

## **Western Australian Abalone Aquaculture Industry**

### **Industry Development Workshop: Summary of Workshop Proceedings and Outcomes**

**May 2005**

**Draft for Comment**



**For further information:**

Russell Barnett  
Principal Consultants  
Australian Venture Consultants

Direct: 08 9320 5138  
Cell: 0438 710 917  
Email: [russell@ventureconsultants.com.au](mailto:russell@ventureconsultants.com.au)

## **Disclosure and Disclaimer**

This publication has been prepared by Australian Venture Consultants Pty Ltd (ACN: 101 195 699) ('AVC'). AVC has been commissioned to prepare this publication by the Western Australian Aquaculture Development Council and the Western Australian Department of Fisheries. AVC will receive a fee for preparing and facilitating the workshop and for the preparation and distribution of this report.

Whilst the information contained in this publication has been prepared by AVC with all reasonable care from sources that AVC believes to be reliable, no responsibility or liability is accepted from AVC for any errors, omissions or misstatements however caused. Any opinions or recommendations reflect the judgement of AVC as at the date of the publication and may change without notice. AVC, their officers, agents and employees exclude all liability whatsoever, in negligence or otherwise, for any loss or damage relating to this document to the full extent permitted by law. Any opinion contained in this publication is unsolicited general information only. AVC are not aware that any recipient intends to rely on this publication or of the manner in which a recipient intends to use it. In preparing this information it is not possible to take into consideration the information or opinion needs of any individual recipient. Recipients should conduct their own research into the issues discussed in this publication before acting on any recommendations.

**australian**   
venture  
CONSULTANTS PTY LTD

**6 Ord Street  
West Perth, Western Australia, 6005**

# Table of Contents

<b>BACKGROUND</b> .....	<b>4</b>
<b>NEW AQUACULTURE DEVELOPMENT COUNCIL</b> .....	<b>6</b>
<b>REVIEW OF INDUSTRY DEVELOPMENT CONSULTANCY AND RECENT TRENDS</b> .....	<b>8</b>
2004 S.W.O.T. ANALYSIS .....	8
CONTINUED EXPANSION OF THE SOUTH AFRICAN INDUSTRY.....	8
UPDATE ON THE AUSTRALIAN WILD CAPTURE ABALONE SECTOR.....	9
UPDATE ON THE AUSTRALIAN AQUACULTURE SECTOR .....	11
UPDATE ON MARKET FOR AUSTRALIAN ABALONE .....	12
<b>THE SOUTH AUSTRALIAN EXPERIENCE</b> .....	<b>15</b>
ADDRESSING THE REALITIES.....	15
TO INVEST OR NOT TO INVEST? .....	16
PLANNING AND REGULATORY ENVIRONMENT .....	16
LESSONS LEARNT IN SOUTH AUSTRALIA.....	17
VISION FOR THE FUTURE .....	17
<b>WORKSHOP: ISSUES IDENTIFICATION</b> .....	<b>18</b>
INDUSTRY RIVALRY .....	19
<i>Project Development Progress</i> .....	19
<i>Production Potential and Capital Requirements</i> .....	20
<i>Cost Structures</i> .....	20
SUPPLIER POWER.....	21
<i>Feed</i> .....	22
<i>Broodstock and Juveniles</i> .....	22
<i>Power</i> .....	23
<i>Sites</i> .....	24
<i>Labour</i> .....	24
BUYER POWER .....	24
<i>Chinese and Japanese Markets</i> .....	24
<i>AusAb Pty Ltd</i> .....	24
<i>Wild Capture Sector</i> .....	25
THREAT OF SUBSTITUTION.....	25
THREAT OF NEW ENTRANTS .....	25
GOVERNMENT SUPPORT AND REGULATION .....	26
<b>WORKSHOP: ACTION</b> .....	<b>27</b>
POSSIBLE SOURCES OF INVESTMENT .....	27
FUNDAMENTAL ECONOMICS AND VALUATION .....	28
POSSIBLE SOLUTION .....	29

# Background

In April 2005, the Western Australian Aquaculture Development Council (ADC) with support of the local abalone aquaculture industry decided to host a strategy development workshop designed to clearly identify and attempt to resolve some of the issues that are currently inhibiting the development of a sustainable abalone aquaculture industry in Western Australia. This workshop was held on 23<sup>rd</sup> May 2005.

Participation in the workshop comprised the following individuals:

- Terry Adams – Lake Vista Enterprises
- Russell Barnett - Australian Venture Consultants, ADC
- Dexter Davies – ADC
- Greg Finlay – Western Australian Department of Fisheries
- Barry Hall – Bayside Abalone
- Peter Julitz – Esperance Abalone Farms
- Dan Machin – ACWA Executive
- Shane McLinden – Southseas Abalone, ACWA Board
- Steve Nel – Marine Farms Limited, ADC
- Ian Nightingale – Primary Industries and Resources South Australia Aquaculture Division
- Steve Parsons – Great Southern Marine Hatcheries, ACWA Board
- Keith Platel – Western Australian Abalone
- Ian Ricciardi – Great Southern Marine Hatcheries
- Tim Richards – Western Australian Abalone
- Peter Rogers – Western Australian Department of Fisheries , ADC
- Barbara Sheridan – Western Australian Department of Fisheries
- Gerard Tonks – Esperance Abalone Farms

The half-day workshop followed the following agenda:

- Explain to participants the ADC's new structure and focus and the parameters within which the ADC is able to support the WA Abalone aquaculture sector
- Discuss the results of the 2004 Western Australian Aquaculture Industry Development Consultancy as far as they relate to abalone aquaculture as well as recent trends that affect the sector.

- Obtain a clear understanding of the economic, regulatory, environmental and social issues that are impeding the development of abalone aquaculture in Western Australia using Porter's Industry Analysis Framework.
- Develop some action items to address some of the strategic issues.

This reports discusses the workshop and details its outcomes.

# New Aquaculture Development Council

Subsequent to a review of the Western Australian aquaculture industry, the Western Australian Aquaculture Development Council (ADC) has taken a decision to focus its resources on the economic development of aquaculture in Western Australia. This has resulted in two fundamental changes to the way the ADC operates:

