Sustainable Aquaculture Planning in the Great Sandy Region

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ABSTRACT

The Queensland Government has identified aquaculture as a priority industry for the State. The Queensland Government is seeking to ensure an appropriate balance between the needs of the aquaculture industry, existing users of the resource, and the environment.

In considering the development of aquaculture within the new Great Sandy Marine Park Zoning Plan, the Queensland Government chose to maximise the development of rack and line aquaculture and sea ranching aquaculture, within the management objectives of the Marine Park. The Government also decided that intensive sea cage aquaculture was not appropriate for the Great Sandy Marine Park.

To ensure a sustainable industry, a regional marine aquaculture management plan is being developed for the Hervey Bay/Great Sandy region to guide aquaculture development decisions in preference to the existing process where applications are assessed individually on a site-by-site basis.

Strategic planning for aquaculture will be an important tool in protecting the unique values of the Great Sandy region and managing potential impacts to them. It will benefit the Great Sandy region by determining which areas are most suitable for aquaculture development and which are not, and developing guidelines to ensure that only suitable development is approved. One of the key advantages of the planning process is that it will provide a higher level of certainty to potential investors and the community in regard to aquaculture development within the region.

INTRODUCTION

Aquaculture production in Queensland for 2005-06 was $70.5m and accounted for 27% of the gross value of Queensland's fisheries production (Lobegeiger and Wingfield, 2007). The industry continues to show significant potential for expansion, particularly in regional areas. The demand for seafood continues to rise with the increase in world population and wealth, while global production of seafood from wild sources is not expected to increase due to issues of sustainability and scarceness. Aquaculture has the potential to reduce pressure on wild fisheries and help meet an increased market demand for seafood.

Aquaculture has been identified by the Queensland Government as a priority industry for the State. Queensland is well-positioned for successful aquaculture development and has a number of competitive advantages including clean, unpolluted waters, close proximity to major seafood markets and extensive aquaculture research programs. As well as providing a great tasting, high quality product, aquaculture can benefit regional areas through job creation and regional development.

The Queensland Government supports aquaculture development that is well planned, well managed and appropriately located. The industry has a bright future in Queensland, but there must be a balance between the development of suitable sites, the needs of existing users of the resource, and protecting the environment for a sustainable future. The Queensland Government is committed to developing a sustainable aquaculture industry that has minimal impact on our valuable marine environment. To achieve a balance in the use of resources by aquaculture and other users, and to promote sustainable marine aquaculture, a strategic planning approach involving the preparation of regional marine aquaculture plans has been endorsed by Government.

REGIONAL CONTEXT

The Great Sandy region has many unique natural attributes, including World Heritage areas, which are of both intrinsic and commercial value and host a wide range of activities including whale watching, tourism ventures, farming, commercial and recreational fishing, boating and diving. In order to protect and conserve the region's natural marine environment, while still allowing for its sustainable use, the Great Sandy region has been the focus of a comprehensive planning process undertaken by the Environmental Protection Agency (EPA). This planning process culminated in the introduction of the Great Sandy Marine Park Zoning Plan (GSMPZP) in April 2006.

The Great Sandy Marine Park extends from Baffle Creek in the north to Double Island Point in the south. It includes Hervey Bay, Great Sandy Strait, Tin Can Bay Inlet and the waters off the east coast of Fraser Island, seaward to three nautical miles. Features of interest within the park include seagrass meadows, mangroves, rocky shores, coral reefs, sandy beaches, bays, sheltered channels, rivers, creeks and estuaries. These habitats provide important seasonal resources and stopover points for migratory species including humpback whales, migratory wading birds and marine turtles. Resident species dependent on these habitats include dugong, dolphins, shorebirds, grey nurse sharks, fish, molluscs and cetaceans.

The GSMPZP identifies different zones within the marine park and states the objectives and the level of protection for each zone. Multiple-use management allows for many different activities in marine parks and zoning plans set out the kinds of activities that can occur within each area. The zoning plan incorporates some activities existing prior to the plan's implementation, including aquaculture activities in the region such as scallop and beche-de-mer ranching and pearl and oyster farms.

In 2005, the Queensland Government considered a cost-benefit analysis: *'Economic, Environmental and Social Costs and Benefits of Marine Aquaculture in the Great Sandy Region'*, prepared by a consultant on behalf of the Department of State Development (DSD). The study quantified the risks and return to the Queensland economy from the development of a marine aquaculture industry in the Great Sandy region. Significant opportunities were identified in the cost benefit analysis for further expansion of sustainable marine aquaculture in the region. Consequently, the Queensland Government endorsed the maximisation of the development of rack and line aquaculture and sea ranching aquaculture, whilst being consistent with the management objectives of the Marine Park. Intensive aquaculture (with structures and the addition of feed, e.g. sea cages) was not supported for the Great Sandy region.

