

Australian Farmed Barramundi Strategic Plan 2007 - 2012



FRDC Project No. 2006/245

Australian Farmed Barramundi Strategic Plan 2007 – 2012

Carl Young

FRDC 2006/245

Published by Australian Barramundi Farmers Association

ISBN 978-0-646-47621-6

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1. NON TECHNICAL SUMMARY:

FRDC 2006/245	AUSTRALIAN FARMED BARRAMUNDI STRATEGIC PLAN 2007 - 2012
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PRINCIPAL INVESTIGATOR: Mr Carl Young
ADDRESS: Seafood Farming Services
35 Market Street
Toowong
Queensland 4066
Australia

OBJECTIVES:

1. Preparation of an overarching farmed barramundi industry strategic plan.
2. Preparation of a series of detailed implementation plans for four key areas namely: sustainability, marketing and value adding, value chain management, and innovation and R&D projects.
3. Better communication, involvement and commitment from barramundi growers nationally to drive the strategic planning process.
4. Greater participation by stakeholders in the sustainable management and development of the industry.

The barramundi industry has the potential for significant growth. To date this potential has not been met for a variety of reasons; profitability concerns, technical production and performance issues, site development constraints, and price and competition uncertainties all impact on the confidence of new investors to the industry.

However existing growers in the industry are very optimistic about its growth potential. They are also aware of the need for the industry to cooperate to achieve their individual and collective development goals. The process for the preparation of this strategy has been important. Together the industry has set a range of development priorities, and is committed to their implementation.

OUTCOMES ACHIEVED TO DATE

1. Industry recognition and support for a comprehensive strategic plan.
2. A detailed common industry vision.
3. Development targets identified.

4. R&D, technology transfer and innovation needs articulated,
5. Detailed listing of projects and activities required to meet development objectives.
6. Greater grower involvement in the development and administration of the industry.
7. A better understanding of the industry by stakeholder groups.
8. Better dialogue between stakeholders
9. A good understanding of the cost, resources and commitment required to implement the strategy.
10. A common understanding of the constraints facing the industry.
11. A more efficient process for planning, managing, and funding projects, particularly research projects.
12. A better understanding of industry issues by industry and the need for cooperation and participation in order to progress the development priorities.
13. Initiation of a range of development activities.
14. Acceptance of the strategic plan as a working document that will be used and continuously amended.

2. ACKNOWLEDGEMENTS

The Australian Barramundi Farmers Association thanks the Fisheries Research and Development Corporation for funding this project and for the participation of individual FRDC personnel in the planning workshops.

The following ABFA Executive members in particular contributed to the project:

Mr Bob Richards, President
Mr Marty Phillips, Vice President
Mr Michael Lisle, Treasurer
Ms Shannon McBride Secretary
My Tony Hensler Queensland Representative
My Steve Mawer South Australian Representative

Also thanks to Dr Dean Jerry at James Cook University and Jayne Gallagher of Seafood Services for their contributions.

3. BACKGROUND

The Australian barramundi farmers last produced a strategic plan in 2000. Since then there have been significant changes in the structure of the industry and the business environment in which it operates. Therefore, it was timely that a new and relevant strategic plan was produced.

Since the creation of the ABFA in 1994 grower relationships have been businesslike but not close. Recently there has been a much greater willingness to work together. The current Industry Cooperative Innovation Program (ICIP) - Technology Roadmap project helped to progress this grower cooperation. It was considered that the production of a strategic plan at this time would result in a successful industry development process. This proved to be the case.

Two to three years ago barramundi was often quoted as the fastest growing aquaculture sector in Australia, there was substantial investment; four companies were investing in expansion with a view to increasing individual production to over 1000 tonnes. In 2006 only two of these companies were operating, both at reduced capacity.

There have been a small number of serious new entrants to the industry in recent times. The Australian Barramundi Farmers Association membership has remained static for a number of years at around 14 grower members and 8 associate members. Never the less production at most member farms has expanded, albeit slowly from a relatively low production base. The most significant short-term

growth in the industry is likely to come from prawn farmers' diversification into barramundi production.

Occasionally, new recirculation operators become established however their participation in the industry along with association membership is often short lived.

Many consider that the farmed barramundi industry has not realised its potential in terms of value or production level. Most existing growers agree that a larger industry will benefit all participants and that expansion should be encouraged.

The need for a clear plan for the development of the industry was recognised by industry; the preparation of a strategic plan has fulfilled this need and its implementation remains a priority.

The Executive and members of the Australian Barramundi Farmers Association unanimously agreed to support the preparation of a strategic plan during the association AGM 09/06. Also in attendance and supportive were research managers from Queensland and the Northern Territory. Further support was obtained through consultation with individual members of the barramundi farming sector.

4. NEED

The farming of barramundi appears to have everything in it's favour – an Australian icon, a robust and quick growing aquaculture species, a tasty and popular table fish, fantastic shelf life, no tropical Australian aquaculture counterpart. Then why is production declining? The Australian farmed barramundi sector has held so much promise over the last 12 years. Unfortunately, and surprisingly, this potential remains unfulfilled.

However the barramundi farming industry is entering a new phase of cooperation. Increasingly growers appreciate the benefits of working closely together. In order to capitalise on the many opportunities now open to the industry it is timely that a formal planning process is undertaken.

Most in the industry recognise that there is more to gain from cooperation than destructive competition, and that other domestic growers do not pose a threat (nor does the wild caught sector) but rather an opportunity to capitalise on mutual advantages.

Also, there is recognition of the need to build on existing strengths and improve farm efficiency through technology and innovation and build a market reputation based on quality products.

In order to take full advantage of the opportunities facing the industry it was recognised that a well-coordinated strategic approach needed to be adopted and documented.

5. OBJECTIVES

1. Preparation of an overarching farmed barramundi industry strategic plan.
2. Preparation of a detailed implementation plan that addressed for four key areas namely: sustainability, marketing and value adding, value chain management, and innovation and R&D.
3. Better communication, involvement and commitment from barramundi growers nationally to drive the strategic planning process.
4. Greater participation by stakeholders in the sustainable management and development of the industry.

