with internationally competitive operations from production to customer.

Individual businesses must also consider how they will link with and supply their targeted markets. This will be influenced by, among other things, their size and the nature of the market in question. Options vary across direct relationships with retailers, using agents and wholesalers, to commercial arrangements in the form of joint ventures or vertical integration. Regardless of the approach used, a number of speakers stressed the importance of relationship building in successful marketing.

2.3 Research and development

R&D, both industry and government funded, will continue to be very important in underpinning industry growth. It was suggested that the industry has had a poor record of investing in R&D and that in the future there would be a need to attract more non-government funding. In subsequent discussion it was noted that statistics may be under recording what industry spends on R&D. Nonetheless, under current matching arrangements industry could attract more government funds if it contributed more.

The main issues raised at the workshop concerned the strategic targeting of R&D to make best use of limited resources and maximise the benefits. Associated with this was the need for a more holistic program approach to R&D and improved performance indicators and monitoring.

Current R&D expenditure was spread over a diverse range of areas and species. Furthermore, the industry was growing at a faster rate than the availability of funds for R&D. On a national basis there was some duplication of effort and insufficient coordination. These considerations raised strategic questions about the pros and cons of concentrating effort across fewer areas and species, and how this should be determined. These strategic questions would need to be addressed even if there was a significant increase in funding.

The workshop was told that since 1993 the FRDC had invested R&D funds in 33 species. Nationally, over 70 species were currently being farmed or researched. In contrast, 5 species make up 93% of production by value. The implication was clear — R&D should be more focussed. It was suggested that R&D should support existing industries and that support for new species/industries should be pragmatically based on their potential, and the extent of entrepreneurial and investor interest and commitment. This was subject to further discussion later in the workshop.

2.4 Industry and business success in aquaculture

Aquaculture is the same as any business — staying in business requires profitability and maintaining profitability requires constant effort and change. Presentations to the workshop highlighted key aspects and determinants of this generality while also illustrating the diversity of approaches which could and did work.

With the exception of the pearl oyster, aquaculture producers are in the food business. The food business is global and ultra-competitive. Commercial success depended on being competitive regardless of how 'uneven' the international 'playing field' might be. Every aquaculture business had to accept these realities when determining how to achieve and maintain commercial success.

The experience and performance of individual aquaculture businesses highlighted the importance of carefully researching and planning all aspects of the business, particularly markets and marketing. Having clear objectives and strategies for achieving them was also important. Also highlighted was the fact that not every idea or strategy works, and that the ability to adapt and change, and to be persistent, were often important to commercial success.

Currently, the majority of production is from family owned businesses. Production has developed around growing domestic demand with exports becoming increasingly important for some species, eg. tuna and salmon. More and more, aquaculture businesses will need to focus attention and effort on every facet of the industry from production to final consumer. Just producing it and selling it will no longer guarantee commercial success. This is likely to mean an industry increasingly characterised by large and often vertically integrated businesses delivering the scale and resources required to compete internationally.

Vertical integration has many advantages but is not necessarily suited to all situations or businesses. Being commercially involved at every stage along the chain does not always mean profits are maximised.

The commercial merit of vertical integration hinges on whether internalising transactions along the chain improves profitability. The ability to capture scale economies and spread risks are often important in this regard. For small scale businesses, however, vertical integration can be risky. Vertically integrated businesses are more complex and costly to manage, and require considerable capital and working finance. This means they are more likely to be larger businesses.

There are also varying degrees of vertical integration differentiated mainly by the mix of activities that are either left to others, contracted out or done in-house. This mix often needs to change over time as the characteristics of the business and its operating environment change. For example, why own fishing boats if it is more profitable to contract specialist operators.

A presentation on the origins, characteristics and growth of the catfish industry in Mississippi served to highlight both what can be achieved by way of industry development and business success, and the nature of competition that Australian businesses are likely to encounter on the international scene. This industry originated through broadacre farmers seeking an alternative to traditional enterprises and choosing aquaculture because of a range of natural resource advantages and perceived market potential.

This industry is largely owned by the producer businesses that started and now comprise it. It is an example of independent producers working cooperatively to build businesses along the chain from production to marketing. Since catfish production commenced the producers, with help and advice from the State's Department of Agriculture and Commerce, have established businesses to supply feed, process the fish and market it under a number of brands. The Catfish Institute was established by these businesses to raise funds for R&D and promotion and has become a key driving force behind the industry's phenomenal growth. The underlying philosophy of this industry is that if something works, increase the effort, and if it doesn't work find something that does.

Environmental considerations are steadily becoming more important for both the industry and individual businesses, and this was the subject of one of the presentations. Environmental

issues affect aquaculture in two ways: the availability and quality of sites and resources (particularly water) for the industry, and the actual and perceived effects of aquaculture activities on the surrounding environment.

It was suggested that part of the industry response to environmental pressures in both areas could be for operations to move either further off-shore or fully on-shore. Nonetheless, aquaculture businesses would continue to have to contend with environmental issues and participate actively in research, debate and policy formation.

A key driver in the future will be community attitudes to the environment and the extent to which this influences the political process. Industry and individual businesses will have to accept responsibility for arguing their case or risk being unrepresented in the political and policy process. Often community perceptions of aquaculture's environmental impacts were misconceived and rarely recognised many of the environmental benefits associated with aquaculture. It was up to industry to spread the good news story and balance the debate.

Inevitably, some conflicts arising from planning and environmental regulation would be resolved in the courts. While this was not the preferred course, it did mean that case law established in such instances would have important implications in the future.