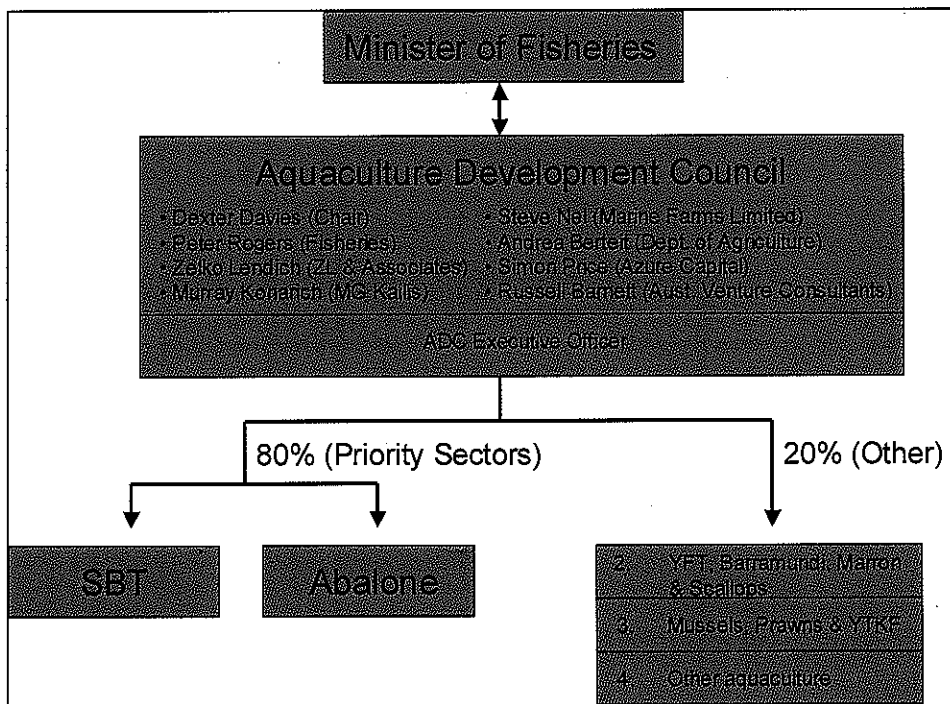
1. Subsequent to a review of specific sectors of the Western Australian aquaculture industry, the ADC will focus the majority of its resources on the development of two sectors which it has deemed to have the best chance of developing into significant local industries – greenlip abalone and southern bluefin tuna<sup>1</sup>. This decision has been taken by the ADC with the caveat that because both of these sectors are at a very immature stage in Western Australia and the environment for aquaculture development in general is a dynamic one, if there is reasonable reason for the ADC's current prioritisation strategy to change, it will adjust its resource focus accordingly.
2. The composition of the ADC membership has changed significantly with a greater focus on commercialisation, corporate, industry development and investment banking expertise.

The restructure was effected to reflect the recommendations of the Lendich review of the Western Australian aquaculture industry<sup>2</sup>. While the structure has changed the ADC remains a Ministerial Advisory Committee (MAC) under the Act. As such, the ADC only has the capacity to advise the Minister for Fisheries on issues associated with aquaculture. Additionally, it has a budget of approximately \$700,000 with which it is able to advise the Minister to use to issue grants that support the development of aquaculture in Western Australia. The new structure of the ADC is represented in Figure 1 overleaf.

---

<sup>1</sup> Australian Venture Consultants Pty Ltd & Braincells Pty Ltd (2004), *Western Australian Aquaculture Industry Development, Investment Attraction and Marketing Implementation Strategy: Synopsis of Stage 1 Consultancy Reports*, Aquaculture Council of Western Australia and Aquaculture Development Council.

<sup>2</sup> Lendich, Z (2003)



**Figure 1. New Structure of the Aquaculture Development Council**

Under this structure, the ADC has determined that there are several principles that the ADC will use to guide its advice to the Minister in relation to supporting the future development of the Western Australian abalone aquaculture sector. These are as follows:

1. Any specific initiative supported by the ADC must be an element of an agreed industry development strategy;
2. The specific initiative must make a considerable contribution to the development of a sustainable abalone aquaculture industry in Western Australia;
3. The specific initiative must be such that without it being undertaken, there is little chance that an industry will develop in the short to medium term; and
4. The specific initiative must be such that it is unlikely that the industry would be able to undertake it without support from the ADC.

This information was presented to the workshop participants as guidelines for its deliberations.

# Review of Industry Development Consultancy and Recent Trends

## 2004 S.W.O.T. Analysis

The review of the Western Australian aquaculture industry undertook a specific analysis on the status of the Western Australian abalone aquaculture sector<sup>3</sup> and conducted a high level assessment of the strength and weaknesses of the sector and the opportunities and threats facing the sector. A summary of the key points of this analysis (as demonstrated in Figure 2 below) was presented to the workshop and participants generally agreed that the high-level assessment was accurate.

<p style="text-align: center;"><b>Strengths</b></p> <ul style="list-style-type: none"> <li>• Temperature stability of southern Western Australia results in good growth rates</li> <li>• Project approvals in place for approx. 500t of production</li> </ul>	<p style="text-align: center;"><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li>• Competing for capital with more attractive investment opportunities</li> <li>• Limited product diversity, strategic marketing</li> <li>• High power and feed costs</li> <li>• Translocation regulations restrict access to genetically superior brood stock</li> </ul>
<p style="text-align: center;"><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>• Growing Chinese market and greenlip as a preferred species</li> <li>• Location based product differentiation</li> <li>• Geographical concentration of the projects provides for cluster economics</li> <li>• Some existing infrastructure</li> </ul>	<p style="text-align: center;"><b>Threats</b></p> <ul style="list-style-type: none"> <li>• Expanding production in low cost countries</li> <li>• South Africa producing large volumes of a competitive product</li> <li>• Limited cooperation with wild capture sector</li> </ul>

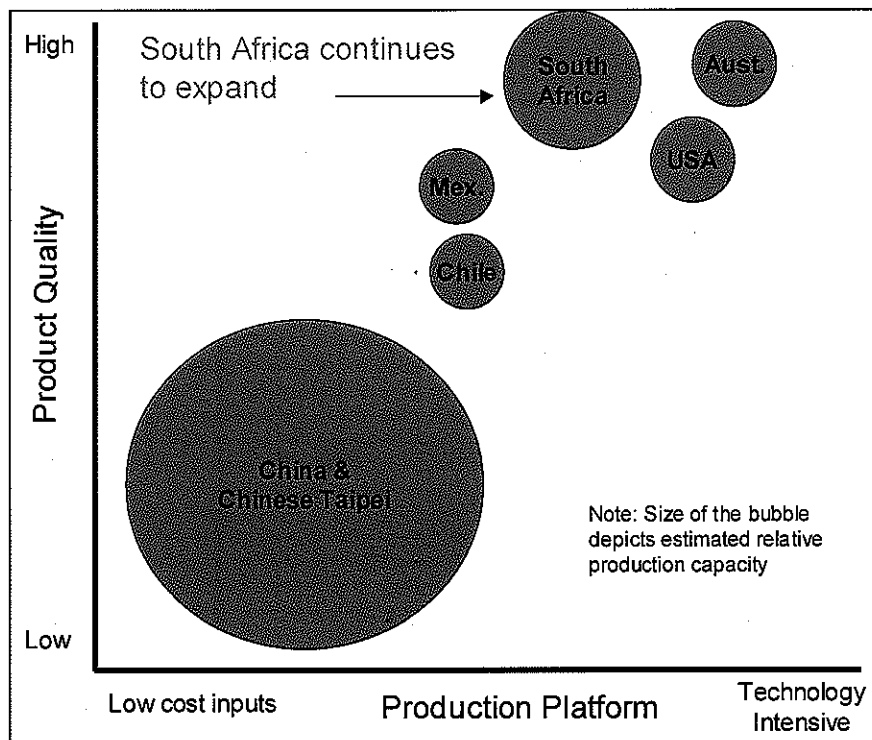
*Figure 2. SWOT Analysis of the Western Australian Abalone Aquaculture Sector*

## Continued Expansion of the South African Industry

It was noted that since the 2004 report, the South African industry has continued to expand, with unverified reports suggesting total South African abalone aquaculture

<sup>3</sup> Australian Venture Consultants Pty Ltd & Braincells Pty Ltd (2004), *Western Australian Aquaculture Industry Development, Investment Attraction and Marketing Implementation Strategy: Synopsis of Stage 1 Consultancy Reports*, Aquaculture Council of Western Australia and Aquaculture Development Council.

production is currently at around 650 tonnes per annum. An updated positioning of the South African industry is demonstrated in Figure 3 overleaf.