6. METHODS

Initial Consultation and Issues Paper

The first stage of the project was to collate the issues facing the sector and in particular those impacting on its growth and development. Meetings were held during November 2006 with individual barramundi farmers and groups of farmers and industry stakeholders in Bowen, Townsville, Innisfail, Cairns and Julatten in Queensland, and in Darwin. Other farmers and stakeholders in New South Wales, South Australia, Queensland, Victoria and the Northern Territory also provided input through telephone interviews. The resulting report titled Farmed Barramundi Strategic Plan – Issues Paper was circulated in November prior to the first project workshop.

Overarching Strategy: Scenarios and Strategic Options

Barramundi growers were invited to a workshop in Brisbane on 24 November 2006 to construct development scenarios, and develop strategic options and implementation strategies. The one-day workshop used a foresighting approach to strategic planning in which a number of scenarios for the development of the industry were prepared. Strategic options were considered and tentative implementation strategies outlined which would assist the industry to achieve the preferred scenario. Consultant Mark O'Sullivan facilitated the foresighting session.

Consultation and Implementation Plan Preparation

Further consultation was undertaken to enable the preparation of a draft implementation plan. Each of the strategic options and implementation strategies were developed into specific actions with input from stakeholder groups and individuals. This input was collated and summarized in a report titled the Farmed Barramundi Strategic Plan – Draft Action Plan. The report was circulated prior to the final planning workshop.

Plan Finalisation

A two-day workshop was held in Townsville on 2-3 April to refine the draft action plan. ABFA members, non-members and stakeholders were invited to attend. During the workshop the action plan was amended and refined to its current form. See Appendix 3: the Australian Farmed Barramundi Strategic Plan 2007 – 2012.

7. RESULTS/DISCUSSION

The Australian Barramundi Farmers Strategic Plan 2007 – 2012 is provided in full in Appendix 3. The industry actions have been grouped into five main target areas:

1. Value Chain Management
2. Sustainability
3. R&D, Technology Transfer and Innovation
4. Marketing and Adding Value; and
5. People Development, Industry Cooperation and Participation

The strategic plan has widespread support in the industry and is recognised as the tool with which to guide the development of the industry.

8. BENEFITS

The benefits will flow to:

1. Industry - A clear picture of the opportunities and the path by which the potential can be realised.
2. Researchers - R&D priorities articulated and projects proposals developed.
3. Community and stakeholders - A plan for the sustainable management and development of the industry.
4. Customer and consumer - Improved quality and market profile.

9. FURTHER DEVELOPMENT

This strategic plan has taken a fresh look at the industry and its issues and has identified a suite of actions relevant to the industry at this point in time. The plan will guide the industry over the next five years however it is recognised by the industry that the plan will need to be revisited and amended regularly. Provision for this has been made; the annual conference and AGM and at the half yearly meeting will focus on updating and implementing the plan. Additionally, the plan will be amended on an ongoing basis as work is progressed and other issues arise.

The ABFA has made a commitment to interact more with research providers and technology companies to develop research projects and roadmap technology solutions. The ABFA research committee will be instrumental in facilitating the preparation of priority project proposals, liaising with providers and securing funding.

10. PLANNED OUTCOMES

The anticipated outputs from the projects were identified as

1. An industry Strategic Plan;
2. Agreement by members of the industry on the main activities required to address development priorities; and
3. An agreement on role of research in the development of the industry and the identification of R&D priorities.

The Australian barramundi industry now has a strategic plan that documents the industry vision, establishes targets, identifies research needs and details the actions required to meet the development objectives. Already these outputs have contributed to the project outcomes such as:

1. Industry recognition and support for a comprehensive strategic plan.
2. A detailed common industry vision.
3. Development targets established.
4. R&D, technology transfer and innovation needs articulated,
5. Detailed projects and activities required to meet the development objectives.

6. Greater grower involvement in the development and administration of the industry.
7. A better understanding of the industry by stakeholder groups.
8. Better dialogue between stakeholders
9. A good understanding of the cost, resources and commitment required to implement the strategy.
10. A common understanding of the constraints facing the industry.
11. A more efficient process for planning, managing, and funding projects; particularly research projects.
12. A better understanding of industry issues by industry and the need for cooperation and participation in order to progress the development priorities.
13. Initiation of a range of development activities.
14. Acceptance of the strategic plan as a working document that will be used and continuously amended.

11. CONCLUSION

This strategic plan project has been very important to an industry at a critical point in its development. The process for the preparation of the plan has been as important as the document itself. Industry members are beginning to cooperate closely and the inclusive process used in the preparation of the plan has ensured that there is widespread ownership and recognition that implementation is everyone's responsibility.

The industry is entering an exciting phase in its development; a new wave of barramundi growers are expected to enter the industry in the form of existing prawn farmers looking to diversify. The additional capacity that they could bring to the industry is substantial and welcomed by the current barramundi growers.

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APPENDIX 1: PROJECT STAFF

PRINCIPAL INVESTIGATOR: Mr Carl Young
ADDRESS: Seafood Farming Services
35 Market Street
Toowong Qld 4066

Phone: 07 3876 8009
Fax: 07 3876 8009
Mobile: 0407771506
carlyoung@ozemail.com.au

Not long after Mr Carl Young was employed as consultant to produce this plan he was further employed as the part time Executive Officer to the Australian Barramundi Farmers Association. At the time of writing (27 May 2006) he is no longer ABFA Executive Officer. Currently the contact details for the ABFA are as follows:

Mr Graham Dalton
1/57-59 Oxford Street
Bulimba QLD 4171

Phone: 07 3899 9146
Fax: 07 3899 9410
Mobile: 0409631292
gldalton@bigpond.com

APPENDIX 2: STRATEGIC PLAN 2007 - 2012

AUSTRALIAN FARMED BARRAMUNDI STRATEGIC PLAN 2007 – 2012



FISHERIES
RESEARCH &
DEVELOPMENT
CORPORATION

FRDC Project No. 2006/245

THE AUSTRALIAN FARMED BARRAMUNDI STRATEGIC PLAN 2007 - 2012

Prepared on behalf of:

