

## **Assessment against Standard Criteria under the Environmental Protection Act 1994**



## Summary

The Environmental Protection Agency is currently the administering authority of the Environmental Protection Act 1994. As part of considering the application to develop the Guthalungra Aquaculture Project, the Agency is must consider the standard criteria listed in Schedule 4 of the Act. The standard criteria are:

- (a) the principles of ecologically sustainable development as set out in the National Strategy for Ecologically Sustainable Development; and
- (b) any applicable environmental protection policy; and
- (c) any applicable Commonwealth, State or local government plans, standards, agreements or requirements; and
- (d) any applicable environmental impact study, assessment or report; and
- (e) the character, resilience and values of the receiving environment; and
- (f) all submissions made by the applicant and interested parties; and
- (g) the best practice environmental management for the activity under the authority, program or order; and
- (h) the financial implications of the requirements of the authority, program or order as they would relate to the type of activity or industry carried on under the authority, program or order; and
- (i) the public interest; and
- (j) any other matter prescribed by regulation.

This report provides an assessment of the Guthalungra Aquaculture Project against the standard criteria.

In doing so the report particularly compares the project against the objectives of:

- The National Strategy for Ecologically Sustainable Development
- Environmental Protection (Water) Policy 1997
- Environmental protection (Waste Management) Policy 2000
- Reef Water Quality Protection Plan

This report finds that the Guthalungra Aquaculture Project fulfils the Standard Criteria for Environmentally Sustainable Development.

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This report deals with the assessment of the Guthalungra Aquaculture Project against the Standard Criteria under the Environmental Protection Act 1994.

### **(a) the principles of ecologically sustainable development as set out in the 'National Strategy for Ecologically Sustainable Development'**

ESD is development which aims to meet the needs of Australians today, while conserving our ecosystems for the benefit of future generations. To do this, we need to develop ways of using those environmental resources which form the basis of our economy in a way which maintains and, where possible, improves their range, variety and quality. At the same time we need to utilise those resources to develop industry and generate employment.

Following an extensive consultation process over a number of years, the Council of Australian Governments endorsed the National Strategy for Ecologically Sustainable Development in December, 1992

(<http://www.deh.gov.au/esd/national/nsesd/strategy/index.html>).

The strategy provides a coordinated approach to ESD and provides a framework for incorporating a long-term view of the wider economic, social and environmental implications of decisions and actions.

The Strategy is defined by the Goal, Core Objectives and Guiding Principles.

#### **Goal:**

“DEVELOPMENT THAT IMPROVES THE TOTAL QUALITY OF LIFE, BOTH NOW AND IN THE FUTURE, IN A WAY THAT MAINTAINS THE ECOLOGICAL PROCESSES ON WHICH LIFE DEPENDS”.

#### **Core Objectives:**

- to enhance individual and community well-being and welfare by following a path of economic development that safeguards the welfare of future generations
- to provide for equity within and between generations
- to protect biological diversity and maintain essential ecological processes and life-support systems

#### **Guiding Principles:**

- decision making processes should effectively integrate both long and short-term economic, environmental, social and equity considerations
- where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation
- the global dimension of environmental impacts of actions and policies should be recognised and considered
- the need to develop a strong, growing and diversified economy which can enhance the capacity for environmental protection should be recognised

- the need to maintain and enhance international competitiveness in an environmentally sound manner should be recognised
- cost effective and flexible policy instruments should be adopted, such as improved valuation, pricing and incentive mechanisms
- decisions and actions should provide for broad community involvement on issues which affect them

Importantly, it was noted that these guiding principles and core objectives need to be considered as a package. No objective or principle should predominate over the others. A balanced approach is required that takes into account all these objectives and principles to pursue the goal of ESD.

The Strategy identified a role for private enterprise in supporting the concept of ESD while taking decisions and actions which are aimed at helping to achieve the goal of this Strategy. It is considered that there are a number of areas where the Guthalungra Aquaculture Project actively contributes to the National Strategy for Ecologically Sustainable Development.