To plan for and guide the development of rack and line and sea ranching aquaculture, the Government announced the development of a Great Sandy Regional Marine Aquaculture Management Plan (the Plan) on 31 May 2006, encompassing the area of the new Great Sandy Marine Park.

NEED FOR STRATEGIC APPROACH

Under the Great Sandy Marine Park Zoning Plan, certain types of aquaculture activities are allowed, under permit, in some areas of the Marine Park (General Use, Habitat Protection and Conservation Park zones) but not others (Marine National Park and Buffer zones). However, aquaculture development within the Marine Park has not been strategically planned for, in that there has been no prior agreement as to exactly where the best locations are for specific types of culture and how these activities can be best managed.

Currently, assessment of permit applications to develop aquaculture activities within allowable areas is a complex and time-consuming process and involves assessment by multiple government agencies on a case-by-case basis. The application process for marine aquaculture development requires the applicant to undertake detailed site assessments to identify suitable locations, site characterisation studies, environmental impact studies, development of management control mechanisms, community consultation, and to address government policy and planning constraints involving local, state and commonwealth agencies, in order to gain approval. There are limited

opportunities for community stakeholder input in the statutory processes for application assessment.

Regional plans have been developed to guide the assessment of various types of development (e.g. Wide Bay-Burnett Regional Plan 2020, South East Qld Regional Plan). These regional plans help protect the valuable features of the region by ensuring future development is appropriately located and managed. An aquaculture management plan will help guide aquaculture development decisions in preference to the existing process where aquaculture development applications are assessed individually on a site-by-site basis throughout the State.

The aim of strategic aquaculture plans is to provide a framework whereby areas suitable for specific types of aquaculture and management controls are identified up-front. This will ensure only aquaculture proposals that are appropriate for these areas are approved for development.

An important component of the planning process is the capacity for consultation. All users of the resource (stakeholders) are afforded the opportunity to provide valuable input, at an early stage, as to the appropriateness of aquaculture development in a particular area. At the end of the day, strategic plans will provide increased clarity for industry and the community about where and how future aquaculture development takes place.

Regulatory complexity has been identified as a major impediment to the development of the aquaculture industry (Productivity Commission 2004). The implementation of regional plans aims to reduce the quagmire of "red tape", to streamline the assessment and management processes, and reduce the developmental start-up costs for potential investors. Marine aquaculture development in Queensland is subject to a range of regulatory mechanisms, policies, guidelines and protocols which are designed to manage the day to day operations of aquaculture developments. Commonwealth jurisdiction often overlaps with aquaculture-related activities, resulting in multiple approval processes and duplication of assessment requirements for aquaculture proposals.

Without a strategic plan, regulatory complexity will continue to act as a disincentive to investment and the current 'case-by-case' system of assessment, with limited opportunities for up-front consultation with the public, will remain.

IMPLEMENTATION OF THE AQUACULTURE REGIONAL PLAN

The existing regulatory framework for aquaculture in Queensland is extremely comprehensive, providing considerable quality control in terms of meeting the 'triple bottom line' objectives of ecologically sustainable development (economic prosperity, environmental quality and social justice).

The Great Sandy Regional Marine Aquaculture Management Plan is intended to be a non-statutory instrument, in that it will fit under the existing legislative framework (e.g. *Integrated Planning Act 1997*, *Fisheries Act 1994*, *Fisheries Regulation 1995*, *Marine Parks Act 2004*) and the rules and restrictions as outlined by the *Marine Parks (Great Sandy) Zoning Plan 2006*.

Regional aquaculture plans will encompass the following generic information:

Appropriate development sites identified and clearly described through the planning process. The level of site assessment in Regional Marine Aquaculture Plans will enable whole of Government endorsement of sites selected for the purposes of aquaculture development.

Appropriate management controls specified for identified aquaculture development areas. Management controls for selected aquaculture sites will be pre-defined and include such things as: development, production and fallowed area boundaries; approved aquaculture system (e.g. surface and/or subsurface longlines, racks, cages, sea ranching); infrastructure design specifications; environmental monitoring program; and reporting mechanisms for wildlife

interactions and biosecurity issues. Management controls included in the plans specify the criteria by which development will be assessed and the general conditions for development to occur. These criteria will be based on a technical environmental assessment of each area and the decision-making framework for development approvals that is based on risk assessment protocols.

Individual Development Approvals (DA's) under Integrated Planning Act 1997 (IPA) are required for each aquaculture activity, and, at present, EPA, Department of Primary Industries & Fisheries (DPI&F), Department of Natural Resources and Water and other stakeholder agencies all have a concurrence role. Following the implementation of the Plan, proponents will be required to formally obtain the required DA under IPA to develop aquaculture systems in approved areas. As culture sites and management controls for specified operations will be well-defined in the Plan, applicants who have been through the site allocation process need only ensure that the specific proposal is consistent with the management controls defined under the plan.