THE AUSTRALIAN BARRAMUNDI FARMERS ASSOCIATION
www.abfa.info

CONTACT: GRAHAM DALTON
gldalton@bigpond.com

1/57-59 OXFORD STREET
BULIMBA QLD 4171

PHONE: 07 3899 9146
FAX: 07 3899 9410
MOBILE: 0409631292

Prepared by:

SEAFOOD FARMING SERVICES
AQUACULTURE CONSULTANTS

CONTACT: CARL YOUNG
carlyoung@ozemail.com.au

35 MARKET STREET
TOOWONG QLD 4066

PHONE: 07 3876 8009
FAX: 07 3876 8009
MOBILE: 0407771506
EMAIL: carlyoung@ozemail.com.au

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INTRODUCTION

By ABFA President Bob Richards

The farmed barramundi industry is at a pivotal stage in its development; there is a real opportunity for producers to work together to ensure sustained industry growth and individual profitability. This can happen. But the industry must work together and producers must take their part in making sure it does happen.

If the industry does not cooperate or are divisive and destructive we will all fail to meet our individual and collective potential. The foresighting exercise undertaken as part of this strategic plan was sobering. If we continue to work the way we have up until now then there is no way that any of us will reach our real potential. Participation and cooperation are essential.

Market data and experience over the last few years has shown us that there is a substantial demand for farmed barramundi in Australia. There are a number of lessons that can be learned from the fluctuations in production over the last five years. The speedy growth of individual operations between 2003 and 2005 inevitably pushed down prices but did raise customer awareness and increase product availability. Their equally rapid demise in 2005 left us with a demand we could not, and still cannot, fulfill. Inevitably the price has increased. The challenge for the future is to continue to grow and maintain a price that ensures profitability.

The last 12 months has seen a number of farmers working more closely together than ever before. There is a lot to learn from each other and the highly successful technology roadmap project ensured that interactions were structured and productive. This approach must be continued. Technology transfer, benchmarking, innovation and knowledge sharing will improve operational management, productivity and performance. The project should be broadened to include other areas of the business and other growers.

This strategic plan is a working document; it will be revisited and updated regularly. A formal review will take place every six months at the annual and half yearly workshops. It sets out a series of actions to meet the industry vision. It will be amended and updated through the ABFA Executive and series of working groups or sub-committees as tasks are completed and new priorities identified.

The last five years has shown us that we have had little influence over many important aspects of our business; we must take the responsibility to ensure we have more control during the next five.

Please take a few minutes to read the strategy and I urge you most strongly to get involved in its implementation.

Bob Richards
23 May 2007

THE AUSTRALIAN BARRAMUNDI INDUSTRY IN 2011

THE VISION

The following is best-case scenario from the strategic foresighting workshop; it is a snapshot of the industry in 2011 to which we aspire:

Australian barramundi continues to be recognised as the Australian seafood icon. The consumer does not differentiate between wild or farmed, saltwater or fresh as long as it is Australian. The industry can't produce enough to meet the demand; fortunately as an industry we work together in marketing, sales and distribution to maximize individual farmer's returns.

Wholesalers and middlemen do not dictate the price of barramundi. Consumer demand for barramundi has resulted in a continuous increase in farm gate prices over the last 5 years. A coordinated sales and distribution network also means that wholesalers no longer control quality as well as price.

Australian barramundi is featured on all the top restaurant menus in Australia and is the featured dish at the national Young Chef's Award.

Through farm audits we regularly monitor operations to ensure that all fish exceeds food safety requirements and our industry quality standard is supported by an easily recognisable logo. The Australian consumer is very familiar with the barramundi quality label and is confident that our fish will always taste good and be delivered with all nutritional values intact.

The Australian barramundi industry is recognised internationally for its environmental credentials; world's best practice environmental management and production means that we have zero adverse impact from waters discharged from all our farms. Australian barramundi is used as a template for other industries; the ABFA in association with environmental NGOs recently won the world's highest accolade for environmental stewardship.

Farm design, management procedures and water treatment systems are such that any water released from the farm is of comparable quality to the intake water. Waste nutrient is captured on farm for sale and use elsewhere.

We have a communications hub to make sure we all access up to the minute technological developments and we are working with technology companies and researchers to reduce costs and improve the efficiency of our systems. Costs of production have dropped by 50% over 2007. This is partly due to the reduction of fishmeal in the diet. However innovative technologies, and improved production facilities and management systems have resulted in greatly increased staff efficiency. The productivity of the Australian barramundi industry (measured in tonnage of fish per full time staff equivalent) is now comparable with the best of the farmed salmon industry. Power bills have been cut as the improved production systems require much less power.

Improved farm efficiency is widespread; a cooperative selective breeding program, routine stock vaccinations and better animal husbandry techniques have resulted in 20% quicker growth and a 25% increase in survival across the industry in the last 5 years. Improved stock control through routine grading and more efficient feeding as well as superior feed formulation has reduced industry average FCRs to less than 1.

The cost of feed has dropped in real terms; there has been a reduction in amount of fishmeal used in the diet. Fishmeal now makes up less than 20% of the diet and this will reduce still further.

The Australian barramundi industry is well represented by the ABFA. Members are highly active within the association and their local communities, and the industry is well represented on national boards and authorities by a full time executive officer.

CRITICAL UNCERTAINTIES

The following critical uncertainties represent the key issues that need to be addressed to ensure that the industry vision is achieved.