**Figure 3. Updated Positioning of the South African Abalone Aquaculture Industry**

It was noted by the workshop participants that the South African industry had expanded on the back of low labour costs, exchange rate advantage and strong penetration in the Japanese market. However, more recently labour costs have started to rise in South Africa and the exchange rate trend has reversed and as a result the rapid growth of the past couple of years may begin to subside. It was also noted that the South African industry may be benefiting from the corporate structure and resources of I&J that coordinates production and marketing efforts of most of the South African operations.

### **Update on the Australian Wild Capture Abalone Sector**

An update was provided on recent trends and the current status of the Australian wild capture abalone sector. Production from most of the nation's abalone fisheries has remained constant, with a marked recovery of the Tasmanian fishery from 2002-03 levels. This is demonstrated in Figure 4 overleaf.

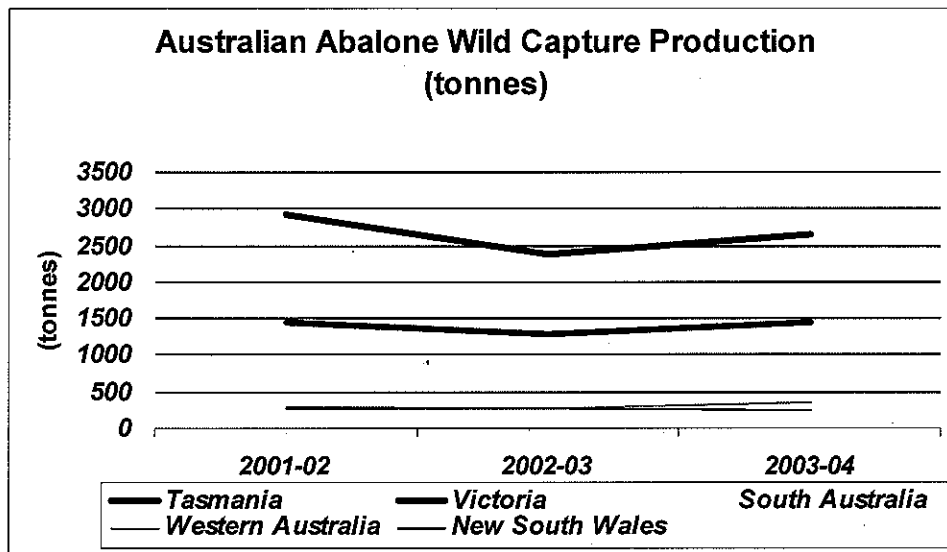


Figure 4. Australian Abalone Wild Capture Production

(Source: ABARE – Australian Fisheries Statistics 2004 & State Fisheries Authorities)

In terms of the Total Allowable Commercial Catch (TACC) that has been allocated this year, there has been little change, as demonstrated in Figure 5 below.

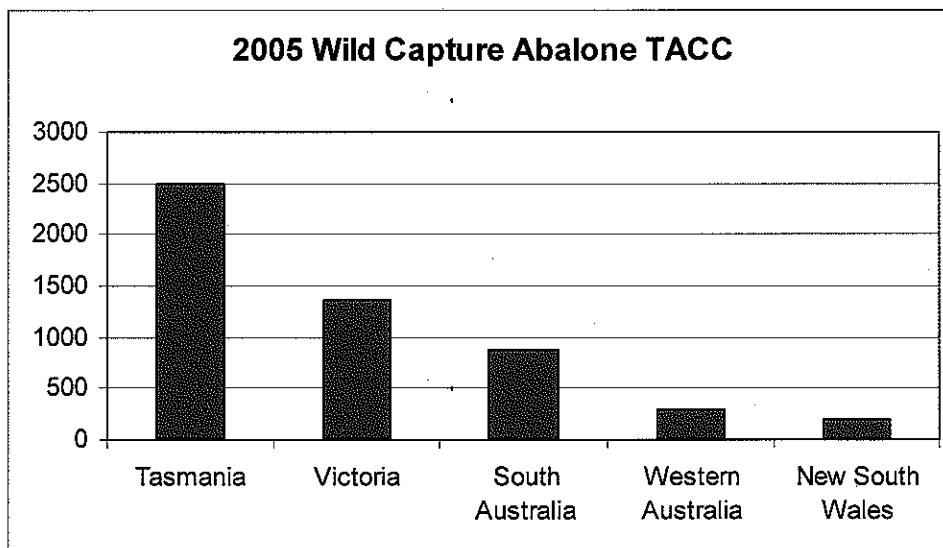


Figure 5. 2005

(Source: 2005 National Abalone Convention, Tasmania)

While Tasmanian production still faces issues from the long spined sea urchin, several recent successful illegal catch prosecutions are expected to reduce the level of illegal catch in the fishery. The Victorian TACC is expected to continue to be reduced by approximately 100t per annum until the biomass has recovered to 2000 levels. South Australia faces native title claims over several of the fisheries and

commercial operators are facing increased size limits, however divers are reporting healthy stocks. New South Wales faces the least promising prospects, with 300 kilometres of the coast closed and continuing issues associated with water quality. Furthermore, all wild capture producing states, including Western Australia, face uncertainty from marine parks. Nevertheless, the outlook for Australian wild capture production suggests that there will not be any significant change in the short term.

### Update on the Australian Aquaculture Sector

Production from Australia's abalone aquaculture sector has continued to grow to approximately 200t per annum in 2003-04. There has been a steady increase in production from South Australian farms and strong growth from Victorian farms, where production from \$25 million of investment in the sector over the past few years is starting to come online. Growth in abalone aquaculture production from South Australia and Victoria is demonstrated in Figure 6 below.