The Strategy provides the broad strategic framework for those key industry sectors which rely on natural resources as their productive base and the same information for a broad range of cross-sectoral issues.

Specifically, the Guthalungra Project actively contributes to the sectoral issues in Agriculture.

The cross-sectoral issues to which the Guthalungra Aquaculture Project contributes include Biological Diversity, Nature Conservation System, Land Use Planning and Decision Making, Natural Resource and Environment Information, Environmental Impact Assessment, Coastal Zone Management, Water Resource Management, Waste Minimisation and Management, Industry, Trade and Environment Policy, Aboriginal and Torres Strait Islander Peoples, and Employment and Adjustment.

#### *Agriculture (Chapter 1 of the Strategy)*

Objective 1.2 seeks

*to promote integrated planning of agricultural resource management, in particular in areas affected by land degradation, and extend measures, particularly community based self-help approaches, which encourage information transfer and landholder adoption of sustainable management and*

Objective 1.3 seeks

*to reduce and manage effectively the impacts of pest plant and animal species on Australia's agricultural areas.*

The Guthalungra Aquaculture Project contributes to these objectives by integrating production of prawns with rehabilitation of wetlands and terrestrial habitats seriously degraded by agricultural land-uses. A core component of the rehabilitation is removal of weeds currently infesting the site and reinstating natural vegetation. Bringing this project to fruition will demonstrate the value of integrating high value production and environmental rehabilitation to a wide range of stakeholders.

### *Biological Diversity (Chapter 9 of the Strategy)*

Objective 9.1 seeks

*to develop effective mechanisms for minimising human, pest plant and animal impacts on ecological systems, expand habitats for native species of plants and animals, while maintaining a diverse and healthy economy.*

The Guthalungra Aquaculture Project uses a wide range of world's best practices to minimise the impact of the project on the environment. These include the off-shore pumping station, incorporation of sand filtration technology in effluent processing, rehabilitation of wetlands to process runoff from adjacent agricultural land and rehabilitation of terrestrial habitats which provides a practical example of off-reserve conservation. In so doing, the Guthalungra Aquaculture Project will bring significant economic benefits to the State and Region providing growth in aquaculture production, and making a major contribution to maintenance of a diverse and healthy economy.

### *Nature Conservation System (Chapter 10 of the Strategy)*

Objective 10.1 seeks

*to establish across the nation a comprehensive system of protected areas which includes representative samples of all major ecosystems, both terrestrial and marine; manage the overall impacts of human use on protected areas; and restore habitats and ameliorate existing impacts such that nature conservation values are maintained and enhanced.*

The Guthalungra Aquaculture Project will actively restore habitats and ameliorate existing impacts such that nature conservation values are maintained and enhanced in approximately 240 ha of coastal environment, thereby directly contributing to achieving this objective.

### *Native Vegetation (Chapter 11 of the Strategy)*

Objective 11.1 seeks

*to foster a conservation ethic, while ensuring effective measures are in place for the conservation and management of native vegetation.*

The Guthalungra Aquaculture Project will meet the challenge identified for ESD in relation to Native Vegetation. The project will restore native vegetation and consequently maintain and enhance biodiversity. In rehabilitating wetland and riparian areas, the project will also protect river water quality and conserve soil resources on private land.

### *Environmental Protection (Chapter 12 of the Strategy)*

Objective 12.1 seeks

*to establish, across the nation, measures for the protection of the environment which are consistent with the guiding principles of ESD, including measures which adopt a preventative approach to pollution and waste generation.*

The Guthalungra Aquaculture Project will contribute to this objective through the use of advanced effluent treatment technology to prevent and, in some cases, reduce pollution entering the Great Barrier reef lagoon from the area on and around the proposed aquaculture site (see Section 6.6.1 Supplementary EIS). The Project also

incorporates whole farm environmental management plans and the proponent is leading the industry in the incorporation of property management plans to mitigate the impact of predator (see Appendix 11.6 Supplementary EIS).