2.5 An exciting industry with immense potential

The overall impression from the day's presentations was that aquaculture is an exciting and dynamic industry with undoubted potential. In realising this potential the industry faces many challenges (rather than problems) and these will have to be tackled, depending on their nature, by governments, industry and/or individual businesses.

The owners of individual businesses are ultimately responsible for their commercial success. However, there are many issues which will be addressed most effectively by coordinated industry effort, often in partnership with governments and other stakeholders. Using a national plan (Action Agenda) to focus and coordinate action on issues where collective and partnership approaches are required is likely to help industry deliver on its potential more successfully and more quickly.

3. Industry Vision and Growth Target

The first discussion session on the second day of the workshop focussed on a vision for the industry's future and the determination of a challenging but realistic target for industry growth.

The session commenced with a number of participants raising questions and views concerning what species should be the focus of future development and growth, and even whether it was wise or necessary to make decisions which might cut off opportunities. This discussion arose because some had formed the impression on the previous day that future focus should be largely confined to the five mainstream existing industries. Discussion in this session made it clear that this was not intended. However, there was general recognition that some increase in focus, particularly in R&D, was needed to reduce the extent to which limited resources were spread too thinly.

The current five commercially significant species (pearls, edible oysters, tuna, salmon and prawns) were, as one participant described, now "in the paddock". While a range of other species were underway, coming of age, in the pipeline or in prospect, the in the paddock species were currently the industry's commercial backbone. Until it was demonstrated that other species had better commercial prospects, these mainstream species would continue to underpin industry growth.

Participants mentioned a number of species outside the main five (eg. barramundi, marron, yabbies, mud crabs) which were in, or had prospects for, commercial production, and had potential for growth. A number of other specific points made during this discussion were:

- The progress and potential of genetic engineering should not be overlooked when considering 'target' species and their prospects.
- There was potential for aquaculture to work with the recreational fishing industry by taking undersized and bycatch and growing out for restocking.
- While some degree of species focus was required it was important to maintain flexibility to develop exotic species if circumstances surrounding imports were to change.
- The likely growing demand for an "affordable white fillet" raised the prospects of both offshore farming of ocean fish and the development of a substantial inland fresh water and saline water industry.
- The aquarium industry, said to be worth \$400m at retail, should also be kept in mind as a market for aquaculture.
- Focus to date had been on monoculture and the potential for certain forms of multiculture should not be overlooked.
- There would be some 'natural' reduction in the number of species subject to R&D because many were the 'hobby' species of State R&D activities and would likely be dropped with greater focus and coordination of effort.

It was neither intended nor practical to agree on a list of commercial species at the workshop. In fact, it was suggested that trying to develop a limited list which everyone would agree with was simplistic. Given the diversity of views and range of ideas expressed at the workshop, this comment had some merit.

However, the workshop sentiment was that greater focus was required but that this should be attempted in manner which would still allow innovations, ideas and 'discoveries' to be exploited if and when they emerged. Of most importance in taking this sentiment further in the Action Agenda process was to develop some criteria which would help determine where effort was best focussed. Criteria suggested at the workshop were a good knowledge of the species' biology, market potential and marketability, and the existence of marginal advantages available to and able to be exploited by Australia.

Discussion next turned to views on an industry vision and target.

A number of existing vision statements, including the one from the 1994 *National Strategy on Aquaculture in Australia*, were presented to the workshop to stimulate discussion. It was quickly apparent that the dominant view was that the vision statement should reflect an industry that was optimistic and positive about its future success. The old (1994) vision

statement was said to be the antithesis of this. The vision statement should avoid giving the impression that the industry was constrained or defensive in its attitudes and aspirations.

It was also suggested that the target for industry growth should be included in the vision statement. In discussing a growth target it was emphasised that this was not to be an exercise in 'scientifically' trying to forecast growth, set the industry in a straightjacket, or set a goal which ran the risk of later measuring failure. The idea of a target was to provide some industry focus on what was believed to be achievable and the main issues which would need to be addressed in achieving this potential. Such a target would be subject to regular review as would be the issues important to its achievement.

It was agreed that the most appropriate target was a single industry figure for sales value. The question of whether an industry 'multiplier' should be used instead of, or as well as, industry sales was raised. After some discussion, including expression of the view that calculating multipliers was a very imprecise science and this could devalue the credibility of such estimates, it was decided that this was not the path to take.

With the above points in mind the participants focussed on what might be achievable by the year 2010. It was agreed that such a target should be realistic but represent a challenge worthy of taking on — a target which would 'stretch' the industry.

After some discussion on the potential for growing both current and emerging industries, an industry sales revenue target of \$2.5 billion by 2010 was agreed. This target, based on current known species basis and in \$billion, was salmon 1.000, pearls 0.500, tuna 0.300, prawns 0.200, abalone 0.150, lobster 0.100, oysters 0.050, and other 0.200. In deriving this target it was recognised that emerging and new species may end up contributing more to growth than is currently anticipated.

In earlier discussion of the vision, the wine industry's vision/mission statements had been presented to the workshop and it was generally agreed that these statements reflected workshop views on a statement needing to be optimistic and positive. A small group of participants then agreed to prepare a draft that reflected the workshop discussion. They produced the following which appeared to meet with the unanimous approval of the workshop.

Vision:

By 2010 a vibrant and rapidly growing Australian aquaculture industry will achieve \$2.5 billion in annual sales by being the world's most efficient aquaculture producer.

Mission:

Total commitment to economic, social and environmental benefits from aquaculture.

It was agreed that these statements, and the target they embodied, would be incorporated into the Action Agenda.

