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3.0 NEED FOR THE PROPOSAL

3.1 Objectives of the Proposal

The objectives of this project are to:

- Establish a profitable operation;
- Expand the profitability of the existing business;
- Create jobs;
- Create economic stability in the region;
- Enhance the critical mass of aquaculture activity in the area in order to improve local aquaculture business efficiencies;
- Help develop an industry that will cement the social fabric of the region;
- Create wealth in the region;
- Stimulate growth of support industries in the region;
- Stimulate export revenue for Australia;
- Optimise the use of the regions physical, social and infrastructural resources; and
- Work to Environmentally Sustainable Development principles.

The purpose of this Environmental Impact statement is to examine the potential environmental, economic and social effects of the proposed development and to formulate appropriate environmental management plans to minimise adverse impacts and to enhance community benefits.

a) Business Objectives

The following summarises the business objectives of the Guthalungra Prawn Project:

- Produce in the region of 1600 tonnes of farmed black tiger prawn;
- Maximise margins of return through both domestic and export markets;
- Surpass ESD expectations;
- Establish the benchmark for production and water management in the dry tropics of north Queensland;
- Consistently obtain the highest prices for product;
- Maintain control over marketing and promotion of the product;
- Control the distribution of product;
- Undertake processing of the product;
- Maintain a highly competent workforce; and
- Industry leaders in Quality.

Detailed business objectives of the development are presented in the Guthalungra Prawn Farm Business Plan (Confidential Report).

b) Production Objectives

At full operational capacity approximately 260 ha of production ponds will be farmed. Production at Guthalungra will commence in 2005 at around 550 tonnes. Production will rise to around 900 tonnes in 2006, 1300 tonnes in 2007 and full production will be reached in 2008 at 1600 tonnes.

3.2 Need and Justification for the Proposal – Development and Policy Framework

All levels of Government - Federal, State and Local, support the development of a sustainable aquaculture industry in Australia, Queensland and Bowen Shire. This support is documented in numerous reports and various initiatives. Both the State and Federal Governments have made a commitment to the preparation of specific aquaculture development policies. The various State and Federal plans and strategies are presented in more detail in Section 2.1 - Summary of Aquaculture Developments and Strategic Directions for the Industry.

3.2.1 Existing Aquaculture Developments

Queensland has been identified as having significant potential for aquaculture development. A paper produced for the Queensland Food and Fibre Sciences Innovation Council (QFFSIC) chaired by the Queensland Primary Industries Minister detailed the development opportunities for aquaculture in the State. The paper (Knibb *et al.*, 2001) outlines that whilst aquaculture is one of Queensland’s fastest growing primary industries, there is ample evidence to suggest that the industry is not achieving its full potential in production, value or employment. Whereas Queensland has many natural advantages for aquaculture development, regional (Oceania) and National aquaculture has far surpassed Queensland in terms of rate of increase of production (see Figure 3 -1 below).

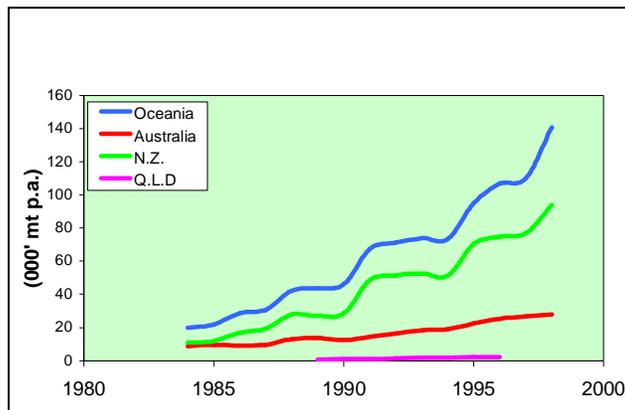


Figure 3-1
Queensland Aquaculture Production versus Neighbours

Source: Queensland Department of State Development 2002

Queensland accounts for only 6% of national aquaculture production by weight and 0.04% of global output. Many observers attribute the lag in growth to the complex regulation process and to poorly defined or communicated criteria for establishing an aquaculture operation. Others point to the fact that Queensland has World Heritage listed areas including the Great Barrier Reef as well as other areas of National or State environmental significance. The lack of clearly articulated policy on aquaculture in the state has also been identified as a major contributing factor (Queensland Aquaculture Industry Policy Discussion Paper, 2002).

