



Aquaculture Review
Queensland Competition Authority
GPO Box 2257
BRISBANE QLD 4001

27/1185(1)

Dear Mr Dobes

Australian Government Great Barrier Reef Marine Park Authority comment on the Queensland Competition Authority's Issue Paper *Aquaculture Regulation in Queensland February 2014*

Thank you for providing the opportunity to comment on the document titled *Aquaculture Regulation in Queensland February 2014*.

The Great Barrier Reef Marine Park Authority (Authority) supports the development of an ecologically sustainable aquaculture industry that can operate within the constraints of the national and international obligations to maintain the integrity of the Great Barrier Reef World Heritage Property.

The GBRMPA would like to provide further information and clarify a number of statements that have been made in the issues paper.

1. World Heritage Property Status and current condition

- First and foremost, it must be clearly understood that we are dealing with a World Heritage Property that has Outstanding Universal Value. The Australian Government has both national and international obligations to maintain and enhance the Outstanding Universal Value of the property. This will be achieved by setting thresholds that are protective of these Great Barrier Reef World Heritage Property ecosystems. Whilst all environments must be afforded a degree of protection, the national and international obligations for management of this property are much greater than for other regions of Queensland.
- While the Outstanding Universal Value of the World Heritage Area remains largely intact, the overall health of the Great Barrier Reef, especially in the southern two thirds of the Region, south of about Cooktown and Port Douglas, has declined significantly in the last 30 years. In the northern third of the Region, values generally remain in better condition.
- Legacy issues, such as catchment clearing and harvesting of iconic species, are still affecting the Great Barrier Reef. Some of these issues go back decades, even to the late 1880s, and their effects are likely to continue into the future.
- A history of increased nutrient and sediment loads entering the Region, combined with a decade of extreme weather, has affected the Region's ecosystem. Terrestrial habitats along the Great Barrier Reef coast have been substantially modified, particularly south of about Port Douglas. This reduces the ability of habitats, such as wetlands and connecting water bodies, to support the healthy functioning of the Great Barrier Reef.

- While the condition of some of the Region's biodiversity has improved, such as humpback whales which are increasing in abundance, other elements have deteriorated. Key habitats such as coral reefs have significantly declined and seagrass meadows are also in decline which is having impacts on other species such as southern dugong populations and some offshore and pelagic-foraging seabirds.
- A number of natural processes vital to the healthy functioning of the marine environment, such as sedimentation, nutrient cycling and connectivity are in a poor condition or in decline. Again this is particularly evident in the inshore areas of the southern two-thirds of the Region.
- The Great Barrier Reef retains many of the attributes that contribute to the amazing natural beauty for which it is famous. However, its underwater ecological and aesthetic value has been reduced in the southern inshore area, largely as a result of coral declines and reduced water clarity.
- In 2009, the Great Barrier Reef Outlook Report identified climate change, continued declining water quality from catchment run-off, loss of coastal habitats from coastal development, remaining impacts from fishing and illegal fishing and poaching as the key issues reducing the Great Barrier Reef's resilience or ability to withstand threats.
- Climate change is still the most serious threat facing the Great Barrier Reef and is likely to have far reaching consequences for the Region's environment.
- Future climate change predictions indicate sea level and sea temperature rises will continue and the ocean will become gradually more acidic. More intense extreme weather is also predicted.
- Sediments and nutrients in catchment run-off and the loss of connectivity between coastal and marine environments is continuing to affect the Great Barrier Reef, particularly its southern inshore areas.
- While agricultural practices in the Region are improving, and the loads of sediments and nutrients being washed into the Region are decreasing, there is likely to be a lag of some decades before water quality in the Region significantly improves. In turn, high concentrations of nutrients in Great Barrier Reef waters are being linked to increases in the size and frequency of outbreaks of the coral-eating crown-of-thorns starfish.
- Of particular concern is the cumulative effect of impacts on values and that several of the most significant impacts on the Great Barrier Reef are operating over broad scales, affecting a large area of the Region.
- It is clear that a business-as-usual approach to managing these impacts will not be enough. Additional management intervention is required to protect these matters of national environmental significance.

2. Previous Australian Government Aquaculture Regulatory Review findings

- The Australian Government's Productivity Commission in its 2004 study titled *Assessing Environmental Regulatory Arrangements for Aquaculture* stated that *more aquaculture projects have triggered the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) in Queensland because a significant proportion of the eastern Queensland coast abuts the Great Barrier Reef World Heritage Area. This study concluded that the operation of the EPBC Act does not appear to be affecting the development and approval of aquaculture projects with an appropriate level of environmental performance* (Page 105).