*Land Use Planning and Decision Making (Chapter 13 of the Strategy)*

Objective 13.1 seeks

*to encourage environmental and economic land use decision making which takes full account of all relevant land and resource values and to establish and operate systems of land use decision making and dispute resolution.*

The Guthalungra Aquaculture Project proposal incorporates, for the first time in the aquaculture industry in Queensland, a cost benefit analysis of the entire project including valuing the consumption and contribution of environmental values. The cost benefit approach used in this project takes into account the significant direct and indirect economic benefits of the project to the region and the State, and the significant social benefits to the region. For the first time in the Queensland aquaculture industry, the project also provides an analysis of the value of the environment enhanced through the project, offset against those environmental values that may be compromised (see Net State Benefit Assessment, AEC Group Ltd).

*Natural Resource and Environment Information (Chapter 14 of the Strategy)*

Objective 14.2 seeks

*to enhance the quality, accessibility and relevance of ESD-related data.*

The Guthalungra Aquaculture Project contributes to achieving this objective in two distinct ways.

Firstly, this project has provided water quality data for a region of the Queensland coast previously not studied. Such data sets are relied upon heavily by regulatory agencies such as the Queensland Environmental Protection Agency, the Great Barrier Reef Marine Park Authority and the Department of Environment and Heritage to illuminate their understanding of the processes occurring in the coastal zone. These data sets are valuable to the agencies as they are expensive and difficult to obtain (see Section 5.1 Supplementary EIS).

Secondly, this project has provided data in the form of the cost benefit analysis that allows consideration of the economic value of the environment and social impacts in new ways. That this is the first commercial aquaculture project in Queensland to provide such data highlights the inherent difficulty and value of such a dataset (see Net State Benefit Assessment, AEC Group Ltd).

*Environmental Impact Assessment (Chapter 15 of the Strategy)*

Objective 15.2 seeks

*to increase the sensitivity of the EIA process, its planning and policy context and consequent decision making, to cumulative and regional impacts.*

The EIA process for the Guthalungra Aquaculture Project has broadly canvassed community concerns and identified and valued impacts and benefits to ensure they include assessment of environmental, cultural, economic, social and health factors at a depth and breadth not previously undertaken in aquaculture projects in Queensland.

*Coastal Zone Management (Chapter 17 of the Strategy)*

Objective 17.1 seeks

*to develop coastal policies, consistent with ESD principles within each jurisdiction.*

The Guthalungra Aquaculture Project assists government meet Objective 17.1 in that it constitutes coastal development consistent with ESD principles. The project will enhance individual and community well-being by providing significant economic activity and benefit in a way that provides for sustainability of the environment thereby safeguarding the welfare of future generations. By working to generate environmental benefit to offset environmental impacts, the project ensures sustainability and provides equity of opportunity between generations.

The project also significantly enhances the local environment through rehabilitation of degraded land, thereby maintaining essential ecological processes and life-support systems and providing protection to biological diversity.

*Water Resource Management (Chapter 18 of the Strategy)*

Objective 18.1 seeks

*to develop water management policies which are based on an integrated approach to the development and management of water resources and*

Objective 18.2 seeks

*to develop and implement the most effective mix of water resource management mechanisms.*

The Guthalungra Aquaculture Project will contribute to meeting these objectives through enhanced flood plain management and stream water quality and construction of ponds to avoid compromise of groundwater quality. Rehabilitation of the riparian and wetland areas and changed land use practices will improve flood plain management and reduce sediment loads in adjacent streams and coastal waterways. Construction of ponds according to a strict Guideline for Construction of Aquaculture Containment Systems will ensure protection of local groundwater quality.