The Guthalungra prawn farm proposal represents an attempt by an environmentally responsible operator to establish a business activity that has the support of all levels of Government in a region that desperately seeks economic stimulus in an industry that is recognised as under-achieving its growth potential in the State.

3.2.2 Federal Policy

On 13th December 2002 the Federal Fisheries Minister Senator Ian Macdonald, and Federal Minister for Industry, Tourism and Resources Ian Macfarlane announced the future initiatives that will make up the Action Agenda for the development of aquaculture in Australia, the following is taken from the media release and shows that a National Aquaculture Policy Statement will be developed as a priority.

The four-year plan includes initiatives such as:

- Developing a **National Aquaculture Policy Statement**. This will send a clear signal to all members of the aquaculture industry, domestic and international investors and the wider Australian community, that there is strong support in Australia for a sustainably managed aquaculture sector;
- Promoting a **regulatory and business environment** that supports an efficient and effective aquaculture industry, and helps attract new investment;
- Implementing an **industry-driven action agenda** that will help build a responsive and competitive industry that can work closely with government and the Australian community;
- Ensuring the industry grows **within an ecologically sustainable framework**. This will help ensure aquaculture expands its production base by improving its long-term sustainability and access to resources;
- Protecting **industry from aquatic diseases and pests** to help protect Australia's relatively clean, green and disease-free natural resource base;
- **Investing for growth**. To realise aquaculture's goal of tripling its worth to \$2.5 billion by 2010, there will need to be substantial capital investment across the industry;
- **Promoting aquaculture products in Australia and overseas** to capitalise on Australia's widespread and hard-won reputation as a supplier of safe, wholesome and high-quality products;
- **Research and innovation**. It is vital that Australia maximises the benefits of targeted research and innovation, and shares its experiences with 'best practice' operations;
- **Making the most of education and workplace training** to improve the skills and flexibility of workers in the aquaculture sector, and convert the industry's intellectual capital into a highly competitive product; and
- **Creating an industry for all Australians**, including encouraging Indigenous Australians to become significant stakeholders in aquaculture, and to make a greater contribution at the developmental stage.

It has been proposed that the Commonwealth Government (Agriculture Fisheries and Forestry Australia, AFFA and Environment Australia) will work with the State and Territory Governments, through the Primary Industries Ministerial Council, to make a National Aquaculture Policy Statement containing:

- A statement of support for sustainable aquaculture development in Australia;
- An outline of government commitments to sustainable aquaculture development;
- Clarification of resource access arrangements and management of aquaculture in Commonwealth waters; and
- An agreement to plan for aquaculture development in advance of growth in the States and Territories.

The Guthalungra prawn farm proposal is consistent with all of the objectives of the National Aquaculture Agenda listed above.

3.2.3 Prime Minister's Science, Engineering and Innovation Council - Report May 2002

Although not a policy paper, an independent working group was established to present a paper to the Prime Minister's Science, Engineering and Innovation Council that would, amongst other things, "recommend practical ways for governments and business to stimulate growth of (aquaculture) industry, particularly through science, engineering, innovation and education initiatives".

Also, the paper flagged "the major opportunities and obstacles (including environmental) for industry growth this decade, noting international regional developments and associated market drivers". The working group concluded, "Further development of our aquaculture industry towards production of premium species represents an enormous opportunity for Australia. Full implementation of the recommendations and a joint partnership of industry and governments towards ecologically sustainable development and genuine environmental stewardship are essential to realise this opportunity and thereby increase:

- High value exports of seafood and pearls;
- Employment and growth opportunities in regional Australia;
- Export of environmental technologies and know how; and
- The availability of a healthy and stable food source for Australia."