Best Case	Worst Case
Industry leadership - strong, professional, cohesion evident, stakeholder management in place	Deliberate fragmentation, distrust
Seen as having standards that exceed consumer expectations	Seen as cowboy, unsafe food
Secure funding base	No funding base
Massive increase/improvement in farm efficiency	Increased costs and reduced prices
An industry environmental protocol underpins the regulatory framework	Antagonistic relationship with government agencies
Coordinated promotion	Bad consumer and community perception
A preferred employer	Limited career prospects

MAJOR STRATEGIC CHALLENGES

The major challenges to meet the industry vision and address the critical uncertainties are:

Value Chain Management

1. Greater involvement with industry stakeholders (particularly supply chain)
2. Cooperative sales, processing and distribution networks
3. Greater individual power in the value chain
4. Greater membership involvement in state and territory issues

Sustainability

1. Environmental impact monitoring, data collection and impact assessment in place
2. Consistent management/operational protocols in place across industry that are ESD based
3. Engagement and involvement of stakeholders
4. Increased uptake of EMS
5. Implementation of sustainability reporting, collective and/or individual, coordinated and tied with industry promotions

R&D, Technology Transfer and Innovation

1. Zero waste through water discharge; (impact assessment In place)
2. Reliable supplies of high quality juveniles;
3. Reduced fishmeal use, without compromising feed performance;
4. Reduced waste and contribution to green house gas emissions
5. Reduced input costs and improved farm efficiency/productivity.
6. Greater cooperation to innovate and adopt technologies

Marketing and Added Value

1. Raised consumer awareness of the product and industry
2. Consistent quality and taste

People Development and Cooperation

1. Develop leadership in the industry
2. Increased grower cooperation and participation in industry development

1.0 VALUE CHAIN MANAGEMENT

1.1 FEED MANUFACTURERS (SEE ALSO FEED RESEARCH SECTION 3)

Strategic Comment

Feed is the major production cost, in most operations it constitutes between 30 to 40% of the cost of production. Secure supply is vital, and quality and safety are paramount. The sustainability of the manufacturer's production process, the source and components of the feed and the manufacturers environmental credentials have a direct impact on the consumer's perception of the fish being produced by the grower. Therefore the feed manufacturer is important not only because of its impact on price, performance and profitability but also on the quality of the product and the market perception of the fish being produced.

Strategic Challenge

Close collaboration between feed manufacturers and individual growers, and collectively through ABFA.

Issues/Objectives (In priority order)	Solution	Process	Timeframe	Responsibility	Estimated Cost
Address stakeholder (consumer) concerns about the use of fishmeal	Combined industry and feed manufacturers position paper Identify consumer concerns	Growers and manufacturers prepare documentation, response plan. Growers to be more aware of the source and sustainability of fishmeal used in their diets.	Immediate*	ABFA + manufacturers	ABFA EO input
Reduction and eventual long term replacement of fishmeal (see also research)	Growers to liaise with manufacturers to assess current global situation and opportunities for, and desirability of, further fishmeal reduction	A) Prepare position paper – issues, information and options, including identification of R&D requirements. B) Feed manufacturers to sponsor session on the replacement/reduction of fishmeal at conferences. Expert presentations required	Short term/ongoing	ABFA R&D/ Technical Committee, Feed manufacturers, researchers	ABFA – EO and "champion" members to participate limited funding required initially
Improved feeding practice,	Farm management	Continuation of the	Short term/ongoing	ABFA	EO responsibility to

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feed utilisation and waste reduction (See also research)	training, production systems improvement, benchmarking exercises, field days. Finalisation and extension of current NT ICIP project.	benchmarking, road mapping exercise.			organise. Individual farm commitment to participate. State based primary industries and relevant agencies to sponsor w/shops.
Ensure consistent and safe ingredient profile	Manufacturers provide testing and component information	Information provided to ABFA for use (EU accreditation) dissemination to individual growers.	Immediate/ongoing	Feed manufacturers	ABFA to coordinate, limited ongoing costs
How best to engage the feed manufacturers collectively	Formal engagement through association committee to work with manufacturers collectively (minuted meetings). Individual growers to liaise directly as necessary.	Establish ABFA feed committee' draft terms of reference, meeting twice per year initially	Immediate/ongoing	ABFA + manufacturers	ABFA to fund administration
Improvements in hatchery feed performance and cost	Identify cause of poor performance in association with feed manufacturers	Hatcheries to address issue collectively with individual manufacturers.	Immediate	Members + manufacturers	NA unless R&D required.

*** Timeframe Key**

Immediate

Short Term: 1 – 2 months

Medium Term 2 – 6 months

Long term 6 – 12 months

Ongoing

1.2 FINGERLING SUPPLIES

Strategic Comment

There are only a small number of commercial barramundi hatcheries in operation throughout Australia; the larger of these are tied to major grow-out operations. Conversely, the bulk of the industry is made up of small grow-out units. Therefore the majority of operators in the industry are reliant on seed stock from hatcheries that preferentially supply their own grow-out operation.

The quality of fingerlings (survival, growth rate etc) may be variable and fingerlings are not always readily available year round. Also, it is recognised that the industry is not benefiting from the stock improvements that result from a selective breeding program.

Strategic Challenge

The industry needs to be adequately supplied with good quality, competitively priced fingerlings.

The major opportunity for improved stock through selective breeding must be realised (see also research Section 3)

Issues/Objectives	Solution	Process	Timeframe	Responsibility	Cost
Secure and adequate supply of fingerlings	Develop closer relationship between dedicated grow-out operations and hatcheries	Commercial negotiations required. Limited ABFA involvement; coordinate as appropriate.	Immediate	Growers/hatcheries	ABFA - NA
Non-hatchery operators to have greater involvement in quality of fingerlings	Co-investment, or contract runs	As above	Immediate	Growers/hatcheries	ABFA – NA
Selective breeding program to improve quality, growth rate, survival etc.	Cooperative industry involvement most appropriate approach may be through a dedicated business entity.	Identify supportive growers/hatcheries. Develop plan (through CRC see R&D)	Immediate	Willing growers and hatcheries, ABFA coordination role. Coordination through ABFA hatchery sub committed to be investigated.	ABFA – ongoing coordination, funding and priority setting.
Interstate stock transfer restrictions addressed	Nationally coordinated barramundi updated	Priority for Aquaculture Committee	Oct 2007	ABFA State aquaculture authorities	ABFA EO participation

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	translocation policy.				
Improved fingerling quality through better husbandry and feed.	Improved husbandry systems and facilities.	Include hatchery husbandry and technology improvement in benchmarking and expanded roadmapping project. Establish a hatchery working group (possibly linked to the selective breeding project)	Short term	ABFA Hatchery sub-committee	ABFA to sponsor, provide leadership and seed funding.