- It is important to note that since this review was completed the Australian Government has accredited Queensland Law and is no longer required to issue permissions under the *Great Barrier Reef Marine Park (Aquaculture) Regulations 2000*. Since 2005, the main Australian Government approval required by the prawn farming industry has been the EPBC Act.

3. **Current referral requirements under the *Environment Protection and Biodiversity Conservation Act 1999***

- The Australian Government's Department of the Environment has released *Interim Guidelines on the Outstanding Universal Value of the Great Barrier Reef World Heritage Area – For Proponents of Action*. In this document guidance is provided as to the types of actions that could have a significant impact on the outstanding universal value of the Great Barrier Reef World Heritage Area. Types of proposed developments within the Great Barrier Reef World Heritage Area or its adjoining catchments that may require referral to the federal environment minister include, but are not limited to :
 - Agricultural developments that involve substantive change (for example intensification of activities or change in land use that culminate in a change in water quality)
 - Aquaculture developments.
- Both agricultural and aquaculture developments adjacent to the Great Barrier Reef World Heritage Area are required to be assessed under the *Environment Protection and Biodiversity Conservation Act 1999*.

4. **Current permits granted to the industry by Queensland and the Australian Governments**

- There are 71 licenses granted for prawn farming and 305 licenses granted for barramundi farming in Queensland. Currently, only 20 prawn and 17 barramundi farms are operating on these licenses.
- These figures indicate that there is significant latent capacity in existing approvals that could facilitate expansion of these industries if the demand exists without the need for new approvals to be granted (latent effort prawn farming 72%, barramundi farming 94%).

5. **Assessment of Environmental Acceptability**

- The Australian Government's *National Water Quality Management Strategy* which has been in place since the early 1990s is the principle policy that provides guidance on the environmental suitability of waste discharges to the receiving environment. This policy applies in all Australian States and territories. This is the minimum standard that will be applied in the development of assessment standards under the proposed assessment bilateral with the Queensland Government. The GBRMPA supports the development of standardized Regional Water Quality Improvement Plans and Healthy Waterways Management Plans (gazetted under the *Environment Protection (Water) Policy 2009*) which determine the environmental values and water quality objectives for coastal catchments that must be met to provide the requisite degree of protection for the plants and animals of the Great Barrier Reef World Heritage Area and Marine Park.
- In considering prawn farming operations, it is important to note that there have been little to no development of new prawn farms anywhere in Australia over the last ten years. In fact, prawn farms have recently been converted into barramundi farms in the Northern Territory. Whilst it is perceived that regulation of this industry in Queensland is halting the further

expansion of the prawn farming industry, there has been no development in Western Australia, Northern Territory or in New South Wales where the industry itself states that there is less regulatory pressure. There have also not been any prawn farm developments outside of the Great Barrier Reef region in Queensland where the specific constraints of the Great Barrier Reef World Heritage Area apply. This raises serious questions regarding the veracity of the claims that it is the regulatory regime that is restricting the further development of this industry.

- Further development of an aquaculture industry adjacent to the Great Barrier Reef World Heritage Property will be reliant on delivering a net environmental benefit as identified in the Great Barrier Reef Coastal Zone and Great Barrier Reef Region Strategic Assessment reports.
- The major impediment preventing expansion of the land based prawn farming industry in Queensland is the identification of locations that possess the ability to assimilate the discharge of aquaculture waste from these facilities without significantly impacting on the ecological form and function of the coastal ecosystems and adjacent waterways. This is work that Queensland government agencies could undertake.

Assessment of the minimum assimilative capacity of the receiving environment could be completed in accordance with the procedures described in Butler et al. 2013 and McKinnon et al. 2008.

- Queensland Department of Agriculture, Forestry and Fisheries have completed extensive desktop studies identifying suitable land based locations for the development of aquaculture facilities. As highlighted above, the missing link is the demonstrated ability of the receiving environment to assimilate the discharge of waste products from any proposed facilities.

6. Environmental Offsets

- The purpose of environmental offsets is to provide a net overall benefit to the Great Barrier Reef World Heritage Area acknowledging that there will be a degree of localized impact on these values. Offsets must provide tangible benefits for the impacted value and must be located as close as possible to the impact site – in the following order:
 - The same local government area;
 - The same sub-region;
 - The same bioregion;
 - Adjacent bioregion.