4. Major Issues

If an Action Agenda is to contribute successfully to facilitating industry growth it is important that it identify the major issues influencing growth (particularly impediments), develop agreed actions in regard to these major issues, and determine who can and should be responsible for which actions. The remainder of the workshop discussion was focussed on initial consideration of these matters.

To provide a starting point and encourage discussion, the facilitator presented the workshop with an initial list of major issues. Discussion then immediately focussed on adding to and amending this list. However, it was quickly apparent that participants viewed industry coordination and organisation as both very important and a threshold issue in ensuring industry/government partnership efforts were successful. Consequently, the workshop focussed first on this issue.

4.1 Industry coordination and organisation

It was recognised that the aquaculture industry was experiencing difficulties in coordinating and resourcing a 'national voice' which could exert effective political and policy influence, and represent/speak for the industry's interests at a national level. The view was that the existing Australian Aquaculture Forum was insufficiently representative and resourced to handle the challenges that lay ahead.

It was suggested that the industry had to address this deficiency and had to take responsibility for ensuring this was done. The central challenge was to secure industry commitment to adequately resourcing a national aquaculture organisation. As pointed out, this would hinge most critically on potential participants being satisfied that the benefits justified the cost.

A number of participants described the various arrangements which currently exist for organising both species-based aquaculture industries and aquaculture generally at a State/Territory level. It was recognised that these arrangements, which had developed over time, reflected the regional location of species-based industries and the fact that responsibilities for most industry regulation and oversighting resided at the State/Territory level and with their respective fisheries agencies. A key issue in establishing effective national machinery for aquaculture was how to build on or complement these existing arrangements while avoiding overlap or duplication.

Most States/Territories have or are in the process of establishing Aquaculture Councils. These are industry/government bodies some of which receive government funding for certain activities. Some jurisdictions also have aquaculture advisory bodies which are funded by the governments seeking the advice. While the detail of this machinery varies between jurisdictions, the common aim is to provide forums where a diversity of stakeholders and interested parties can participate.

One possible approach raised at the workshop was to have similar machinery at the national level and involving the Federal Government. Such arrangements could also be linked to the Aquaculture Committee of the Standing Committee on Fisheries and Aquaculture (Commonwealth and State/Territory agencies with fisheries and aquaculture responsibilities).

This could be achieved through having a national council structure which essentially federated the State/Territory Councils. Alternatively, national machinery could be representative of the participants at the national or peak level, or at the State level, as appropriate to the national partnership philosophy. After some discussion the workshop sentiment was to favour the latter approach.

Regardless of exactly how it was done, the point was repeatedly made that national machinery would be there to focus on national issues of relevance to all in aquaculture. There would still be a need and a desire for species-based organisations to represent their members on issues specific to them. Similarly, State-based machinery would continue to have a rationale and role — although, as discussed later, national machinery could fulfil an important role in delivering greater consistency and uniformity between jurisdictions.

National machinery, with the focus as described above, would bring together as a partnership industry, government and other stakeholders as appropriate. This returned the discussion to the threshold issue — could and how would the aquaculture industry fund its participation. The extent to which State governments were contributing to funding State machinery raised questions about the extent to which the Commonwealth could similarly contribute to national arrangements.

The discussion of this possibility allowed the Commonwealth's policy of not funding the 'political' or lobbying' activities of industry organisations to be clarified and reinforced. Industry participants accepted that industry had to take responsibility for resourcing these types of representation activities.

However, a range of views and ideas were expressed regarding the appropriateness and justification for some government contributions to activities where, as part of the partnership with industry, government would be seeking industry views and advice. One participant expressed it in terms of the government 'contracting' a national aquaculture industry organisation to provide defined services such as an industry view or industry advice on specific matters. Another suggestion was that some of the activities of a national aquaculture industry body would constitute industry 'development', and therefore be eligible for funding from the FRDC. This was possible but any such proposals would have to be assessed by the FRDC on their merits and in competition with other projects and programs.

The consensus view to emerge from the workshop discussion was that the industry needed to form an effective national body to participate in the proposed partnership activities (particularly the development and finalisation of an Action Agenda) at a national level. It was also considered important that some form of federal Advisory Council be established as part of the machinery for facilitating industry development and growth.

Following this workshop discussion, a separate meeting of industry workshop participants discussed industry organisation issues (during the lunch break). It was reported back to the workshop that this industry meeting agreed to the formation of a new peak aquaculture industry body to be called the National Aquaculture Council. This Council, which would replace the Australian Aquaculture Forum, would be industry driven and led. Membership of the new Council would be open to industry organisations, businesses and individuals involved in aquaculture.

Council members (ie. industry) would fund those activities aimed at advancing industry interests (eg. lobbying, negotiations). The Council would seek funding from government to

meet costs of participating in specific 'partnership' activities where government required the involvement of an organisation which could speak on behalf of industry.

This industry meeting also indicated support for the formation of a Ministerial Advisory Council on aquaculture. Government and industry should jointly determine the precise charter, structure, *modus operandi* and funding for this advisory Council. The industry meeting concluded such a Council should meet quarterly with government funding the direct costs of those participating in Council meetings.

4.2 Other major issues

In addition to the issue of industry organisation, commitment and leadership, the workshop identified the following as major issues (in no particular order of priority) needing to be addressed in an Action Agenda focussed on maximising industry development and growth:

- promoting the industry's importance, value, contribution and growth potential, and improving knowledge and understanding throughout the community in this regard;
- markets and marketing — identifying and making the most of opportunities;
- site availability, access, planning and approvals;
- environmental issues and perceptions;
- R&D and technology;
- industry QA and food safety, and QA systems;
- fish health management;
- quarantine issues;
- workforce education and training;
- attracting investment and entrepreneurs;
- regional and social development issues and implications.