The three global recommendations made by the working group were related to "strengthening of aquaculture peak body activities; streamlining the regulatory environment; and enhancing R&D capacity and outcomes. A fourth recommendation is about fostering scientific collaboration".

Pacific Reef Fisheries are committed to working collaboratively with Government on research and innovation issues, particularly those associated with environmental management. Again, the Guthalungra proposal is consistent with the recommendations of the Prime Ministers Science, Engineering and Innovation Council and would contribute considerably to achieving the opportunities identified.

3.2.4 Need and Justification against Queensland State Policy

In November 2000 Queensland Cabinet identified (and announced) aquaculture as a priority industry for the state. The Department of State Development was nominated as lead agency for aquaculture industry development and a number of initiatives were endorsed to accelerate aquaculture development in the state. The preparation of a development policy is one of the initiatives. The draft Queensland Aquaculture Industry Development Policy has been circulated for public comments (closing date 31st January 2003).

The draft policy highlights the Queensland Government Priorities as:

- More Jobs for Queenslanders - Skill and Innovation - The Smart State. Through the creation of new job opportunities, growth in the contribution of aquaculture to the Gross State Product and an enhanced level of investment in infrastructure;
- Building Queensland's Regions: Through supporting statewide development so that Queensland's regions prosper and expanding export markets for regional businesses; and
- Valuing the Environment: Through responsible and sustainable access to and development of Queensland's natural and primary resources.

The Guthalungra project will contribute significantly to the achievement of these government priorities.

The following are selected objectives and policy statements from the draft policy that have been taken into consideration in the development of the project:

- Decision-making must have due regard to the principles of ecologically sustainable development;
- Aquaculture industry development initiatives will take into account the views of industry, community and other stakeholders; and
- The Government supports the achievement of higher value from land by developing new sustainable industry sectors such as aquaculture, particularly where the long-term viability of the existing use is assessed to be poor, where: 'Value' is determined by environmental, social and economic factors; and 'long-term viability of the existing use' is determined in terms of environmental, social and economic sustainability.

(Other policy statements in the draft policy tend to focus on the improvements that are required in the State aquaculture approvals process.)

3.3 Expected Community, Regional, State or National Benefits

The social and economic impacts of the Guthalungra prawn farm are presented in detail in Section 7.10 - Social and Economic Impacts. A detailed financial analysis is provided in the Guthalungra Prawn Farm Business Plan - (Confidential Report). The following provides a summary of the expected benefits.

3.3.1 Economic Impacts

The annual revenue of the Guthalungra operation is estimated at \$29 million at full production in 2008/9. Table 3-1 below provides an indication of the economic impact of the operation (see Section 7.10 - Social and Economic Impacts, for more detail).

**Table 3-1
Estimated Economic Impact of the Guthalungra Prawn Farm Development on the Queensland Economy**

Sector	Value Added/Gross State Product*		Employment (FTE)		Household income	
	\$m	%*	Jobs	%	\$m	%
Guthalungra Prawn Farm Direct	11.00	67%	88	75%	2.80	64%
Finance, Property & Business Services	1.52	9%	7	6%	0.47	11%
Trade	0.70	6%	8	7%	0.70	9%
Food Manufacturing	0.50	5%	4	3%	0.50	5%
Government Admin					0.30	2%
Electricity Supply	0.30	2%				
Road Transport			1	1%		
Other Industries	1.30	11%	9	8%	1.30	10%
Total	16.34	100	118	100	4.39	100
Total /Direct	1.49		1.34		1.57	

* Value added or Gross State Product is equal to the production value less the value of goods or services consumed

The direct business turnover (output) generated by the Guthalungra is estimated at \$29 million. Flow-ons to other sectors may add another \$14.3 million to regional business income (total \$43.3 million). The sectors most likely to be affected include manufacturing, trade, business and property services and finance sectors. It is anticipated that for each dollar of sales generated by the Guthalungra prawn farm there will be a total of \$1.50 of business income earned by businesses throughout the state; \$1.0 by Pacific Reef and \$0.5 in other sectors of the economy.