1.3 RESEARCH SECTOR, CRC, FRDC INTERACTION

Strategic Comment

Historically industry funding for R&D has been limited. In recent months (March 2007) the feed manufacturers (Ridley, Skretting and Grobest) have generously agreed to make an ongoing annual contribution to the ABFA for research. In turn the ABFA Executive has agreed to use the funds to pay for participation in the recently formed Seafood CRC through an annual contribution to the FRDC. It is important that the industry gets the most from its participation in FRDC and the CRC and that priority projects are identified, funded and completed

Strategic Challenge

To regularly update priorities. Coordination and management of R&D project development. Maintain links with the research sector. Actively manage researcher and funding manager relationships. Identify and develop innovative solutions and technology transfer opportunities.

Issues/Objectives	Solution	Process	Timeframe	Responsibility	Cost
Adequate member participation and commitment to research issues.	Formalise and fund ABFA research committee.	Broaden committee membership (non grower stakeholders) and define terms of reference.	Immediate	ABFA to organise committee	ABFA EO to organise committee. Fund membership travel and chair. Investigate CRC funding opportunities.
Capacity to undertake priority projects	Develop close working relationship with a range of research providers.	R&D committee road show	Short term	ABFA R&D committee	Limited funds required. Workshops timed to coincide with other events.
Upgrade R&D technology and innovation plan regularly	Undertake through R&D committee	Committee to organise workshops/process to upgrade plans	Short term	ABFA R&D committee	Limited funds required. Workshops timed to coincide with other events.
Broad national stakeholder input to R&D planning	Broad participation at planning workshops	See above	See above	See above	See above

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process.					
Focus on technology transfer and adoption of existing solutions	Commit to ICIP Technology Roadmap approach and broaden industry involvement.	Initiate a new round of benchmarking; identify potential solutions and source information. Develop plan and costing for process and ongoing management of information and networking and cost recovery opportunities through audits and participation.	Immediate	ABFA, individual members	ABFA Coordination and information management. Project funding required, possible second stage ICIP funding). Individual producers to pay for performance audits
Update industry with global technological developments.	Benchmarking tours and guest speakers. Update technology and equipment register.	Organise tours and speakers for meetings and annual conference. Members to provide topics and suggestions through technology network (see above).	Immediate	ABFA, individual members	Individual members to fund. ABFA Coordination (0.05-0.1 FTE). Explore funding opportunities.

1.4 VALUE CHAIN PARTNERS

Strategic Comment

The ABFA is a national organisation with members throughout the country. The association needs to actively represent the members' interests in each state and territory. This requires state representatives to be active and equally important the ABFA needs to be innovative in the way it liaises with other state and national organisations to achieve positive outcomes.

Strategic Challenge

To capitalise on opportunities for closer collective involvement with value chain members, and more effective interaction to redress "balance of power" in favour of the producer.

Issues/Objectives	Solution	Process	Timeframe	Responsibility	Cost
Government					
Effective nationwide state representation	Determine the most effective way to engage 3 tiers of Government Nationwide! Re-assess ABFA EO and state rep commitments and responsibilities. Develop a network of individuals and organisation to assist in lobbying. Introduce a process of issue prioritisation create issues project teams.	Paid representative involvement or EO role broadened and strengthen ties and participation with state bodies and related organisations. Create small temporary working parties to deal with specific high priority issues.	Immediate	ABFA Executive coordination	EO 0.1-0.2 FTE
Direct participation in whole of government forums, encourage if not established.	Industry membership on whole of government committees. (Push for establishment if necessary) If existing process in place improve feedback communication	See above	Immediate	See above	Included in above
State specific issues, in particular inconsistencies and	Active state reps, EO, or nominated individuals or issue	Most cost effective approach may be for state reps to coordinate response.	Immediate	ABFA Executive	Included in above

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polices that unnecessarily prevent members from expanding operations.	specific project team.	However funding should be available through ABFA to tackle issues considered important.			
National and State Associations					
Adequate representation and involvement.	Active state reps, nominated individuals or EO	Paid representative involvement or EO. A review process to be put in place to assess the value of association state/national committee membership.	Immediate	ABFA Executive	EO 0.05-0.1 FTE
Logistics and Distribution					
Reduced transport costs	Coordinated farm shipments (possibly tied to coordinated sales).	Regional cooperation between individual growers w.r.t sales and distribution.	Immediate	Limited involvement ABFA	NA
Improved and/or reduced transport costs	Use bulk bins	Groups or individuals assess technology costs and potential. Share information!	Immediate	Limited involvement ABFA	NA
Electricity					
More competitive rates (see sustainability, Section 2, for better energy efficiency)	Cooperative approach to power negotiations	Cooperation between regionally discrete producers	Immediate	Limited involvement ABFA	NA
Wholesalers & Retailers					
Coordinated supplies to selected wholesalers and retailers to improve distribution efficiency and price.	Growers form alliances to coordinate harvests and sales and distribution	Cooperation between regionally discrete producers, or alliances based on other criteria e.g. trust, product range, availability, quality etc.	Immediate	Limited involvement ABFA	NA
NGOs					
Encourage positive input to industry issues from environmental and community groups	Create an industry forum or address on an individual operator basis (possibly through sustainability reporting).	Identification of key stakeholders and issues requiring engagement, assess most appropriate forum. Prepare communication strategy.	Immediate	ABFA	See Sustainability, Section 2.
Investors/New Entrants					
Increasing number of prawn farmers considering	Liaise with individuals and APFA to ensure that product quality is	Regular liaison with APFA and growers. Presentations at APFA	Short term	ABFA EO and members	ABFA minimal

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barramundi production	good and dumping is avoided.	forums.			
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2.0 SUSTAINABILITY

Strategic Comment

Like other Australian aquaculture sectors, growth in barramundi farming continues to be stifled by burdensome environmental regulation. Many ABFA members are committed to zero effluent discharge and have suggested this as a five-year industry objective. However others would like to see the environmental authorities set site specific licence conditions based on a consistent approach to impact assessment.

Strategic Challenge

Consistent environmental licensing, improved impact monitoring and assessment, improved water treatment and reuse.