*Waste Minimisation and Management (Chapter 19 of the Strategy)*

Objective 19.1 seeks

*to improve the efficiency of resource use and reduce the impact on the environment of waste disposal.*

The Guthalungra Aquaculture Project has adopted the hierarchy of waste minimisation, seeking to prevent production of waste and minimise the waste produced in processes where it cannot be avoided. Waste minimisation is exemplified by the use of sand filtration technology to reduce the sediment in the aquaculture discharge to a point where, combined with other measures, the project will reduce the sediment entering the Great Barrier Reef lagoon. Various other practices are incorporated to reduce waste such as the use of bulk feed bags to reduce packaging waste.

*Industry, Trade and Environment Policy (Chapter 21 of the Strategy)*

Objective 21.1 seeks

*to continue development of Australia's industrial sector, pursue opportunities to*



*achieve greater diversity in our economic and industrial structure, while ensuring that environmental objectives are not compromised and*

Objective 21.2 seeks

*to seek a high degree of integration of trade and environment policies.*

The Guthalungra Aquaculture Project will produce over 1500 T of black tiger prawns annually under Australia's and Queensland's stringent environmental management regimes. The product will compete in both national and international markets with product from other jurisdictions produced under less rigorous environmental regulation. In doing so, the production of prawns from Pacific Reef Fisheries' Guthalungra farm will enhance the overall sustainability of prawn production and demonstrate environmental responsibility to the world's prawn producers. Perhaps as a result of the activity resulting from this project, the environmental sustainability of prawn production on a global scale will move closer toward meeting the principles of ESD.

*Aboriginal and Torres Strait Islander Peoples (Chapter 22 of the Strategy)*

Objective 22.1 seeks

*to ensure effective mechanisms are put in place to represent ATSI land, heritage, economic and cultural development concerns in resource allocation processes and*

Objective 22.2 seeks

*to strengthen the active participation of ATSI peoples in formulation of ESD-related policies and programs.*

The Guthalungra Aquaculture Project will contribute in a substantive and meaningful way to achieving these objectives. The Proponent has actively consulted with the Gudjida People, the traditional owners of the area in which the project is located. Consultation has incorporated introduction of company staff to the land and identification of sacred sites within and adjacent to the area of the project. The project will also incorporate local indigenous people during the construction and subsequent operation in order to ensure the values of the Gudjida People are protected.

Thus effective mechanisms are in place to represent ATSI land, heritage, economic and cultural development concerns and ATSI peoples are active participants in the project.

*Employment and Adjustment (Chapter 27 of the Strategy)*

Objective 27.1 seeks

*to assess and monitor the equity implications of proposed ESD actions, including impacts on employment and structural adjustment, and ensure they are taken into account in reaching decisions on implementation.*

The Guthalungra Project will bring jobs to a region where there is limited local employment opportunities. Recent closures of fishing areas and other local industry mean many of the inhabitants of the region are forced to travel to seek employment opportunities in the mining sector. The Project will provide the opportunity for employment locally thus strengthening family and community bonds in the region and enhancing social welfare.

## **(b) any applicable environmental protection policy - Environmental Protection (Water) Policy 1997**

### *General*

This section deals with the proponent's assessment of the project against the relevant sections of Environmental Protection (Water) Policy 1997. Sections of the policy not covered in this document are not considered to be relevant to the proposal or prescribe action required of the administering authority.

The Environmental Protection (Water) Policy 1997 was established to achieve the purpose of the Environmental Protection Act 1994 in relation to Queensland waters. Under section 3 of the Act, the object of the Act is to protect Queensland's environment while allowing for development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends (*ecologically sustainable development*).

The Policy (Section 7, Subsection 2) identifies the environmental values to be enhanced or protected in waters such as Abbot Bay, which are not listed in Schedule 1 of the Policy.

However, if a natural property of the water precludes enhancement or protection of a particular environmental value, protection of the value does not apply. Thus, in the case of Abbot Bay which is sea water, values which are (c) use as drinking water or (d) agricultural use do not apply.