Gross State Product provides an assessment of the net contribution to regional economic growth of an enterprise. The direct value added generated by the Guthalungra is expected to be around \$11 million. Associated with this will be a flow on value added in other sectors of the economy of almost \$5 million. Again, for each \$1.00 of Gross State Product directly generated by the Guthalungra farm is likely to result in \$0.50 (\$1.50 total) in Gross state product generated in other sectors of the State economy.

The Guthalungra prawn farm will be responsible for the direct employment creation of around 88 people Full Time Equivalents (FTE's) positions. Flow on business activity from the operation (at full operation) may generate a further 30 jobs to give a total of around 118. For each job directly generated at the Guthalungra prawn farm there are an additional 0.34 jobs (1.34 jobs total) created.

It has been estimated that personal income of \$2.8 million will be earned by Guthalungra employees and a further \$1.6 million by wage and salary earners in other sectors. For each \$1.00 of household income generated directly by the Pacific Reef Guthalungra prawn farm, an additional \$0.6 (1.6 total) may be generated in other sectors of the State economy.

The construction of the Guthalungra prawn farm will be staged over four years. The majority of goods and services will be sourced either locally or regionally. The remainder will be sourced from Queensland with limited input from interstate.

Where goods are available and of comparable quality and price Australian Made products will be sourced. The capital cost of construction is estimated at around \$36 million. A more detailed breakdown of construction costs is provided in Section 7.10 - Social and Economic Impacts.

Pacific Reef Fisheries have a purchasing policy by which goods and services used in the operation of the farm are sourced locally in preference to elsewhere (Refer to Section 7.10.3. However it is possible that some plant and equipment, and inputs to the farming operation such as feed may be sourced from further a field.

3.3.2 Community Benefits

The following lists some of the community benefits from the project, more detail is provided in Section 7.10 - Social and Economic Impacts.

- Direct job creation, 70 permanent, 40 part - time (88 FTE);
- Support industry jobs creation, 30 (FTE);
- Training for staff, up-skilling of workforce, variety of skills required;
- Variety and wide range of jobs available, promotional prospects for individuals;
- Stabilisation of workforce, reduction in Shire emigration, increased migration;
- Improved spending capacity of workforce, around \$3 million more in shire economy. Improvement in standard of living for employees;
- Increased confidence in the Shire to settle and invest (housing) in the area;
- Stabilisation and improvement in local infrastructure eg:
 - Schools, stabilisation of class numbers (Gumlu);
 - Transport (roads, buses);
 - Medical/hospital;
 - Banks;
 - Post & communications eg telephone quality of service;
 - Electricity; and
 - Water.
- Increase volume of patronage to local business e.g. retail, professional services, building, trades, local sport and recreation, entertainment and food service, etc.

The establishment of a successful aquaculture operation in the Bowen Shire will provide a substantial impetus to further aquaculture investment in the region. Section 7.10 Social and Economic Impacts outlines the benefits that have flowed to the regional economy of South Australia from the tuna farming sector which is located near Port Lincoln on the Eyre Peninsula. The benefits to the local community and to the efficiency of individual operations of having a cluster of similar businesses are significant. It has been recognised that there is an opportunity for a concentration of aquaculture activities to occur in the Bowen Shire.