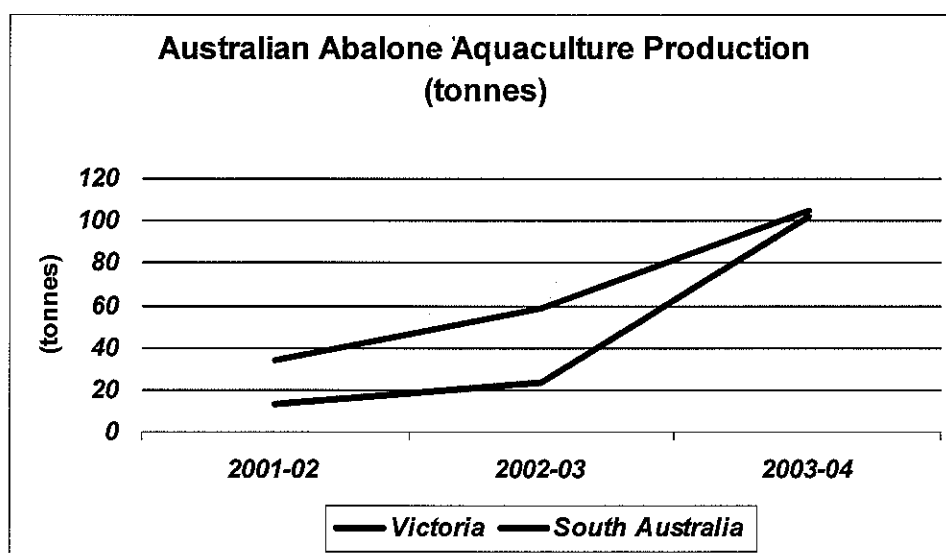
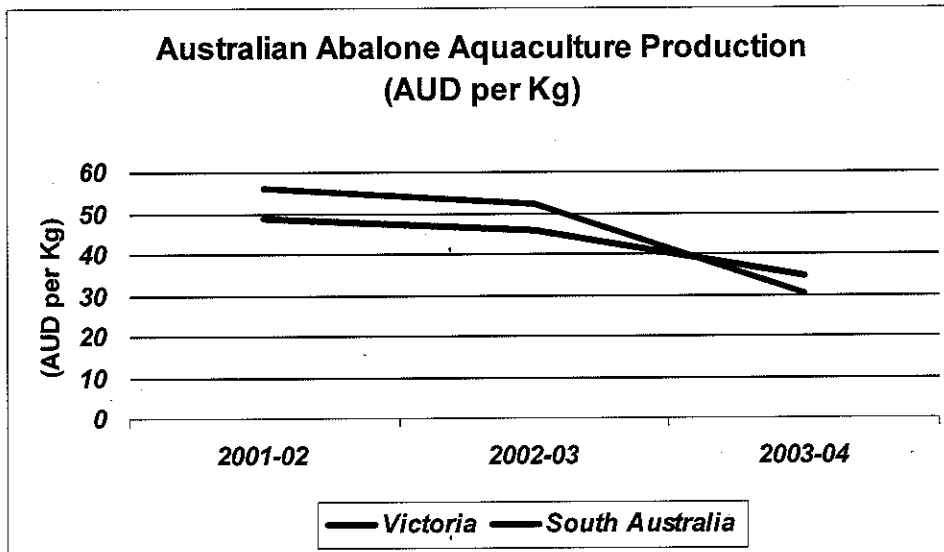


Figure 6. Australian Abalone Aquaculture Production  
(Source: ABARE – Fisheries Statistics 2004)

The Australian abalone aquaculture sector has also shared lower prices with wild caught product. This is demonstrated in Figure 7 overleaf.

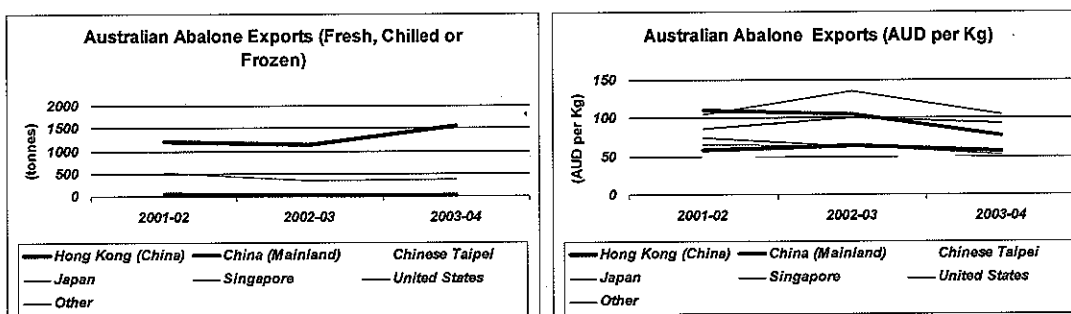


**Figure 7. Australian Cultured Abalone Prices**  
(Source: ABARE Australian Fisheries Statistics)

The question was posed to the workshop that despite some of the rhetoric, the reality may be that there is little differentiation between wild caught and farmed abalone in the marketplace. With the exception of small niche markets, which are also particular to specific species, this was generally acknowledged as being true.

### Update on Market for Australian Abalone

In 2003-04 approximately 40 percent of Australian abalone exports were fresh, chilled or frozen and 60 percent canned. Supply contribution to this export market from the aquaculture sector has grown from 1.2 percent in 2001-02 to 4.2 percent in 2003-04. As demonstrated in Figure 8 below, there has been limited absolute growth in non-Chinese markets.

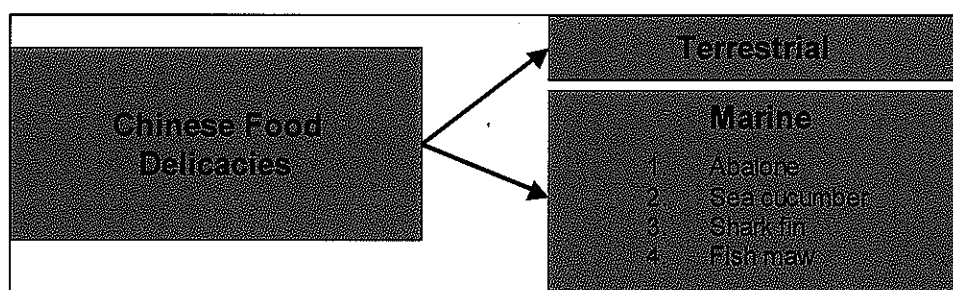


**Figure 8. Australian Abalone Exports**  
(Source: ABARE – Australian Fisheries Statistics 2004)

China has grown from 60 percent to 75 percent of Australia's fresh, chilled or frozen abalone market and from 30 percent to 45 percent of Australia's canned abalone

market. It was proposed to the workshop that the lack of growth in exports to Japan was the result of the strong penetration of South African product in that market. While the participants acknowledged that South African product did have a strong position in the Japanese market, several Australian farms are reporting strong sales to Japan.

Given, the dominance of China as an export market for Australian abalone, the workshop examined some of the trends in the Chinese market. As demonstrated in Figure 9 below, abalone is considered a preferred marine delicacy in China.



**Figure 9. Chinese Delicacies**  
 (Source: N. Lui, Kwong Tai Hong Sealand Products Company)

Furthermore, a range of abalone product forms are used in different Chinese cuisine as demonstrated in Figure 10 below.