The Great Barrier Reef Water Quality Action Plan clearly identifies the Don River catchment as impacted by agricultural runoff and it is therefore not a pristine water.

Thus the environmental values that apply to Abbot Bay in reference to the Policy are:

- (a) biological integrity of a modified aquatic ecosystem; and
- (b) suitability for recreational use; and
- (e) suitability for industrial use.

Since the most likely industrial use of the water is as cooling or wash water, it is considered that satisfying the environmental values (a) and (b) will also satisfy (e).

The policy identifies indicators for environmental values as:

***“Water quality guidelines*** are numerical concentration levels or statements for indicators that protect a stated environmental value”.

For this purpose and on the advice of Qld Environmental Protection Agency Officers, the proponent has relied on the Queensland Water Quality Guidelines March 2006.

### *(a) Biological integrity of the modified aquatic ecosystem*

The impact of the project on the biological integrity of the system has been discussed at length in the Draft EIS (GAPFR 2003), the Supplementary EIS to which the present document is appended and the present document.

In summary, the proponent has stated water quality objectives that are:

- no change in total nitrogen,

- no change in total phosphorus, and
- no change in total suspended solids

in measured median values for Abbot Bay waters.

These objectives are supported by the reduction in sediment loads achieved through the offset, and the small additional net amount of nitrogen and phosphorus that will be released from this project. It is estimated that there is currently between 505 and 4,055 T of nitrogen released into the Don River catchment each year depending upon rainfall and resulting runoff. The median value is estimated to be 812 T of nitrogen. It is estimated that there is currently between 111 and 888 T of phosphorus released into the Don River catchment each year depending upon rainfall and resulting runoff. The median value is estimated to be 178 T of phosphorus. In view of these inputs through runoff from agricultural land, it is considered that the 24 T of nitrogen and 2 T of phosphorus will not compromise the biological integrity of a modified aquatic ecosystem.

This view is supported by independent analysis from the Department of Primary Industries which states that there will be no impact of the project on seagrass in Abbot Bay. Seagrass is one of the most sensitive components of the aquatic ecosystem and a component on which much of the biological integrity of the aquatic ecosystem is built.

*(b) Suitability for recreational use*

The impact on recreational users of the water of Abbot Bay is also discussed in detail in GAPFR (2003). Briefly, there is no expectation of unsightly plumes or compromise to the health of recreational users of the waters. These factors are supported by the effective removal of sediment from the discharge, which will result in limited visibility of the plume. Further, the modeling discussed in GAPFR (2003) indicates that the dilution of the plume will be rapidly achieved. There are no human health implications of discharge of aquaculture effluent since there is no concentrating effect of human pathogens as a result of aquaculture activities.

*Waste management evaluation procedure (Section 15)*

The proponent has undertaken the waste management procedure.

- Waste prevention options have been evaluated and those options to prevent waste have been taken. The proponent has incorporated state of the art filtration technology into the discharge stream to prevent waste as much as possible.
- Waste water recycling has been considered. Waste water recycling is not possible as the water quickly reaches a salinity that compromises production. There is no currently available economically viable source of fresh water to control salinity.
- Waste water will be released to water.

*Waste water releases to surface water (Section 18)*

Sub Section (2)

- (a) As discussed above, the release of wastewater is not believed to compromise biological integrity of the aquatic ecosystem, suitability for recreational use or suitability for industrial use.
- (b) The concentration of contaminants will not be toxic to biota. The waste water is emanating from an aquaculture production facility which is used for growing and maintaining the health of aquatic biota.
- (c) The existing quality of the surface water will not be compromised. The major source of nutrients and therefore the biggest impact on water quality comes from resuspended nutrients associated with terrigenous sediment carried in runoff. As discussed above, the quality of the surface water is unlikely to be compromised by the project.
- (d) The proponent is not in a position to know all other releases known to the administering authority.
- (e) The proponent is not in a position to know future releases known to the administering authority.
- (f) Modelling contained in GAPFR (2003) demonstrates that water quality objectives for waters outside of the initial mixing zone will not be compromised.