The Australian prawn farming industry is predominantly located in Queensland. It has been recognised as an industry with significant development potential. However, growth has not met expectations. Many reasons have been given for this lack of development. Regardless of the reason investors are currently unwilling to invest in establishing an operation. Evidence of this is the fact that no new prawn farms of any significant size have been constructed in Queensland in the previous two years. The successful establishment of the Guthalungra Prawn Farm through a State accredited approvals process may help to allay the lack of confidence in the approval process by investors.

Pacific Reef Fisheries is currently investigating the possible export markets for its product range. Currently only small quantities of Australian farmed tiger prawns are exported. However virtually the entire catch of wild caught brown tiger prawn is exported. There may be an opportunity to export substantial quantities of Pacific Reef Fisheries farmed black tiger prawns in the future. This would further contribute to the generation of domestic wealth.

3.3.3 Community Regional, State, or National Benefits

Historically, Bowen Shire has had a high concentration of workers in the skilled trades; coal mining, power generation, meat processing, horticulture, fishing and railways dominated local industry. There have been substantial job losses in mining, meat processing, power generation and railways leading to a loss of 2500 jobs in the region over 14 years. This has left a pool of relatively skilled people currently unemployed or underemployed.

Agriculture remains a substantial contributor to the regional economy, and although there has been growth in some sectors, it has shown little overall growth and/or diversification in recent years. Irrigated agriculture accounts for around \$230 million of production. However expansion in this sector is constrained due to the limited availability of freshwater.

In addition to the substantial closure of business and industry in the Bowen Shire and the high proportion of underemployed in the workforce, there is a continued reduction in population and an increasing proportion of the population aged over 65.

The additional economic activity that the Guthalungra prawn farm will bring to the area may help to redress these negative trends:

- Increased financial security in the community;
- Increased business activity to support the prawn farm;
- Introduction of a new aquaculture industries to the area leading to an aquaculture cluster;
- Greater economic stability for the surrounding region;
- Strengthening of the supply chain for goods and services;
- Increased opportunities for the establishment of agri-industries; and
- Increased opportunity for the establishment and retention of service industries within the region due to the increases in local GVP.

The social benefits associated with the project will include:

- Additional residents to the region which may help to stabilise the existing population;
- Influx of younger residents;

- Additional employment and specialist staff trades and skills;
- Increase incomes for skilled staff which may help to close the gap between regional and state incomes; and
- Maintenance of the rural ethos (independence and self reliance).

If the project were not to proceed the social impacts may include:

- Continued decline in population of the region because of the lack of employment opportunities; and
- Decline in the capacity to provide required community services. Residents may have to travel greater distances to larger centres for services such as (medical, dental, banking, speciality shops, suppliers, etc).

3.4 Further Expected Benefits

There are a number of potential flow-on benefits that may be difficult to attribute directly to the Guthalungra prawn farm development but may accrue indirectly from the project:

- Increased confidence in the Queensland aquaculture industry as an investment opportunity;
- Import replacement. Approximately 50% of the higher quality wild caught prawns harvested in Queensland waters are exported and replaced by a comparable quantity of lower quality imported product. An increase in farmed prawn production may reduce the dependence of cheaper imported product;
- A number of traditional agricultural activities in Queensland are undergoing structural reform. Sugar cane farming is one such sector. Aquaculture has been identified as a potential alternative farming activity that could be undertaken by cane or cattle farmers. The development of a successful prawn farm at Guthalungra may stimulate diversification in various agricultural sectors;
- The Guthalungra development will help to create a training centre for aquaculture and other related industries in the region;
- A diversified range of food products from the region may lead to closer cooperation from producers to market their product on a regional basis. This has been undertaken successfully in a number of regions elsewhere in Australia (Yarra Valley, Rutherglen, Upper Murray, and Fleurieu Peninsula etc); and
- A higher profile for the region through marketing activities may have flow on effects on tourism. It is likely that there will be increase national (and international) awareness of the region through products from the region. Although Bowen is already well known for mangoes it is not yet recognised nationally by the consumer as producer of other products. It may also become nationally recognised for the quality of prawns it produces.