2.1 REGULATORY BURDEN

Operation and expansion may be restricted by unnecessarily tight regulatory controls:

Issues/Objectives	Solution	Process	Timeframe	Responsibility	Estimated Cost & Funding Sources
Lack of appropriate (effluent discharge) policies and guidelines.	Industry to prepare operational standards, objectives, policies and/or guidelines,	Prioritise policies or standards that need to be developed e.g. nitrogen load. Requires technical assistance and input from stakeholders (NGOs).	Once initiated will be a long-term commitment to drive continuous farm improvement.	ABFA, federal and State agencies. Potential for close cooperation with APFA	Will be dependent on external funding. Sources need to be investigated and objectives refined. May require substantial project funding and investment in analysis of existing industry data.
Lack of appropriate impact monitoring and assessment policies and guidelines	As above	Initial step will be to obtain agency support and involvement. Identify most	As above	As above	As above

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		appropriate and cost effective monitoring procedures.			
Regulatory and policy inconsistencies.	Coordinated national and state policies	Work through state based interdepartmental aquaculture committees. Nationally, participate in NAC/Aquaculture committee initiatives.	Ongoing, need to identify priorities for action. Current Action Agenda project with aquaculture committee has identified priorities.	ABFA/NAC	Ongoing and potentially time-consuming activity.

2.2 RESOURCE EFFICIENCY

Each barramundi farm should introduce a program of continuous improvements to ensure better use of resource inputs and reduce adverse outputs.

The technical aspects of improved farm energy efficiency, productivity, feed utilisation, and water treatment and recycling are addressed in Section 3 of this strategy. The answer to improved efficiency will differ with each production system however there are a number of improvements that can be made by industry immediately at relatively low cost.

Issues/Objectives	Solution	Process	Timeframe	Responsibility	Estimated Cost & Funding Sources
Improved feed utilisation	Improved stock assessment and management. Optimise feeding regime. This is a priority for growers addressing sustainability.	Each farm will be encouraged to develop a plan to improve feeding efficiency. Can be achieved through efficiency audit. Also benchmarking and technology road mapping process can be adopted. Ideally undertaken as part of an EMS	Short term, ongoing.	Commitment required from Individual Farms. However ABFA has a role in coordinating and managing a more comprehensive roadmapping program that covers more aspects of the business in greater detail with a greater involvement by growers on an ongoing basis.	Initial project funding required. However ongoing funding may be raised from members participating in the roadmapping program
Reduce, capture, treat and utilise waste	Many aspects facility dependent however similar requirement for improved knowledge, benchmarking, networking planning and implementation. Continuous long-term farm commitment required.	As above – improve knowledge base and encourage each farm to plan for improvement through an EMS process	Short term, ongoing.	As above	As above

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Reduced energy consumption	Adoption of technologies, systems and procedures to improve energy efficiency	Growers to participate in Ecobiz type programs	Short term, ongoing.	As above	As above
Recycle water	The solution is largely technology based however growers need to be better informed in order to innovate	Expand and focus the technology roadmap project. Networking and benchmarking facilitated. Study tours and expert talks. Disseminate technology updates	Short term, ongoing.	As above	As above

2.3 BIODIVERSITY

A number of issues are repeatedly raised by stakeholders namely fishmeal use, fish escapes leading to genetic pollution and disease transfer, and bird/animal interactions

Issues/Objectives	Solution	Process	Timeframe	Responsibility	Estimated Cost & Funding Sources
Some industry stakeholders consider the use of fishmeal in aquaculture diets as unsustainable and/or inappropriate.	See Section 1.1 - proposal for industry position paper. Also Section 3.1 for action to reduce fishmeal in diet. Feed manufacturers may source feed from accredited sustainable fisheries.	Establish working links with NGOs and feed manufacturers to develop realistic solutions and common communication plan.	Immediate	ABFA	ABFA EO responsibility
Disease discharge	Industry position paper required including risk assessment	Commission independent expertise	Immediate	ABFA	ABFA identify funding sources.
Genetic pollution	As above, also any issues associated with the introduction of a selective breeding program	As above	Immediate	ABFA	ABFA as above
Birds and animal interaction – zero killing	Each farm to develop a management plan. ABFA to produce guidelines detailing alternative approaches to manage bird problems.	Agency and ABFA member to update guidelines already produced, formal ABFA position required.	Immediate	ABFA	ABFA funding and technical assistance may be available.

2.4 ENVIRONMENTAL MANAGEMENT, MONITORING AND REPORTING

EMS has been identified as an appropriate way to address on farm environmental management however uptake in the barramundi sector is slow. A project to assess the introduction of sustainability reporting has been undertaken. The resource and time requirements to implement an EMS and to report on environmental performance are significant and maybe one of the major deterrents to the small producer.

Issues/Objectives	Solution	Process	Timeframe	Responsibility	Estimated Cost & Funding Sources
EMS uptake slow across the industry	Assess successful approaches to EMS adoption (Tasmanian models) and compare with barramundi approach.	Use SSA mentoring support to make EMS assessment. Modify EMS program to suite barramundi industry.	6 months	ABFA	EMS implementation funding will be required. (Seafood Services may provide further funding))
Assess the best approach to sustainability reporting	Consider the best approach to communicate environmental performance, either individually or as an industry.	Develop staged approach to industry sustainability reporting.	Ongoing	ABFA coordination	Second stage ICIP Triple Bottom Line project funding required. (ICIP funding may be available in future) Significant individual farm commitment essential.
Ensure adequate (appropriate) environmental monitoring undertaken by all farm operations.	Develop industry farm monitoring guideline, industry to adopt a minimum level of impact monitoring (facility type dependent)	Develop monitoring guidelines based on various facilities used	12 months	ABFA coordination	Significant technical input required. Funding support will be required.

3.0 R&D, TECHNOLOGY TRANSFER AND INNOVATION

Strategic Comment

The small size of the sector, its geographic diversity, and the widely differing facilities and site characteristics often means that it is difficult to get agreement on specific R&D projects. However R&D priorities remain consistent; improved stock (through selective breeding), improved health management, and waste water treatment and re-use.