There was insufficient time at the workshop to discuss any of these issues in detail. Workshop participants contributed comments and views on most of them, and an indication of broad priorities emerged from the discussion.

It was noted that the list of important issues looked daunting and it was important to appreciate that most were already being addressed in a variety of ways. In developing priorities and appropriate actions for the national plan, it would be necessary to assess fully and take into account what was already happening.

The workshop did not explicitly prioritise the major issues that had been identified. However, there was a clear view that **promoting the industry** and **ensuring it had access to resources** (sites, planning, etc.) were of most importance. These two were seen to be very closely interrelated because community and political acceptance of the industry's importance, contribution (including to the environment), and need to grow would influence policy and planning decisions. A positive community attitude towards the industry would facilitate industry access to its fair share of resources.

Many of the **environmental issues** were also seen as closely related to the above two priority issues. As had been noted earlier, community attitudes to aquaculture and its environmental impacts were often based on incomplete information and misconceptions. For example, there was a poor understanding in the community of the environmental benefits arising from aquaculture, as well as the environmental qualities aquaculture needed for it to operate successfully. Across the board, the 'good news' on aquaculture needed to be well packaged and promoted.

Another important aspect of ensuring the industry had fair access to resources was the need for more coordination and consistency of approach nationally. There were numerous variations and inconsistencies in planning, regulation and licensing requirements between jurisdictions. Often the assessment and approval process was far too slow. A number of examples of inconsistencies were raised at the workshop. A national Action Agenda should contribute significantly to removing inconsistencies and delivering more national uniformity.

Markets and marketing, while obviously an important issue, was discussed only briefly because it had received a lot of coverage the previous day. Particular points raised during this session were the need for more learning and workshop opportunities in practical marketing, and the need for more collective government/ industry effort on trade barriers and impediments in export markets. It was also suggested that industry would benefit from a national approach to product descriptions and marketing activities. This was likely to be most needed and of most benefit as particular species 'matured' as industries.

Research and development was also viewed as a high priority issue. The term R&D encompasses many areas of activity and this was highlighted by workshop discussion.

A number of participants expressed the view that more emphasis should be placed on the 'development' side of R&D. In a similar vein it was suggested that extension of R&D results and available technology, and the provision of practical advice, needed to be increased. There were a lot of research results, knowledge and technology 'sitting on the shelf', and more rapid adoption would make a significant contribution to industry growth.

At the same time, it was suggested, the importance of strategic and longer-term research objectives should not be overlooked. It was easy for an industry's R&D effort to become swamped with requests to solve short-term problems and a balance needed to be maintained. As an example, it was suggested that as the industry matures a major challenge will be to sustain a low cost industry in a high cost country. Improvements in production technology will be important in this regard. The industry needs now to start addressing how best to ensure this happens.

Reflecting comments earlier in the workshop, participants were reminded that returns to R&D were high, and that this should be an incentive for continuing efforts on the part of industry to increase investment in R&D.

Fish health was an issue which was too easily and too often underrated by the industry. This involved but was more than just QA. The aquaculture industry would need to put more resources into activities that ensured the maintenance of fish health, minimised the risks of disease incursions and outbreaks, and enabled rapid response to any health or disease problem. The livestock and plant industry's initiatives in this area (Health Councils) were suggested as a model aquaculture should consider.

A National Aquatic Animal Health Plan (AQUAPLAN) has already been developed and widely endorsed by industry sectors and the Ministerial Council on Forestry, Fisheries and Aquaculture.

Specific priorities for aquatic animal health management are being progressed under AQUAPLAN, including emergency preparedness and response, disease surveillance, monitoring and reporting, awareness programs and extension services. On-going resources and funding for AQUAPLAN from industry and government still need to be secured to ensure that this program continues.

All industries, and aquaculture was no exception, had to address **QA and QA systems**. Efforts were currently being made to place industry QA on a uniform national basis and this needed to be accelerated. QA was an integral aspect of successful marketing because consumers would accept nothing less than high quality product delivered on a consistent basis. In this context it was suggested that chemical usage was possibly the most important QA issue currently facing the industry. The industry needed to get this 'sorted out' before developments outside its control emerged and delivered severe economic consequences.

No one questioned the ongoing importance of **education and training** to the industry's future development. However, a number pointed out that there already existed a wide array of training and education programs, providers and courses. The need was not likely to be on the supply side, but rather for people to be made more aware of the importance of education and training, and helped in identifying their particular needs and how they could best be met.

5. Next Steps and Closing Comments

The workshop agreed that the two days of deliberations had delivered clear commitment to, and provided a sound basis for, developing a national action plan — an Action Agenda for aquaculture. This workshop report would be circulated widely, and AFFA would take responsibility for establishing, in consultation with industry and the States/Territories, a small working group representative of the partnership stakeholders to progress the development of the Plan. The aim would be to have this process completed by early 2000.

In closing the workshop the Secretary of AFFA thanked all participants for their attendance and active involvement. He emphasised the importance of the partnership approach to facilitating industry development and reiterated AFFA's intention to work closely with industry and the States/Territories to ensure the Aquaculture 2000 strategy was fully implemented in a way which maximised benefits to industry.