#### Subsection (3)

The outfall from the project will be delivered from a sub-surface diffuser.

#### *Construction of artificial wetlands for waste water treatment (Section 22)*

The proposed wetlands do not involve construction of an artificial wetland, but involve rehabilitation of existing wetlands. This Section does not therefore apply.

#### *Acid Sulphate Soils (Section 24)*

The proponent's action in regard to Acid Sulphate soils is presented in the Acid Sulphate Soil Management Plan in the Supplementary EIS for which the present document is an appendix.

### **- Environmental Protection (Waste Management) Policy 2000**

#### *General*

This section deals with the proponent's assessment of the project against the relevant sections of Environmental Protection (Waste Management) Policy 2000. Sections of the policy not covered in this document are not considered to be relevant to the proposal or prescribe action required of the administering authority.

The Environmental Protection (Waste Management) Policy 2000 was established to achieve the purpose of the Environmental Protection Act 1994 in relation to waste management. Under section 3 of the Act, the object of the Act is to protect Queensland's environment while allowing for development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends (*ecologically sustainable development*).

The Policy (Section 7) identifies the environmental values to be enhanced or protected as

- (a) the life, health and wellbeing of people; and
- (b) the diversity of ecological processes and associated ecosystems;  
and
- (c) land use capability, having regard to economic considerations.

The operation of the Policy is centred around the principles and implementation of the waste management hierarchy.

*Waste management hierarchy (Section 10)*

The proponent has engaged the waste management hierarchy procedure.

- Waste water prevention options have been evaluated and those options to prevent waste have been taken. The proponent has incorporated state of the art filtration technology into the discharge stream to prevent waste as much as possible.  
Other waste (eg packaging of supplies) prevention options have been evaluated and where possible implemented. An example is the change in practice from using feed packaged in 25 kg bags to the use of bulk bags (0.5 T) and potentially bulk feed delivered un packaged. Since feed packaging comprises the majority of dry waste produced in prawn farming, this constitutes a significant reduction in waste.
- Waste water recycling has been considered. Waste water recycling is not possible as the water quickly reaches a salinity that compromises production. There is no currently available economically viable source of fresh water to control salinity.  
Other waste recycling is implemented. The example above moves from 25 kg bags which must be discarded to recyclable 0.5 T bags as part of the process of reducing waste. Recycling of oils and solvents, metal off cuts and other consumable items is already undertaken by the proponent.
- Apart from waste oils, which are recycled, there is no energy value of the waste.
- Waste water will be released to water.  
Some dry waste is sent for disposed onto land at cost to the proponent.

*Product stewardship principle (Section 13)*

- (a) The proponent currently engages the product stewardship principle. Production of the product will be undertaken under rigorous environmental management guidelines discussed extensively elsewhere in the GAPFR (2003), the Supplementary EIS and in the present document. in order to minimise the environmental harm that may be caused by the waste generated in production.  
Packaging of product is in recyclable plastic bags inside recyclable cardboard boxes.  
Proper use of the product results in biodegradeable food waste that is degraded in composting systems.

### **(c) any applicable Commonwealth, State or local government plans, standards, agreements or requirements - Reef Water Quality Protection Plan (The Plan)**

#### *What is the Plan?*

The Great Barrier Reef World Heritage Area is a nationally and internationally significant area with outstanding natural, social and economic values. Over the last 150 years the land catchment areas adjacent to the Reef have undergone extensive modification for urban infrastructure, agricultural production, tourism and mining. This modification has led to significant increases in pollutant loads in the rivers since the beginning of European settlement, such that now the major source of pollutants entering the Reef are the result of land use activities in the catchment areas.