In order to achieve a net benefit, an environmental offset in excess of 100% would be required. The Australian Government's Minister for the Environment has recently interpreted this requirement to mean a 150% offset to be applied to a recently approved significant development in the Great Barrier Reef World Heritage Area.

- The Queensland Government is developing a *Direct Benefit Management Plan* to assist in identifying available environmental offset opportunities in the catchment adjacent to the Great Barrier Reef World Heritage to meet their offset requirements.
- Statements made in the issues paper and attributed to the Queensland Farmers Federation that the environmental offsets required for the Guthalungra Prawn Farm proposal would cost approximately \$2 million are not backed by peer review and published professional journal articles. Based on these articles (e.g. Rolfe and Windle 2011 and Star et al. 2012)

the investment required to offset 26 tonnes of nitrogen from catchment based sources could be in the range of \$6 000 to \$120 000 depending on the location and type of offset applied.

- Statements made in the issues paper and attributed to the Queensland Farmers Federation that the Guthalungra aquaculture project was being halted because it could not satisfy a *zero net emissions* condition, even with offsets, are misleading and represent a misinterpretation of the condition contained in the Australian Government's EPBC Act approval. The EPBC Act condition requires the permittee to deliver a zero net increase in sediment and nutrient loads in Abbot Bay and not at the end of the discharge pipeline as interpreted above. This condition does not require the permittee to discharge sediment and nutrient loads at levels equivalent to those which are in the intake water as stated in the issues paper. Environmental offsets can play a significant role in meeting the requirement for a no net increase in pollutants affecting the ambient water quality conditions resulting from the discharge of aquaculture waste to Abbot Bay. As at April 2014, the permittee had not submitted a final environmental offsets plan for approval by the Australian Government's Minister for the Environment. Thus the statement that the permittee could not comply with this condition cannot be verified until such time as investigations are completed and a final environmental offsets program has been submitted.

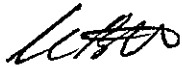
7. Marine aquaculture

- In assessing the impact or likely impact of marine aquaculture, a fundamental concern of the Authority is the maintenance of natural systems. In order to address this concern the Authority must ensure that ecological risk is minimised.
- In relation to aquaculture, there are three activities that pose threats to the natural systems of the Great Barrier Reef World Heritage Area. These are cage culture, restocking or reseedling, and artificial habitat development associated with aquaculture.
- Conflict of use, exclusive use over an area, and security of production are all major considerations for any aquaculture operation proposed in the Great Barrier Reef World Heritage Area. These matters become more important as an operation moves to full production, particularly where the product is high value and low volume. For example, there are significant security issues associated with pearl production. The degree to which security requirements may seek to restrict access and impact on the amenity value of an area needs to be considered as part of the business planning and assessment processes.
- Cage aquaculture does not currently occur within the Marine Park though there is provision for its operation (with permission) in the Great Barrier Reef Marine Park Zoning Plan 2004.
- Current Australian and international experience with cage aquaculture indicates that the ecological risks associated with this type of aquaculture (at the current level of technological development) are likely to be unacceptable because of its potential impacts on the surrounding environment in the Great Barrier Reef World Heritage Area.
- Consequently, it is likely that permissions for cage aquaculture in General Use Zones in the Marine Park would be granted only if the applicant can demonstrate, to the satisfaction of the Authority, that there have been operational and technological advances that substantially mitigate ecological risk.
- There are currently two Queensland State Marine Parks that allow marine aquaculture developments, these being the Moreton Bay and Great Sandy Straits Marine Parks. In both

cases, the Queensland Government and the community have determined that cage culture of fish (the addition of feed) was incompatible with the operation and function of these Marine Parks. There is an inconsistency here in that the Australian Government is now being asked to consider the development of cage culture (finfish with feed addition) in the Great Barrier Reef World Heritage Area when the community and the Queensland Government have deemed this type of development to be unacceptable in its own State Marine Parks.

I look forward to working with the Queensland Competition Authority in investigating the regulation of aquaculture in Queensland. Should you have any questions regarding this submission, please contact Mr Leigh Gray on 07 4750 0732.

Yours sincerely



Bruce Elliot
General Manager
Biodiversity Conservation and Sustainable Use

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