		Canned	Frozen	Live	Dried
<b>Non Cooked</b>	Sashimi & Sushi			○	
	Hotpot (Steamboat)			○	
	Appetiser	○			
<b>Cooked</b>	Soup	○	○		○
	Braised	○	○		○
	Steamed			○	

**Figure 10. Chinese Cuisine Applications of Abalone**  
 (Source: N. Lui, Kwong Tai Hong Sealand Products Company)

Chinese import duties on abalone are significant and depending on exporting country status and product form they range from an effective rate of 25 percent to over 100 percent. This is demonstrated in Figure 11 overleaf.

		Live/Frozen	Canned/Dried
<b>Non Most Favoured</b>	Customs Duty	80%	90%
	VAT	13%	17%
	Effective Rate (est.)	93%	107%
<b>Most Favoured</b>	Customs Duty	19%	8.3%
	VAT	13%	17%
	Effective Rate (est.)	32%	25%

**Figure 11. Approximate Chinese Effective Import Duties on Abalone**  
 (Source: N. Lui, Kwong Tai Hong Sealand Products Company)

As a result of these charges, 90 percent of abalone that is imported into duty free Hong Kong is then illegally exported to Mainland China. This illegal market is a spot market based on price competition and represents a potential threat to the future of Australian abalone exports. The nature of this market means that no strategic marketing of the product occurs, making it very difficult for Australian abalone to be positioned as a premium product. Furthermore, the emerging generation of Chinese consumers is more accustomed to Western cuisine and there is a risk that without strategic marketing activities, demand for abalone may decline.

The workshop participants acknowledged that this issue was in fact true, but also agreed that it is a longer-term issue.

## **The South Australian Experience**

Ian Nightingale is the Executive Director of the Aquaculture Division at Primary Industries and Resources South Australia (PIRSA) and has had a long association with the abalone aquaculture industry in South Australia both through his current role and his past career with the Eyre Peninsula Regional Development Board. Ian delivered a presentation to the workshop titled, *Abalone Farming, A South Australian Perspective: The Catalysts and Challenges, Role of Government and Lessons Learnt*.

The following subsections discuss the key points raised in the presentation.

### **Addressing the Realities**

Three fundamental platforms must be in place for the development of a successful abalone aquaculture sector:

- Confidence in the investment environment and stability in the market.
- Consistency in product quantity, quality and time to market
- Certainty in the regulatory environment, Government policy and associated services. The message from the Government must be clear and consistent and must flow from the Premier and responsible Minister down.

For a sector to be successful the following factors must be very clear:

- What is going to drive the growth in the sector?
- Is it going to be profitable in the medium to long-term?
- Are the supply and demand factors in balance?
- Is the product likely to become a commodity?
- How does the product measure up in relation to our competitors (realistically)?
- What are the margins and what is the market share for the sector?
- How does our aquaculture product look through the eyes of the end user?
- How does the talent or expertise in our industry compare with our competitors?

It is not government's role to pick winners, but for it to provide an efficient environment where the private sector can be effective in building new industries.

### **To Invest or Not to Invest?**

The following factors need to be considered when addressing the investment markets:

- Feasibility of the proposal is ultimately determined by those investing.
- What are the competitive advantages?
- Cost of access to appropriate infrastructure and land
- Workforce skills, costs and availability
- Supportive and appropriate planning and regulatory environment

### **Planning and Regulatory Environment**

With regard to the planning and regulatory environment the following conditions must be in place:

- Policy with clear legislative objectives
- Regional planning in line with appropriate planning and land use principles
- Zoning areas considered appropriate for aquaculture development
- Transparent and equitable allocation of resources for aquaculture
- Leasing – the right of occupation of public water and land and long term tenure (e.g. registered leases)
- Risk assessment and management strategies commensurate to the level of risk
- Streamline development consent

The most important role government can play as far as its interaction with the investment community is concerned, is to provide an environment of certainty. This means clear and efficient planning processes that are integrated and aligned, zoning of areas considered appropriate for aquaculture and transparent and equitable allocation of resources for aquaculture. It was commented that for tenure to be meaningful to an investor it should be granted for 20 years with five consecutive 20-year options.

Some concern was expressed from both Ian Nightingale and the workshop participants over the number of licenses that are issued in Western Australia that are not being proactively driven toward production.

### **Lessons Learnt in South Australia**

The following were cited as critical lessons for South Australia:

- Site location (technical and economic) is critical
- Expensive failures resulting from using radical new tank designs without testing impacted significantly on cash flow from a capital expenditure, mortalities and growth rate point of view.
- Lack of accurate stock records to measure growth rates, mortalities and cost at any given point within the production cycle resulted in unrealistic early reports on growth rates and mortalities. This in turn led to inaccurate budgeting in establishing capital expenditure and cash flow projections.

### **Vision for the Future**

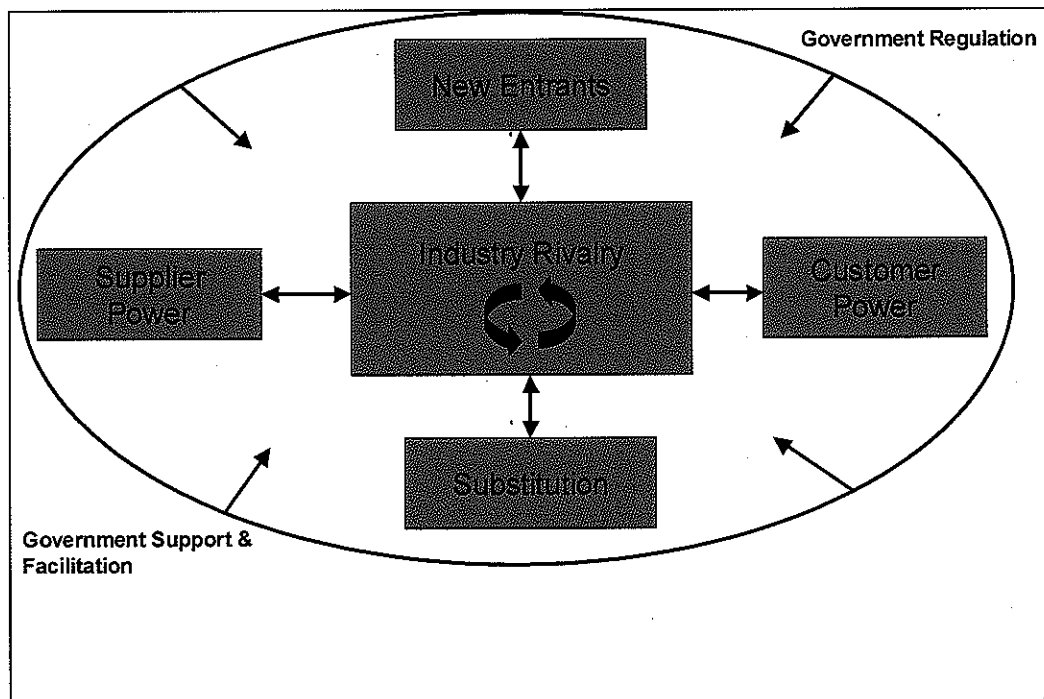
The following are likely to be emerging trends in the South Australian abalone aquaculture industry:

- Will see a new generation of abalone farmers
- There will be a greater integration of onshore and offshore farming systems
- There will be improved production efficiencies
- There will be a greater collaborative marketing effort

## Workshop: Issues Identification

Approximately 2 hours was dedicated to systematically working through the specific issues that might be preventing the development of a sustainable abalone aquaculture industry in Western Australia. It was noted that the fundamental problem was a lack of investment capital, but the possible reasons as to why investment capital was not flowing into the sector had to be examined extensively to ensure that any initiatives developed address fundamental problems.