The Reef Water Quality Protection Plan is aimed at addressing diffuse pollution from broadscale land use. The strategies in the Plan provide for actions to minimise pollutants from diffuse sources and reduce the entry of those pollutants to the Reef. Diffuse sources of pollution are those that enter the waterways through a wide range of different sources and which cannot be directly attributed to one point of dispersal, such as a pipe or waste outlet.

In 2002, a Queensland Government commissioned independent panel of experts found the causes of the increase nutrient flow to the reef included grazing practices in the drier catchments and overgrazing in general, extensive vegetation clearing and wetland drainage on coastal plains.

Since, the majority of chemical, sediment and nutrient pollutants affecting water quality in the waterways entering the Reef come from diffuse sources arising through land use activities in the Reef catchments, the Plan focuses on decreasing pollutants from these sources, and on rehabilitating and conserving areas of the reef catchment that have a role in removing water borne pollutants.

It was acknowledged that there are also risks to the Reef from point sources of pollution, including aquaculture. These sources of pollution are not covered by this Plan as point sources of pollution are regulated through a variety of legislation. For example sewage and aquaculture discharges are regulated under the *Environmental Protection Act 1994*. Such regulatory measures for point source pollution are assessed separately from the Plan and the Plan only covers diffuse sources from broad scale land use.

#### *The Goal and Objectives of the Reef Water Quality Protection Plan*

The goal of the RWQPP is:

“HALTING AND REVERSING THE DECLINE IN WATER QUALITY ENTERING THE REEF WITHIN 10 YEARS.”

The two objectives of the RWQPP which support the achievement of the goal are:

##### **Objective 1**

REDUCE THE LOAD OF POLLUTANTS FROM DIFFUSE SOURCES IN THE WATER ENTERING THE REEF.

##### **Objective 2**

REHABILITATE AND CONSERVE AREAS OF THE REEF CATCHMENT THAT HAVE A ROLE IN REMOVING WATER BORNE POLLUTANTS.

### *Implementation and Evaluation of the Plan*

The RWQPP has been approved by both the Queensland and Australian Governments. An Interdepartmental Steering Committee comprising Heads of Agencies from the Department of Agriculture, Fisheries & Forestry (DAFF), Department of Natural Resources and Mines (NR&M), Department of the Premier and Cabinet (DPC), Department of Primary Industries (DPI), Environmental Protection Agency (EPA), Department of the Environment and Heritage (DEH) and the Great Barrier Reef Marine Park Authority (GBRMPA) has been established to oversee the implementation of the RWQPP.

### *How does the Guthalungra Aquaculture Project Relate to the Plan?*

By rehabilitating 240 Ha of coastal plain including 59 Ha of wetland, the Guthalungra Aquaculture Project directly reverses the actions acknowledged as causing increased sediment and nutrient loading to the Great Barrier Reef and provides direct action that meets the objectives.

Specifically, the Guthalungra Aquaculture Project will:

- Remove grazing from an area of one of the drier catchments.
- Remove overgrazing.
- Replace vegetation previously cleared.
- Rehabilitate wetlands on the coastal plains to a state that will allow them to return to a state capable of fulfilling a role in removing water borne pollutants.

The Plan further identified a series of risks to achieving the Goal of the Plan. One of the risks identified encompassed social risk, defined as “encapsulating various factors of the capacity of a catchment community to change practices that (potentially) cause land-based pollution”. In the case of the Don River catchment, this was determined to be High, indicating that there was limited capacity to change practices to reduce diffuse source nutrient loading in the Don catchment.

*The Guthalungra Aquaculture Project provides an opportunity for the State of Queensland to meet its obligations under the Reef Water Quality Protection Plan. The Guthalungra Aquaculture Project not only directly contributes to achieving the Goal encompassed in the Reef Water Quality Protection Plan, but it does so in a region where it has been determined that there is limited other capacity to change practices.*

### **(d) any applicable environmental impact study, assessment or report**

The environmental impact study of the Guthalungra Aquaculture Project is encompassed in the Draft EIS (Guthalungra Aquaculture Project Final Report (2003) and the Supplementary EIS including attached appendices.