Strategic Challenges

To develop projects which are supported by the members of the association and ensure adequate participation in a selective breeding program. Improved farm management and production systems through technology transfer as well as R&D. Optimise participation in the newly formed Seafood CRC

3.1 RESEARCH PRIORITIES

Issues/Objectives	Solution	Process	Timeframe	Responsibility	Estimated Cost & Funding Sources
Improved stock performance through selective breeding.	Develop program that is supported widely by industry.	Prepare planning paper that addresses issues, scope and plans implementation. Identify R&D requirements for program.	Short term, 6 months	ABFA and CRC to develop the implementation plan.	Significant individual participant cost. Potential ABFA coordination costs. ABFA FRDC/CRC contribution.
Improved health management	A range of important project areas include: <ul style="list-style-type: none"> Vaccination development Pathogen free stock Grower workshops Epidemiology (detailed understanding of a disease) Immuno-stimulants and novel treatments 	Research committee to further develop priority areas and projects in association with recognised expertise. Provide ongoing support for the recently funded priority vaccine project.	Short term	Research providers	See above

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Feed "improvement" i.e. reduced fish meal, less polluting, better growth rates and lower cost. Better hatchery diet.	Determine priority R&D aspects in conjunction with feed manufacturers.	Research committee to further develop priority areas and projects in association with feed manufacturers and recognised expertise.	Immediate - May 07	ABFA (R&D committee) and feed manufacturers. Individual growers	ABFA coordination
Improved feed management, feed presentation, monitoring and utilisation (and stock control)	Support existing ICIP funded feed management project.	An important industry feed project is underway. The ABFA will help to disseminate results and information and the R&D committee to consider flow-on projects.	Short term ongoing	ABFA (R&D committee) and feed manufacturers, technology companies	ABFA Coordination
Discharge water treatment and reuse	Identify most effective treatment for freshwater and saltwater pond systems. Broad range of projects required from improved management and facilities upgrade to mechanical and biological treatment.	Situational analysis and scoping paper required. Technical expertise is required to identify and assess global technical developments. Develop priority projects.	Immediate - May 07	ABFA (R&D committee) and feed manufacturers. Individual growers	ABFA coordination
Fingerling quality – variable production runs	Consistent year round production of low mortality, health fingerlings. A variety of areas need further investigation, in particular: Larval feed and supplements; Weaning diets; Broodstock diets.	R&D committee to liaise with recognised expertise to develop priority projects	Short term	ABFA (R&D committee) and Individual growers	ABFA Coordination
Cost effective tools and techniques to assess environmental impacts	The development of low cost impact monitoring techniques	Commission a review of techniques available and assessment of current level of monitoring and value of data collected	Medium term	ABFA to push with state agencies	ABFA coordination

3.2 ICIP PRIORITIES

The Industry Cooperative Innovation Program (ICIP), Technology Roadmap Project identified the following priorities for innovation and technology transfer:

Feeding	Harvesting, packing, processing and transport	Water management supply and quality	Stock control
<ul style="list-style-type: none"> Assessment of feed delivered: Assessment of feed consumed: Feed presentation: Monitoring, recording, data management and feedback: On farm transport Development of a feed model 	<ul style="list-style-type: none"> Fish crowding Lifting and removal from pond Counting and weighing Bin tipping device Energy savings 	<ul style="list-style-type: none"> Improved monitoring and alarm systems Sample analysis In pond water treatment Settlement pond design and management Oxygenation Drum filter to match future requirements Farm water treatment external to ponds Biofilter 	<ul style="list-style-type: none"> Crowding fish Sampling graded fish Redistribution after grading Grading fish Lifting fish Stock management tools

4.0 MARKETING AND ADDING VALUE

Strategic Comment

In many ways the issues facing the industry have not changed since the last market analysis produced in 2001 i.e. variable product quality, poor consumer awareness, no coordinated promotion, limited funding, poor market knowledge etc. It is important the barramundi industry commits to a sustained marketing effort otherwise the same comments will be made in another 5 years.

Strategic Challenge

To ensure consistent product quality across the industry, improved market knowledge, improved consumer awareness and support through cooperative promotional effort, coordinated sales and distribution effort.

Issues/Objectives	Solution	Process	Timeframe	Responsibility	Estimated Cost & Funding Sources
Market knowledge - Poor	Regular market analysis required including identification of segments, trends, developments, better understanding of the consumer and customer.	Commission regular market updates	Immediate, ongoing.	ABFA	2 reports per annum, est. \$5000. Reports may be funded through their sale. (est. \$150 member, \$300 non member)
Product quality: Still highly variable quality entering the market.	Update existing standard and develop option for accreditation.	Prepare terms of reference for consultancy to update standard and options for accreditation.	Short term	ABFA to coordinate and source project funding. AFA may then generate revenue from administration of the scheme,	Project funding required, SSA may partner.
Price: Poor understanding of factors affecting price and options/approaches to pricing – strategies required.	Collate production and price data regularly and disseminate. Include competing products, imports and trade volume. Pricing strategies developed.	Commission data updates (similar to those kept in 90's, paid for by QDPI). Also update and disseminate. Consultant to develop	Immediate, ongoing	ABFA	ABFA to fund however revenue may be raised from access to information on the website.

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		plan. Upgrade the ABFA website to host data and information in pay to enter section.			
Promotion required to position the product and improve consumer awareness	Low budget high value approach; <ul style="list-style-type: none"> ▪ Segment targeted promotions e.g. fishmongers; ▪ Assistance from industry champions such as high profile chefs; ▪ Free editorials and other free publicity; ▪ Joint promotions with individual wholesalers; ▪ Capitalise on a manufactured event (farmed barramundi week). 	Commission proposal from consultant	Immediate	ABFA	Project cost - \$30 – 50,000 per annum. The new ABFA EO may take on this role; membership fees may need to be raised to cover these activities.
Distribution: Pursue opportunities for cooperative sales and distribution.	Groups of growers to investigate opportunities for improved efficiency and cooperation.	Commission regional study	Immediate	ABFA sub-groups to drive. Atherton Tableland growers group pilot.	Regional development funding available est. \$10 - 15,000 per study.