ATTACHMENT 1: Workshop Participants

Mr	Stephen	Albin	Tourism Council of Australia
Dr	Geoff	Allan	NSW Fisheries
Mr	Roger	Barlow	Mississippi Department of Agriculture and Commerce
Mr	Simon	Bennison	Aquaculture Council of Western Australia
Dr	John	Benzie	Australian Institute of Marine Science
Ms	Ann	Boon	Department of Industry Science and Resources
Ms	Heather	Brayford	Fisheries WA
Mr	Martin	Breen	Australian Prawn Farmers Association
Ms	Debbie	Brown	Australian Bureau of Agricultural and Resource Economics
Mr	Glenn	Browne	NSW Farmers' Association
Prof	Colin	Buxton	Tasmanian Aquaculture and Fisheries Institute
Mr	Michael	Cameron	Cameron of Tasmania Pty Ltd
Mr	Ian	Charles	NSW Silver Perch Growers Association
Mr	Roger	Clarke	Oyster Farmers' Association of NSW
Mr	Steven	Clarke	South Australian Research and Development Institute
Mrs	Jane	Clout	Koorringal Aquaculture Co
Mr	Stephen	Coats	Bonlac Foods Ltd
Mr	Andrew	Combe	Supermarket to Asia Ltd
Mr	Robert	Cordover	Bureau of Rural Sciences
Mr	Anthony	Cox	Australian Bureau of Agricultural and Resource Economics
Mr	Matthew	Dadswell	Department of Agriculture, Fisheries and Forestry - Australia
Mr	Luke	Davies	Australian Bureau of Agricultural and Resource Economics
Mr	Peter	Dundas-Smith	Fisheries Research and Development Corporation
Mr	Colin	Dyke	Tasmanian Marine Farmers Association
Mr	Daryl	Evans	Marine Farm Enterprises Pty Ltd
Mr	Anthony	Forster	Fisheries Victoria

Dr	Ravi	Fotedar	Silver Perch Association of WA
Ms	Jayne	Gallagher	SeaQual Australia
Mr	Dennis	Gaunt	Mulataga Aquaculture
Mr	Mark	Gervis	Victorian Abalone Growers Association
Mr	Jim	Gillespie	Department of Primary Industries
Dr	Brett	Glencross	Fisheries WA
Mr	Sam	Gordon	Master Fish Merchants Association Australia
Dr	Roger	Hall	Tasmanian Department of Primary Industries, Water and Environment
Mr	Richard	Hamlyn-Harris	Hamlyn Aquaculture
Ms	Susan	Hardcastle	Australian Bureau of Agricultural and Resource Economics
Mr	Tim	Harding	Tim Harding and Associates
Ms	Annaliese	Harrison	Seafoods of Australia
Dr	Patrick	Hone	Fisheries Research and Development Corporation
Mr	Glenn	Hurry	Department of Agriculture, Fisheries and Forestry - Australia
Mr	Denis	Hussey	ACIL Consulting
Mr	Nick	Jackson	Department of Agriculture, Fisheries and Forestry - Australia
Mr	Stan	Jarzynski	Department of Agriculture, Fisheries and Forestry - Australia
Mr	Brian	Jeffriess	Australian Seafood Industry Council
Mr	Pheroze	Jungalwalla	Tassal Ltd
Mr	George	Kailis	M G Kailis Group
Mr	Jim	Kennedy	Supermarket to Asia Council
Mr	Howard	Kerr	Seafoods of Australia
Dr	Wayne	Knibb	Queensland Department of Primary Industries
Dr	Chan	Lee	Fisheries WA
Mr	Robert	Lister	Tasmanian Fishing Industry Council
Ms	Annette	Lyons	Fisheries Research and Development Corporation
Mr	Joe	Marchese	Victorian Cultured Eels

Mr Ken	Matthews	Department of Agriculture, Fisheries and Forestry - Australia
Mr Richard	McLoughlin	Department of Natural Resources and Environment
Dr Peter	Montague	Aquaculture CRC Ltd
Mr Bill	Nagle	Australian Seafood Industry Council
Mr Steve	Nel	Makaira Pty Ltd
Mrs Mary	Nenke	Cambinata Yabbies
Mr Michael	Nenke	Cambinata Yabbies
Mr John	Newbery	NSW Department of State and Regional Development
Mr John	Nicholls	Fisheries WA
Mr Dom	O'Brien	Tasmanian Aquaculture Council
Mr Damian	Ogburn	NSW Fisheries
Mr David	Otton	University of Tasmania
Prof Ned	Pankhurst	University of Tasmania
Mr Steve	Parsons	Great Southern Marine Hatcheries
Miss Kylie	Paulsen	Fisheries Research and Development Corporation
Mr Greg	Paust	Fisheries WA
Mr Cris	Phillips	Australian Barramundi Farmers Association
Mr Colin	Price	Australian Prawn Farmers Association
Mr Peter	Rankin	Victorian Fisheries Co-Management Council
Mr Lee	Ridge	Aquaculture CRC
Mr Harry	Rogers	Marine Consulting
Dr Peter	Rothlisberg	CSIRO
Ms Kirsten	Rough	Tuna Boat Owners Association of Australia
Mr Nick	Ruello	Ruello and Associates
Mr Dan	Sampey	Marron Growers Association of WA Inc
Mr Simon	Schofield	Woolworths Ltd
Dr Colin	Shelley	Department of Primary Industry and Fisheries
Mr Peter	Shelley	Aquaculture Services Asia Pacific Pty Ltd
Ms Paula	Shoulder	Department of Agriculture, Fisheries and Forestry - Australia