In order to systematically assess the issues a workshop was facilitated around Michael Porter's Five Forces of Industry Competition Model as depicted in Figure 12 below.



*Figure 12. Porter's Five Forces of Industry Competition*

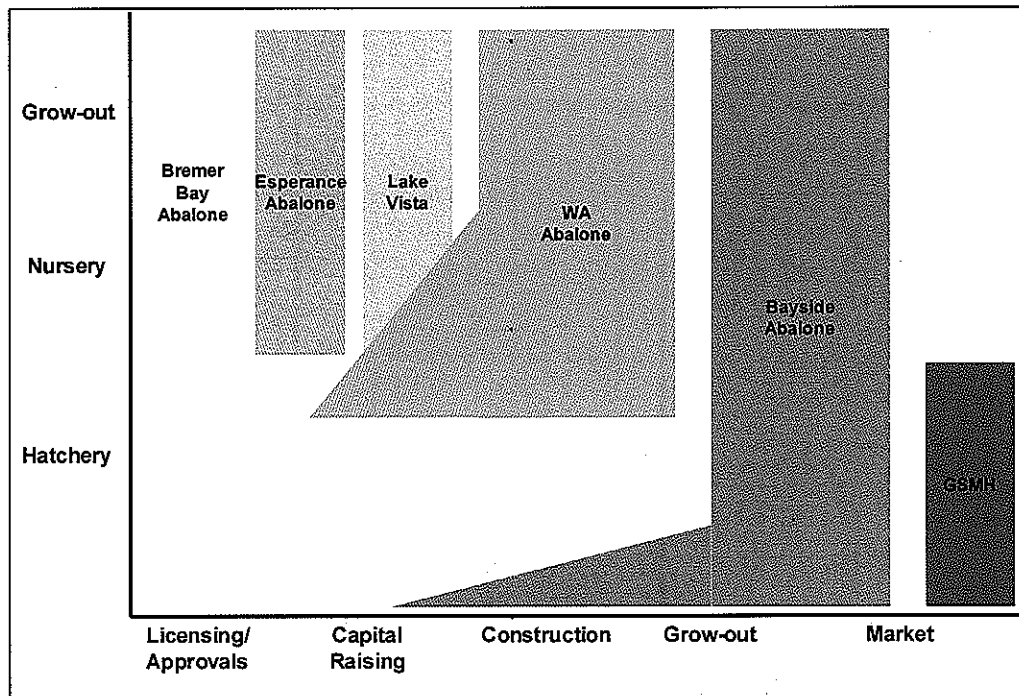
This model discusses the dynamics of an industry in terms of competition between industry participants and the relationship between those participants and their suppliers and customers. It also discusses the dynamics of the industry with respect to the threat of new players entering the industry and that of product substitution. The impact of government intervention in the industry is also examined.

The following subsections detail the discussion around the issues raised during the systematic assessment.

## Industry Rivalry

### Project Development Progress

The Western Australian abalone aquaculture industry is at an immature stage, with only one player having very recently started to deliver product to market. All other players are either in a construction, capital raising or approvals and licensing process. Figure 13 below demonstrates how the various main participants are positioned with respect to the progress and scope of their various projects.



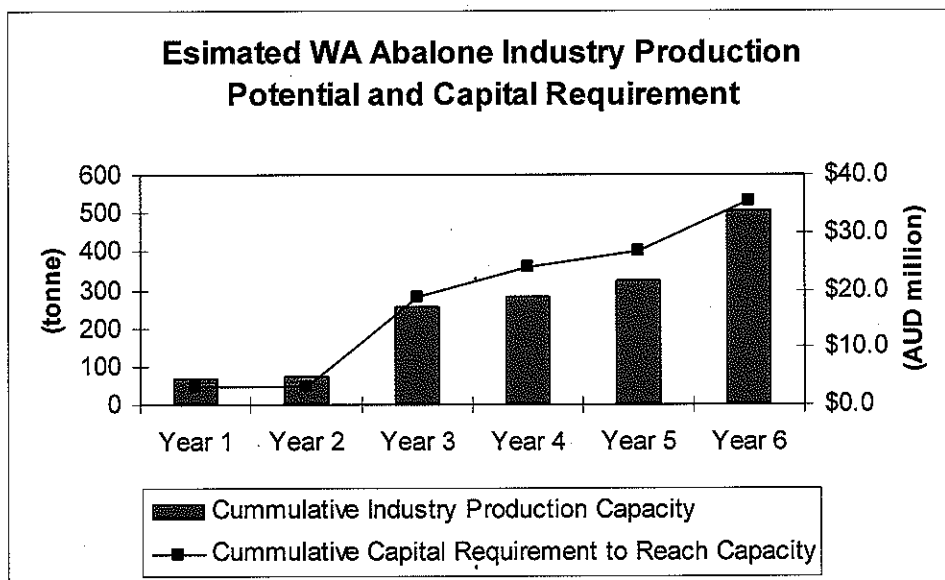
*Figure 13. Positioning of Western Australian Abalone Aquaculture Industry Participants*

Bremer Bay Abalone is the most immature of the projects and is currently engaged in a licensing and approvals process. Esperance Abalone is a relatively small planned farm that has approvals in place but has been unable to raise adequate capital to commence construction. Lake Vista has a 120 tonne operation planned for Augusta and has been attempting to raise capital via a Managed Investment Scheme and to date has not been able to raise adequate capital to fund construction. Lake Vista is also a 50 percent owner of Great Southern Marine Hatcheries (GSMH), a hatchery operation in Albany. Western Australian Abalone has raised some capital and is in the process of constructing a 40 tonne facility at a site in Bremer Bay immediately adjacent to both Bremer Bay Abalone's site and Bayside Abalone's site. Western Australian Abalone has some one and two year old animals growing that were initially reared at the Bayside farm and needs to raise additional capital to complete its construction and then at a later stage to expand to a 200 tonne facility. Bayside

Abalone is a 30 to 40 tonne facility that is currently delivering a small number of animals to market. It also needs to raise capital to complete its construction. Bayside Abalone and Great Southern Marine Hatcheries both currently operate hatchery facilities.

**Production Potential and Capital Requirements**

Collectively, the Western Australian abalone aquaculture projects that are currently planned have the potential to produce approximately 500 tonne of production within six years if they are able to raise a total of approximately \$35 million over that period of time. This is demonstrated in Figure 14 below.