5.0 PEOPLE DEVELOPMENT, INDUSTRY COOPERATION AND PARTICIPATION

Strategic Comment

Many barramundi businesses are competing with other higher paying regional employers (mining and building) for employees. In order to attract and hold good quality staff barramundi farms must provide opportunities for career development. Training and job satisfaction will need to be addressed if high staff turnover is to be avoided.

There are a significant number of graduates employed in the sector however they tend change employers frequently. Often owner/operators are self-taught and may not have the technical and commercial background to manage their business as effectively as required.

Strategic Challenges

The development of a career path for employees in the industry. Improvement of the depth of knowledge in senior managers and owner operators. Education of industry leaders to be effective in the management and operation of the association.

Issues/Objectives	Solution	Process	Timeframe	Responsibility	Estimated Cost & Funding Sources
Develop industry leaders	Provide leadership and governance training	Identify funding and support available. FRDC/ SSA initiatives	Immediate	ABFA	EO to investigate funding available.
Training to meet industry development needs	Ensure appropriate training available.	Undertake training needs analysis. Training providers to participate	6 months	ABFA	EO to source external funding. Possible through state education departments
Greater interaction and pooled resources across the industry	Encourage knowledge transfer and assistance through ICIP technology roadmap approach.	Enrol rest of industry in a roadmap project. Ensure ongoing technology updates. Look at options for ongoing funding and self-funding options.	Immediate	ABFA – Individual members	Members to subscribe to an ABFA technology network
Significant increase in ABFA funding required if strategy to be	Greater participation in fund raising initiatives such as	Employ dedicated and energetic individual to drive	Immediate	ABFA	ABFA \$50 - 70,000 salary plus expenses however

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adequately implemented. Consider dedicated full time EO.	conferences. Commit to full time, one-year position to drive strategy.	initiatives and generate funding			many other costs would be removed.
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6.0 RESOURCING THE STRATEGY

The ABFA must add value to its members businesses otherwise there is no reason to be a member of the association. The cost of membership should be commensurate with the value gained by the business. Undoubtedly, if undertaken, the activities outlined in this plan will add significantly to the industry and benefit the individual operator. The short-term challenge for the ABFA Executive is to convince its members and non-members that the benefits likely from increased participation and investment in the association are worthwhile. To do this there needs to be proof that it is possible to implement the actions in the plan.

Funding an ABFA Executive Officer

It is proposed that the ABFA commit seed funding to employ an Executive Officer that can commit time and energy to implementing the priority actions of this plan. Additional funds will be provided for the position by the ABFA over the next six to twelve months during which time it is anticipated that additional project funds will be sourced and increased funding for the position secured.

This is a priority for the implementation of the strategy

Member Services

The strategy has identified a range of services that could be provided to the membership. There are a number of ways in which members could access these services; for example through a user pays system or by a tiered association membership program. The services that could be on offer to the members include an accredited quality/product standard, coordination of EMS accreditation, technical support through an information hub, market information, sales and price data, facilitation of environmental and performance audits, sustainability report preparation plus many others.

Feed Manufacturers' R&D Contribution

The feed manufacturers' R&D contribution will need to be supplemented by grower contribution.

Membership Fees

Membership fee will be commensurate with the level of service provided.

Project Funding

A wide range of useful projects have been identified in this strategy. In many cases funding support will be available. The EO along with individual members will need to be proactive in sourcing project funding.

Closer Ties and Cooperation

It is vital that the ABFA develops closer ties with other industry associations, community groups and government agencies. The ABFA needs to participate with the rest of the Australian industry so it makes best use of the resources available to it

GLOSSARY

ABFA: Australian Barramundi Farmers Association
APFA: Australian Prawn Farmers Association
CRC: Cooperative Research Centre
Ecobiz: A Queensland Environmental Protection Agency program to assist industry improve energy efficiency
EMS: Environmental Management System
EO: Executive Officer
ESD: Environmentally Sustainable Development
EU: European Union
FCR: Food Conversion Ratio
FRDC: Fisheries Research and Development Corporation
FTE: Full Time Equivalent
ICIP: Industry Cooperative Innovation Program
NGO: Non-Government Organisations
SSA: Seafood Services Australia
QDPI: Queensland Department of Primary Industries

APPENDIX 1 THE WORST CASE SCENARIO

The strategy outlined above presents a bold opportunity to embrace a new way of working together as an industry with shared goals. The strategy presents a clear plan of action to achieve the Vision as outlined at the beginning of this document for the benefit of growers, consumers and the Australian economy. It takes very little imagination to picture what could become of the Barramundi industry if environmental standards are breached, quality control is allowed to lapse and individual growers continue to try and “go it alone” in an increasingly complex marketing and retailing environment. Such an outcome could only be to the detriment of the many individuals and companies who currently rely on this important Australian industry, to the consumer and to the broader environment.

As well as achieving the vision and addressing the critical uncertainties the strategic plan will ensure that the following scenario is avoided!

Imported seafood has in 2010 lead to a massive increase in food related poisoning incidences; barramundi is seen as the main culprit. The poor reputation of farmed barramundi has lead to a loss of consumer confidence for both domestic and international product.

The Australian seafood industry continuous to be fragmented, there is no clear message about the industry or its products, and no money available to respond to issues. The media are receiving widely differing and conflicting messages about the industry and the product. NGOs continue to raise issues related to unsustainable practices, in particular nitrogen emissions, bird interactions, fishmeal sources, impacts on genetics of wild stocks’ disease outbreaks and their impact on wild stocks. David Suzuki uses barramundi as an example of what not to do.

Domestic producers are not competitive with overseas production costs. Continued losses to disease mean that producers do not meet supplier contracts. Chile and Peru have closed their fishmeal fisheries for the next 12 months to allow stocks to rebuild. Therefore the feed costs have rocketed.

There has been no growth in the industry for a number of years, and no new successful farms for many years. The barramundi farmers are in continuous conflict, being fragmented. To further control industry practices regulators have tightened regulation; zero discharge is allowed and no culling of native animals.

Barramundi farmers have no political or social influence. Regular industry failures mean that the sector is seen as a high-risk investment and established growers find access to capital difficult.