Mr	Man Heng	Soo	Australian Aquaculture Forum
Mr	Matthew	Stubbs	Australian Bureau of Agricultural and Resource Economics
Mr	Ian	Taylor	Aquaculture Development Council
Ms	Audrey	Thors	Bay Rock Oysters
Mr	Stephen	Thrower	Centre for Food Technology
Mr	Paul	Trevethan	AMRAC
Mr	Ray	Tynan	Oyster Farmers' Association of NSW
Mr	Ben	Vincent	Department of Agriculture, Fisheries and Forestry - Australia
Mr	Louis	Vorstermans	Victorian Aquaculture Council
Mr	Bruce	Wallner	AFMA
Ms	Anitra	Wenden	Environment Australia
Mr	Simon	Wilkinson	Department of Agriculture, Fisheries and Forestry - Australia
Dr	Steve	Williams	University of Queensland, Graduate School of Management
Mr	Peter	Yuile	Department of Agriculture, Fisheries and Forestry - Australia
Ms	Serena	Zipf	Rocky Point Prawn Farm
Mr	Bruce	Zippel	Australian Aquaculture Forum

ATTACHMENT 2: Speakers and Topics

Stephen Albin

Stephen Albin works as the National Policy and Research Manager for Tourism Council Australia, the leading peak body for tourism. Stephen has over nine years experience in industry associations and his particular area of expertise is strategic policy development. Stephen holds a Masters in Public Policy from Australian National University and has advised national governments of Poland, Indonesia and Papua New Guinea regarding the development of local democracy.

A strategic approach to industry development – action agendas

The aim of the Howard Government's industry policy is about achieving the optimum environment for industry to contribute to economic growth and sustainable employment. Part of this focus is to enhance the competitiveness and sustainability of the Australian manufacturing, services and resources sector.

To progress this policy individual industry Action Agendas are being developed and implemented by Government in partnership with industry. The intention is to identify and remove impediments to growth in specific industries. Seventeen industries are involved in the Action Agenda process. Actions Agendas have been finalised and are being implemented for six of these industries (automotive; tourism; food; building and construction; digital broadcasting; and information industries) with another 11 in development.

The challenge for industry is to start driving the Action Agenda process, lobbying for policies which reduce business costs, remove growth impediments and encourage productive investment.

Stephen Albin will speak briefly on industry policy, outline how the tourism industry is participating in the Action Agenda process and recommend strategies for ongoing participation and dialogue.

Roger Barlow

Roger Barlow is the Bureau Director of the Market Development Division for the Mississippi Department of Agriculture and Commerce and has held this position for 10 years. He is a member of many agricultural associations locally and nationally, among which are: Mississippi's Aquaculture Co-ordinator, Member of the Board of Directors for the National Association of State Aquaculture Co-ordinators, Member and Southeast Regional Director for the North American Agriculture Marketing Officials, Member of the Southern United States Trade Association and Past President of the International Trade Club of Mississippi.

Roger is actively involved in international activities and has led trade missions to Canada, Sweden, Japan and Taiwan. He also works closely with the state's

commodity associations and the promotion of new and alternative crops. Roger holds an MBA degree and resides in Madison, Mississippi with his wife and 2 children.

Building an industry – the American catfish experience

This paper will cover the history of the catfish industry emphasizing the Mississippi catfish experience that dominates catfish production in the United States. Why catfish was the species chosen by the aquaculture industry and the development of the vertically integrated industry it has become through the processing plants, feed mills and marketing arm of the industry. Market research and strategy have led to the success of the catfish industry. The simple philosophy of "*if something works, increase your efforts; if something doesn't, then move to what does,*" is key to this success. The farmers have had to refocus their efforts from yields to values. The presentation will conclude with 7 actions producers need to undertake to increase the growth of their business.

Daryl Evans

Daryl Evans is a qualified marine biologist with 18 years experience in research, environmental management and aquaculture. Over the last 12 years he has been involved in research and development scale projects in snapper, abalone and pacific oyster production, and has gone on to have key roles in establishing and managing, pioneering companies in the tuna (4 ½ years) and abalone (6 years) farming industries of Port Lincoln, South Australia.

Daryl has used not only his biological training in developing some of the systems and husbandry techniques used in these industries, but also, through necessity, has developed management and especially marketing capabilities. Both farmed greenlip abalone and farmed southern bluefin tuna were 'new species' with undefined market potential at the beginning. Daryl has travelled extensively through Asia with his efforts in abalone, and also has developed considerable knowledge on the specialist requirements of the Japanese markets for farmed tuna. He currently is assisting groups in developing new enterprises for 'established' species and developing plans for the next 'new one'.

Making money from aquaculture – farmed abalone

Too often potential aquaculturalists waste resources on re-inventing technology readily available elsewhere and pay scant attention to the money end of the business, the sale of product. You may be able to grow the beast but can you make money from it. Some simple examples of how to recognise and capitalise on opportunities within aquaculture are given with snapper and abalone farming as cases in point. The importance of market research is an underlying theme and needs to be given paramount importance, more so usually than the technology which can be taken as given for most species. Being aware of, and meeting the needs of the end consumer will have more effect on the bottom line than growing the product in optimal conditions to squeeze that little extra growth out of your system. Some brief examples from the tuna farming industry also will be discussed.

Examples of expanding production volumes and how these are interrelated to market opportunities are examined. The requirement to maximise both the medium term **average** market price and the predictability of supply to market is emphasised rather than chasing short-term highest spot prices. In concluding, some simple basic homework is recommended before building the first tank or cage, to ensure you at least have a probability of making money in the event that the gods of fish farming are smiling on you.

Patrick Hone

Prior to commencing his appointment as Programs Manager at the Fisheries Research and Development Corporation (FRDC) in 1997, Dr Hone was employed by the South Australian Research and Development Institute to lead research on aquaculture. During this period he was part of the team that saw the development of several significant aquaculture industry developments including Southern Bluefin Tuna, Pacific oyster, abalone and mussel aquaculture.

Dr Patrick Hone is a graduate of Adelaide University in aquatic science.