**(e) the character, resilience and values of the receiving environment**

The character, resilience and values of the receiving environment are described in Section 6 of GAPFR (2003), Section 5 of the Supplementary EIS and the Section of this document entitled Effect of Proposed Actions including Offsets on Net Load and Impact on Environmental Water Quality.

**(f) all submissions made by the applicant and submitters.**

Submissions made by the proponent are the Guthalungra Aquaculture Project is encompassed in the Draft EIS (Guthalungra Aquaculture Project Final Report (2003) and the Supplementary EIS including attached appendices.

**(g) the best practice environmental management for activities under any relevant instrument, or proposed instrument.**

The proposal by Pacific Reef Fisheries for the development and operation of an aquaculture project at Guthalungra exceeds the standards encompassed in the documents Licensing wastewater releases from existing marine prawn farms in Queensland, Qld EPA (Approved 04/03) and the Environmental Code of Practice for Australian Prawn Farmers, Australian Prawn Farmers Association Inc. 1999.

The development proposed will be conducted as required under the Guidelines for the proposed Construction of Aquaculture Containment Structures (currently in draft form).

**(h) the financial implications of the requirements under an instrument, or proposed instrument, mentioned in paragraph (g) as they would relate to the type of activity or industry carried out, or proposed to be carried out, under the instrument.**

The proponent has undertaken to fulfill the requirements of environmental management according to the management plans and offset arrangements presented in GAPFR (2003) and the Supplementary EIS including appendices, where relevant.

**(i) the public interest**

The public interest is defined as the efficient use of the State's resources. Where it can be demonstrated that there is a net state benefit to the State of Queensland, a development can be determined to be a more efficient use of the State's resources than current uses. A separate document has been prepared independently by the AEC Group Ltd discussing the Net State Benefit of the project to the public and the State of Queensland.

AEC Group Ltd found:

"This Cost-Benefit Analysis finds that the proposed Guthalungra Aquaculture development provides a net state benefit to the State of Queensland.

Each of the individual assessments (quantitative CBA, qualitative CBA and economic impact assessment) identify that the benefits provided by the Guthalungra Aquaculture development outweigh the costs associated with the development. Which implies that the development of the Guthalungra Aquaculture project provides an overall net state benefit for Queensland.



The project is financially viable. Commercially, it is a long-term investment in the region.

Social costs of the project will be largely minimal, in part due to the remote location of the site. The social benefits will accrue through the relative lack of large, sustainable industries in the region.

The project will have some negative environmental impacts, however the investment in wastewater treatment and piping of discharge points will greatly reduce these. A number of environmental benefits are also expected, although most are relatively minor.

The project will have significant economic benefits to the region, with the investment providing a significant boost to regional jobs and incomes.”

Clearly then, the Guthalungra Aquaculture Project represents a development in the public interest.

**(j) any applicable site management plan**

A number of environmental management plans are incorporated into GAPFR (2003) and the Supplementary EIS that cover environmental management during construction and operation of the project. These plans have been amended during the preparation of the Supplementary EIS to meet the needs of respondents brought forward during the consultation in response to the Draft EIS including those of Qld EPA.

**(k) any relevant integrated environmental management system or proposed integrated environmental management system**

Pacific Reef Fisheries has developed and implemented an Environmental Management System under an Eco-Efficiency Agreement between the Australian Prawn Farmers Association and the Commonwealth Government. This program is leading to accreditation under ISO14001. It is intended that this management system will be extended across all of Pacific Reef Fisheries sites including the Guthalungra site.

**(l) any other matter prescribed under a regulation**

The Proponent has not been made aware of any other matter prescribed under a regulation that affects the present proposal.