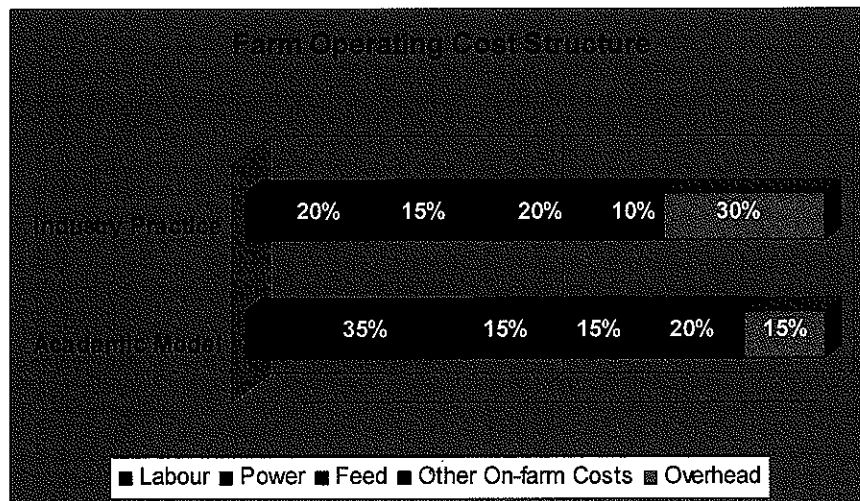


*Figure 14. Projected Potential Western Australian Abalone Aquaculture Production*

More importantly, 400 tonne of this potential production could potentially be concentrated in the Bremer Bay area. While this is not optimal from an existing infrastructure perspective (from an infrastructure perspective Esperance and Albany are preferred locations), this creates potential for cluster economics and economies of scale to take effect.

**Cost Structures**

Specific revenue and cost projections and actual results remain confidential to the various industry participants. As such, two indicative farm cost structures were proposed to the workshop. The first is an academic assessment of farm costs proposed by Professor Peter Cook at the 2005 National Abalone Convention. The second is an estimate based on observations of operating farms in South Australia and Victoria. Both cost structure estimates are demonstrated in Figure 15 overleaf.



*Figure 15. Estimates of Abalone Farm Operating Cost Structures*

While there was some dispute over the preciseness of these models, it was generally agreed that it was fair to assume that labour, power and feed comprise approximately two thirds of farm costs and that these are indeed semi-variable costs. This implies that returns can be enhanced by achieving economies of scale.

It was also agreed that a general benchmark for a good performing Australian farm is total production costs of less than \$32 per kilogram and at current prices, farms operating above this would be marginal.

Benchmarking of farm performance in South Australia and Victoria has resulted in improved overall industry performance. It was acknowledged that as production comes on stream in Western Australia the industry would benefit from similar benchmarking practice both between Western Australian producers and in comparison with Victorian and South Australian producers.

### **Supplier Power**

Six main suppliers to the industry were discussed, namely:

- Feed
- Broodstock and Juveniles
- Power
- Sites

- Labour
- Capital

### **Feed**

Abalone feed in Western Australia is currently imported from two Eastern States suppliers. While the concept of a local feed supplier has been explored, it was agreed that the limited market would make such an operation uneconomic. Furthermore, it was proposed that the existing Eastern States suppliers would be reluctant to license their formula to another feed manufacture because of both the value of the intellectual property and the fact that the current duopoly is allowing them to charge high prices.

The current freight mark-up on feed is approximately \$0.60 per kilogram and at current consumption levels (approximately 130 tonnes per annum) is costing the local industry approximately an additional \$80,000 per annum. It was proposed that part of this problem was inefficient freighting and Ian Nightingale mentioned that he may be able to provide some assistance in mitigating this problem. Generally speaking, the additional cost associated with feed was not considered to be a priority problem.

### **Broodstock and Juveniles**

There are currently two hatchery facilities in Western Australia, in Bremer Bay and Albany. This has the potential to allow future grow-out operators to manage their risk by having two sources of juveniles. However, in order to present value to grow-out operations and to reduce investor risk, a hatchery must have a proven track record of producing high performing animals.

There were mixed views in the workshop on the quality of stock from the Western Australian hatcheries and the possibility of independently and systematically measuring and reporting on-farm performance of hatchery product was proposed. This is a measure that the ADC can potentially support.

Furthermore, in a production systems disaggregation model, the independent hatchery must also support a nursery function that has the capability to grow animals to 10mm. This is necessary for the sustainability of the hatchery operation and improved economics of the grow-out operation. However, the hatchery can obtain

improved economics if the commercial hatchery is able to leverage off externally funded R&D projects.

The issue of translocation was also discussed, as considerable economics could potentially be achieved by translocating mature animals from South Australia to shorten the time positive cash flow. However, it was generally acknowledged that workable translocation regulations were an unlikely eventuality in the foreseeable future because of the risk of damaging local genetic stock. The issue that would need to be addressed is the competency of discharge filters to ensure gametes were unable to be released into the wild-stock. Even though, this could potentially be addressed a number of industry participants considered the scenario to be undesirable. Furthermore, the issue of the limitations to in-sea ranching practices that translocation might imply should also be considered before introducing a translocation policy.

Generally speaking it was agreed that it is unlikely that a translocation solution will be implemented for Western Australian abalone farmers in the short-term.

#### **Power**

Power costs in regional Western Australia are significantly in excess of those in regional South Australia and Victoria. For example, the subsidised cost of delivery to Bremer Bay users is approximately \$0.12 per kilowatt hour. Whereas average costs in regional South Australia are \$0.08 to \$0.09 per kilowatt hour and \$0.06 per kilowatt hour in regional Victoria.

It was generally agreed that the reality is that regional Western Australia will continue to incur high power costs in the short to medium term. However, reliability of power in Bremer Bay was seen as an issue that could be rectified. Bayside Abalone has reported 63 outages in the past six months.

As such the ADC will engage with the Regional Development Group and other necessary authorities in an attempt to rectify this problem and to explore avenues for infrastructure subsidisation.

Another solution to the problem of high power cost is to explore the merits of in-sea ranching and determine at what volumes it becomes more economic than power

dependent onshore operations. This is a study that the ADC could potentially support.

### **Sites**

It was agreed that there are limited suitable sites in Western Australia, particularly when infrastructure issues are brought into the picture.

### **Labour**

It was proposed to the workshop that potentially, there is a lack of appropriately skilled labour in Western Australia for abalone farming and that existing operations were overly dependent on relatively expensive consultants. While it was acknowledged that the industry struggles to retain good staff because of its regional location (like many other regional based businesses), this proposition was largely untrue and that there was adequately skilled human resources in the Western Australian industry.

### **Capital**

It was agreed that the shortage of investment capital in the sector was the major problem. This is discussed in more detail in a later section of the report.

### **Buyer Power**

It was proposed that whilst it was important to examine buyer power with respect to the medium to long-term prospects of the industry, building market power was not a short-term priority for the industry and that the focus at this point in time should be to secure a sustainable production base.