Investing in research and development for aquaculture's future

Over the past 7 years the Fisheries Research and Development Corporation (FRDC) has co-operatively invested in the development of over 33 aquaculture species. Presently 5 species account for over 90% of Australia's aquaculture production value. It is opportune post WA'99, to reflect on past research and development funding strategies and develop a more strategic national approach to research and development investment, that maximises return in terms of production value and regional growth. A national approach requires the cooperation of all stakeholders both public and private. Developing an aquaculture species is no trivial matter and requires considerable financial, physical and human resources. It is imperative that some hard decisions are made to focus our current research and development investment.

Denis Hussey (Facilitator)

Denis Hussey has 30 years of professional experience in agricultural, economic and public policy analysis and advising governments and business; initially in the Commonwealth Public Service and subsequently in the private sector as a principal and director of ACIL Consulting. He has qualifications in agricultural science and economics.

In the public sector Denis held senior positions in the Australian Bureau of Agricultural Economics and the Department of Primary Industry. He ran the Secretariat for the Balderstone Review of Agricultural Policy in 1982 and served as the government representative on the Meat Research Committee and the Australian Wool Corporation in the early 1980s.

Denis left the public sector in 1983 to establish a consulting business. Since then ACIL has grown into a highly regarded consultancy specialising in economic and

policy advice with emphasis on the resource and agricultural sectors. ACIL provides these services to clients in both the public and private sectors. Denis was ACIL's Managing Director for a number of years and, more recently, the Company's Executive Chairman.

Brian Jeffriess

Brian Jeffriess is President of the Tuna Boat Owners Association of Australia. Members of that Association have exported \$180 million of farmed tuna in 1999, compared with \$2 million when farming started in 1992. The Association is closely involved in site applications, environmental monitoring, pellet development and the fish health program. Improved environmental outcomes is the basis of all this research.

Brian is also the Chair of the Northern Prawn Management Advisory Committee; a member of the East Coast Tuna MAC; executive officer of the Southern Tuna MAC; and holds a range of other positions on commodity committees. He holds a degree in Economics, and has previously worked on farms, for the OECD and for manufacturing companies.

Industry and the environment – maintaining a balance

Environmental issues are the biggest challenge to most finfish and crustacean aquaculture. It is the environment which largely determines the viability of most aquaculture. And it is proving that aquaculture is an ecologically sustainable development, which increasingly determines access to sites. Therefore industry not only has a moral and regulatory responsibility to manage its environmental impact – it has an overwhelming commercial interest. This extends to funding research into feeds to improve environmental outcomes, and monitoring systems to maintain both community confidence, and farm viability.

Industry's perception of the balance between development and environment will often differ from community and conservation groups. Disproving the negative is a big task. This has caused long delays and some cancellation of aquaculture projects. To avoid this where it is possible, the industry needs to work with government and community groups in a sustained and transparent approach, not in an ad hoc way.

George Kailis

George is the Managing Director of the M G Kailis Group of Companies (currently on a years sabbatical). The M G Kailis Group has extensive interests in Australian fisheries and marine industries. It is a vertically integrated business involving catching, aquaculture, processing and marketing. The diversity of fishing related activities within the M G Kailis Group gives rise to a broad perspective on business issues relating to fishing and aquaculture industries.

In addition to his business and legal background, George has had extensive experience in policy formulation and implementation in relation to the Australian fishing and

aquaculture industries. He has been a Vice-Chairman of the WA Fishing Industry Council and is a member of the Pearling Industry and Exmouth Gulf Management Advisory Committees. Prior to his appointment in 1998 to the Board of the Australian Fisheries Management Authority he was a Director of the Fisheries Research and Development Corporation. On both Boards he held the role of Chairman of the Finance and Audit Committee. Previous experience includes, Member, Ecologically Sustainable Development - Fisheries Working Group (1991), Fisheries Portfolio Review Committee, Chairman of Rock Lobster and Prawning Association, Chairman Australia Pearling Association. George was a speaker at both the 2nd World Fisheries Congress in Brisbane in 1996 and at the World Aquaculture Society Meeting in 1999.

International involvement includes - founding member and Vice Chairman of the South Sea Pearl Consortium, and participation in the World Economic Forum.

The benefits of vertical integration

Vertical integration offers both opportunities and challenges to participants in aquaculture industries. The ability to capture more of the value chain and to improve linkages between research, production and marketing offer the potential to rapidly advance an aquaculture business and to achieve a sustainable competitive advantage. Vertical integration can also be a trap where a firm spreads scarce resources too thinly and ignores strategic partnerships and external skills in the pursuit of narrow internally focused goals. Firms need to develop a sophisticated approach to recognising the right approach for matching their capabilities to their environment. The potential for rapidly changing market conditions also means that firms need to sensitise themselves to the warning signals that a change in strategy is necessary.

These issues facing firms considering vertical integration will be considered in the context of specific examples from Australian aquaculture industries drawing on the experience of the M G Kailis Group as well as George Kailis' involvement in research and industry bodies.

Jim Kennedy

In May 1998 Jim Kennedy was appointed to the position of Executive Director of the Prime Minister's Supermarket to Asia Council.

Jim Kennedy completed 19 years exporting Australian rice for Ricegrowers Co-operative Ltd, most recently as its Managing Director. During the almost 13 years he was chief executive of the Riverina based farmer owned co-operative, Australian rice production doubled and turnover more than trebled. Consolidated turnover of the co-operative exceeds \$A600 million and 85% of its production of milled rice is exported. The Co-operative is ranked as the 24th largest private company in Australia. Jim continues his association with the Co-operative as advisor to its Board.