Regional marine aquaculture management plans will consider the above concurrence issues in addition to Marine Parks and Environment Protection and Biodiversity Conservation matters, which are outside of IPA. All opportunities for gaining accreditation or endorsement of the Plan under existing State and Commonwealth legislation will be investigated by DPI&F prior to the implementation of the Plan to help streamline assessment processes currently under multiple legislation and agencies. Thereby, applicants may need only to deal with a single governmental agency, and reducing the time and effort involved in the assessment process for development applications.

SITE ALLOCATION AND TENURE

In 2004, the Australian Government's principal review and advisory body on microeconomic policy and regulation, the Productivity Commission, undertook a review of environmental regulatory arrangements for aquaculture. An efficient process for issuing leases for marine aquaculture development was identified as important for industry growth. Secure tenure, and a timely process for assessment of tenure applications, was identified as a key issue by existing marine aquaculture operators. The Government is developing a marine aquaculture policy which will address the issues regarding allocation of aquaculture sites and tenure options for successful applicants. Queenslanders had an opportunity to provide input into policy options earlier this year when the "Green Paper" (see www.sd.qld.gov.au) was released for public consultation.

Mechanisms for site allocation used in other states include:

- Non-competitive allocation of marine aquaculture authorities may be appropriate for applications that are in areas outside of regional marine aquaculture plans.
- Competitive allocation of marine aquaculture areas using administrative approaches (e.g. scoring against selection criteria)
- and/or auctions (allocating a site to the highest bidder with appropriate approvals)

Areas identified through regional planning are expected to be promoted and advertised and to generate a high level of interest with a high level of competition for the resource.

The Queensland Government is committed to creating a favourable business environment to assist the sustainable development of the aquaculture industry to its maximum capacity.

DEVELOPMENT OF THE AQUACULTURE REGIONAL PLAN

After the announcement of the Great Sandy Regional Marine Aquaculture Management Plan project in May 2006, a government Inter-agency Working Group (IWG) was established to oversee the development of the Plan. DPI&F lead the planning project in close collaboration with DSD.

The development process initially involved a desktop mapping study of the region to identify key "investigation areas" that displayed potential for rack, line or sea ranching aquaculture activities whilst still being compatible with Marine Park zoning. This study was largely conducted by DSD

using GIS software and based on a suite of available datasets (e.g. hydrographical, climatological, environmental, biological, socio-economic, management areas, marine structures and marine activity spatial datasets). Technical criteria used to help guide the planning process were based on a literature review and surveys of the existing aquaculture industry, interested investors, and researchers with expertise in the marine aquaculture industry. Preliminary sites were identified based on initial identification of planning controls that ensured a low level of conflict with high environmental values and other resource users.

Areas of potential aquaculture interest were presented to targeted stakeholder focus groups with specific knowledge of the fisheries, aquaculture, environmental and cultural issues in the local area. From these consultations, the investigation sites were given support, refined, shifted or eliminated. Additional sites for investigation were also proposed by the focus groups.

To progress the Plan, DPI&F commissioned an environmental consultancy firm to undertake more detailed environmental investigations of the areas identified through the above process as being potentially attractive aquaculture sites. The purpose of these characterisation studies was to: provide more detailed information about the nature of the proposed aquaculture sites; confirm the sites' suitability for the specified purpose by identifying any incompatible features (such as the presence of significant habitats or poor flushing), and; provide baseline data to develop appropriate planning and on-going management controls.

Following the completion of the characterisation studies, a Draft Great Sandy Regional Marine Aquaculture Management Plan will be developed and will be made available for public consultation (planned October 2007). Following the public consultation period together with IWG input, the Plan will be revised as necessary and finalised and implemented in early to mid-2008.

TAKE HOME MESSAGES

How will a strategic planning approach to aquaculture development benefit the Great Sandy region?

- **Decisions will not be made on individual sites in isolation**
  - Aquaculture is a permissible activity.
  - Strategic approach is preferable to case-by-case assessments.
- **Regional needs can be considered for each site**
  - Allow all stakeholders to have an input up-front
  - Consider multiple users of the resource
  - Consider cumulative effects of aquaculture together with other activities
- **Reduction of red tape**
  - Address issues up-front through consultation and planning
  - Streamline approvals processes
  - Reduce duplication of assessment requirements
  - (note Productivity Commission report 2004 - regulatory complexity is an impediment to growth)
- **Standards are consistent,**
  - Selection of sites
  - Appropriate use of sites
  - Assessment criteria
  - Adequate site investigation and baseline information
  - Management controls (including monitoring)
  - Allocation of areas
- **Clarity about aquaculture development for the region**
  - Reduce uncertainty for new industry development
- **Job creation and regional development**

REFERENCES

Lobegeiger and Wingfield, 2007. Report to Farmers – Aquaculture Production Survey Queensland 2005-06. Department of Primary Industries and Fisheries. Queensland.

Productivity Commission, 2004. Assessing Environmental Regulatory Arrangements for Aquaculture, Canberra.