### **Chinese and Japanese Markets**

The price-based promotion of product in Chinese markets was acknowledged as an issue that needed to be addressed in the future. It was also pointed out that the focus shouldn't necessarily be solely on the Chinese market, as despite plateauing export figures, Australian product was still being sought by Japanese buyers.

### **AusAb Pty Ltd**

AusAb is a strategic marketing initiative that has been undertaken by six Australian abalone aquaculture producers, whom are all shareholders in AusAb. It was

acknowledged that this was a potential avenue for effecting a strategic marketing approach for Western Australian abalone aquaculture product.

### **Wild Capture Sector**

While Australia is world's largest supplier of wild caught abalone, the Australian industry is a price-taker in the global market in absolute terms. This is an issue that the domestic wild-capture sector is currently attempting to address through a strategic marketing plan. There is a perception that local wild caught roei abalone is a direct competitor with farmed abalone in the global market, which may cause some challenges to future marketing cooperation between the Western Australian wild capture and aquaculture industries.

### **Threat of Substitution**

In light of its preferred Asian delicacy status the short-term threat of substitution to abalone as a whole is minimal. However, substitution for different species of abalone is ever present, particularly in the Chinese market where competition is based largely on price. In the longer term, the changing tastes of an emerging generation may drive substitution in the form of a preference for Western style cuisine.

### **Threat of New Entrants**

The threat of new entrants exists in three areas. Firstly, there is the threat of the expanding South African and Mexican industries. Secondly, there is a threat from expanding Eastern States industries in the form of new onshore farms, expansion of existing onshore farms and potential offshore farms. Thirdly, there is the possibility of increased local competition. However, this is unlikely to be a major issue as there are limited local sites with suitable environmental and infrastructure conditions.

The most significant immediate threat is that the more attractive economics associated with investing in the expansion existing Eastern States based operations will detract potential sources of capital away from Western Australian start-up operations. Furthermore, the effect of large off-shore farms on project economics and supply is as yet unclear.

## **Government Support and Regulation**

Currently, an abalone aquaculture project in Western Australia is governed and regulated by the following authorities and bodies of legislation:

- Fish Resource Management Act
- Environmental Protection Act
- Native Title Legislation (State and Commonwealth)
- Marine Parks
- Western Australian Department of Land Administration
- Western Australian Department of Conservation and Land Management
- Local Government

It was pointed out that it was not unusual for a licensing and approvals process to take up to three years. While it was unanimously acknowledged that this was an economic burden that detracted from the capital raising process and that it was in its self, highly inefficient, it was unlikely to be a situation that can be rectified in the immediate future.

To date the State Government has provided support to the Western Australian abalone aquaculture sector through two mechanisms:

1. It has provided guarantee for an approximate \$800,000 loan to Bayside Abalone that was required to part-fund its final construction.
2. It has, through the ADC, provided a grant to GSMH so that GSMH can continue to operate, in part to support a research program currently being undertaken by the Department of Fisheries in conjunction with GSMH

It is not likely that the State Government will make an additional capital investment in the industry. However, it is likely that the ADC will continue to support the industry through grants for initiatives where sustainable development is reasonably foreseeable.

## **Workshop: Action**

It was agreed by the workshop that the fundamental problem was investment attraction and whilst there are issues associated with higher input and project initiation costs in Western Australia, the basic economics of the proposition being taken to the investment market must change if any significant investment capital is to be attracted to the sector.

### **Possible Sources of Investment**

The various sources of investment capital were discussed as follows:

- **High net worth individuals**

The sector has been attempting to attract investment from high net worth individuals for over two years through unlisted public company, private company and Managed Investment Scheme (MIS) structures. While some capital has been raised from these efforts it has fallen well short of the level required to complete the construction of individual farms. Furthermore, it was acknowledged by the workshop that it was reasonable to assume that this source of capital has been exhausted for the short to medium term.

- **Initial Public Offering (IPO) and Backdoor Listings**

Raising capital for start-up businesses in the public markets either by an IPO or by way of vending the assets of the business into an existing listed company requires supportive retail investor sentiment for the sector. This sentiment does not currently exist with respect to the abalone aquaculture industry.

- **Private Equity Venture Capital Fund Managers**

Existing project proposals do not generate the Internal Rate of Return (IRR) levels that superannuation fund investors require private equity venture capital fund managers to produce from their portfolios. As such existing abalone farm project proposals are not competitive in this capital market.

- **Superannuation Funds**

It was proposed that superannuation funds may be a potential source of investment. The problem with this proposal is that superannuation funds rarely make direct investments in businesses and prefer to invest through a

venture capital fund manager or through a fund-of-funds manager. However, there are specialist superannuation fund managers such as Australian Primary Superannuation Fund that may be worth exploring as potential investors, albeit that the small size operations currently planned for Western Australia may be prohibitive to an institutional investor.

- **Corporate Venture Capital**

It was proposed to the workshop that corporations with a strategic interest in abalone production would seem the most likely investors. These may include aspiring Australian seafood companies such as Marine Produce Australia, large established Australian seafood companies such as MG Kailis, Australian aquaculture companies such as Atlas Pacific, global seafood companies such as I&J (which currently has abalone aquaculture investments in South Africa and Chile), global aquaculture companies such as Skrettings and global trading companies such as Mitsui. However, to attract such capital the industry needs to understand the strategy of these potential investors and position its self to be an attractive investment within this strategy.

## **Fundamental Economics and Valuation**

It was proposed to the workshop that the current Western Australian abalone aquaculture projects are relatively unattractive to the investment markets because they are characterised by:

- Significant capital expenditure
- Protracted periods to positive cashflow
- Basic agricultural risks (price-takers; environmental risk; revenue is in USD or Yen while costs are in AUD etc)
- Relatively small projects that cannot produce significant medium term returns

The issue of investment valuation was discussed and there were diverging views on appropriate valuation models. The view of number of workshop participants was that a subsequent round investor should pay a premium for equity in the project because their risk is less than that of previous investors. It was proposed to the workshop that while this might be true, the risk reduction for a subsequent round investor relative to a previous round investor while a project is still very much at a development stage is in fact minimal. However, more importantly, this argument is largely academic when

in reality the projects are competing in a much larger market for venture capital where investments funds will flow to projects with the most attractive risk-reward profiles. As such, a realistic valuation is one, which results in the project being competitive in this marketplace (i.e. the price an investor is prepared to pay).

### **Possible Solution**

It was proposed that a possible solution to the investment capital problem might be to bring the Bremer Bay projects together under a collaborative arrangement of some description in order to develop a world-class operation that has adequate economies of scale to produce a meaningful volume of quality product at competitive prices.

Such a project may have interest to a strategic investor, but also to the broader venture capital marketplace.

A meeting has been scheduled between the three Bremer Bay projects for Friday 3<sup>rd</sup> June 2005 to further explore this proposition and potentially scope out a project to progress this proposition. It was proposed that the ADC would provide financial support to such a project.