Jim Kennedy's career in value added food production and export was recognised in October 1997 when he was made an inaugural Export Hero by the Australian Institute of Export. This particularly recognised his success over the years in developing

export markets for packaged Australian rice throughout the Pacific, in Hong Kong, Europe and most recently in Japan.

Jim is a highly experienced chief executive and food exporter, and a graduate of the University of NSW and Sydney, and a Fellow of the Australian Institute of Management.

Ken Matthews

Ken joined the Department of Primary Industries and Energy in 1989, and was appointed the Secretary of the Department (now Department of Agriculture, Fisheries and Forestry - Australia) on 5 February, 1998. After graduating in Economics at Sydney University, Ken joined the Department of Defence in 1975, working in a variety of areas relating to International relations, intelligence and defence industry. In 1982, he was posted on exchange to Canada working with the Canadian Department of National Defence on strategic and international policy issues. Shortly after his return to Australia, he was promoted to the then Department of Industry, Technology and Commerce working on industry and technology policy issues. At various times, he was responsible for policy advice on specific sectors of manufacturing industry, including the motor vehicle, the pharmaceuticals and the chemicals industries.

Ken Matthews has a long-standing interest in organisational management, including people management. Ken's other interests are the efficiency of administration, effective communication and the principles of public administration. His particular policy interests are in the areas of research and science policy, competitiveness and rural community issues. In April 1997, Ken was appointed Convenor of the Wik Task Force in the Department of Prime Minister and Cabinet. He returned to the Department of Agriculture, Fisheries and Forestry - Australia in October 1997.

Harry Rogers

Harry is a Foreign-Going Master Mariner. Following a career at sea Harry held senior positions with government fisheries agencies. During this time he was involved in the compilation of uniform standards for commercial fishing vessels, the establishment of the Australian Maritime College, seafood marketing and the organisation of the first Australian Fisheries Exposition, provision of fishing industry extension services and research vessel management.

In 1985 Harry joined the Kailis and France Group, initially responsible for management of the companys trawlers and the CSIRO's fisheries research vessel and aquaculture interests. During this time he was also a Director of Mures Fish Centre. Latterly Harry was General Manager of the Australian Danish Food Company.

Since retirement from full-time employment in 1996, Harry has been engaged as a marine consultant. From 1996 to 1998 he was Chairperson of both the Aquaculture Development Council and the Maritime Education and Research Alliance in Western Australia. Harry is currently engaged in aquaculture projects in Western Australia and

in the Northern Territory and is a member of the Statutory Fishing Rights Allocation Review Panel.

Anticipating future demand – the impact of demographics

An overview of production and consumption. Finfish are chosen as providing the most pertinent product range and the demand conclusions in the context of statistical data are evaluated. The market implications arising from species selection are reviewed and the identification of product properties and options is discussed. The quandaries of market research are enunciated and the strategies that need to be employed to maximise demand are presented. Some concluding thoughts for the future in relation to finfish products and market opportunities are shared.

Simon Schofield

Simon is the National Category Manager – Seafood for Woolworths Ltd. He has been with Woolworths for 14 years specialising in the area of Delicatessen and Seafood, both at store level and Category Management.

Selling aquaculture produce in Australia

This paper will provide an insight into retailers and what they consider when purchasing seafood. It will cover future trends in seafood consumption along with a consumer profile.

Peter Shelley

Peter Shelley is the Chairman of Australia's peak aquaculture industry body, the Australian Aquaculture Forum. In December 1998, he retired from the position of managing director of Australia's largest aquaculture company, Tassal Ltd. He held this position for nearly 10 years during which time, the salmon farming industry in Australia underwent major rationalisation and expansion. Peter Shelley is the past chair of the International Salmon Farmers' Association, the Tasmanian Salmonid Growers' Association, is a Director of the Tasmanian Aquaculture and Fisheries Research Institute and chair of the Tasmanian Aquaculture Council. He is now active in further commercial development and investment in aquaculture in Australia.

Peter Shelley has experience in the international food industry. He has recently been appointed deputy chair of the Premier's newly formed Tasmanian Food Council. He regularly undertakes advisory roles to both state and federal government agencies in regard to the export development of food products.

Peter Shelley believes that the future successes for Australia's food based export industries will be dependent on the ability to produce quality assured products at internationally competitive levels without government assistance programs.

The commercial realities of Australian aquaculture

This paper will address the background to investment in aquaculture in Australia. In particular it will look at the risks, rewards, opportunities and trends in the financial attributes of this rapidly developing industry.

It will review the present investment profile of the industry and attempt to predict future financial structures that will enable traditionally science based research outcomes to reach commercial success.

The paper will compare the commercial reality of Australia's aquaculture industry with other primary based agri-food industries in Australia. It will also review the present financial structures and outcomes of similar aquaculture operations in other countries.

Steven Williams

Dr Steve Williams has studied international seafood markets for the past fifteen years and has published more than 30 papers on the subject, as well as two books *Marketing Tuna in Japan* and *Marketing Chilled Fish in Japan*. He has been a regular speaker at the W/world Tuna conference on the subject of seafood marketing and has addressed aquaculture operators in Queensland. He is presently international marketing specialist at the Graduate School of Management, The University of Queensland. His current research interests include international law and exporter strategy.

Selling aquaculture produce internationally

This paper will cover issues such as the importance of knowing your market, who you are dealing with, and the customer/consumer in the context of the various environments that apply. Some well known problem areas will be discussed, as well as positive things exporters can do to be and remain competitive in markets that are changing rapidly.

The paper will also cover areas such as market research and the correct approach to promotion, as well as a better understanding of consumers, prices, and how markets work.