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31st March 2014.

APFA welcome the review by QCA into aquaculture and provides this submission with regard to the issues paper released in February 2014. Comments provided in this submission are relevant to prawn farming activities only.

This industry sector has campaigned long and hard for a regulatory approach that facilitates expansion of aquaculture in Queensland, promoting economic development while balancing environmental protection.

Page 4 describes characteristics affecting aquaculture development. I would like to advise that APFA does not believe dot point 3 & 4 are correct.

Coastal aquaculture does not face risk such as coastal erosion and storm tide inundation. Cyclones risks affect infrastructure only, particularly loss of power and if major roads are cut getting access to feed supplies can be delayed. Too much rain causes low salinity and access to salt was an issue post cyclone Yasi. Cyclone Yasi cut the Bruce Highway and farms from Mackay to Cairns had to pay double freight bills for feed as trucks had to be rerouted through the centre of Australia. When power is lost farms have backup generators that can be used as long as diesel supply is readily available farms can usually keep crops alive until power is restored.

Pond based marine aquaculture does not compete with fishing and boating at all. Farms are located on estuaries usually a long way from areas that are used for boating. The only exception to this is perhaps farms based near the Logan River and the issue here is a risk of disease or pathogen entering nearby farms by way of tainted bait entering the waterways.

If fishermen uses diseased prawns as bait this is a potential vector for disease to enter a farm via the intake water. Biosecurity have advised industry that this is considered a low risk but there has been an instance where biosecurity allowed the release of a container of cooked prawns that contained White Spot.

This occurred during 1 August 2010 and 30 September 2010 and biosecurity were not able to recall all the prawns from the affected container.

http://www.daff.gov.au/about/publications/interim-inspector-general-of-biosecurity/incident_review



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The Brisbane floods of January 2011 saw a well known retail store submerged under water. Anecdotal stories suggest that some fishermen prefer to buy prawns from well known retail outlets as the imported prawns are cheaper than buying proper bait prawns. It would not take much for Australia to lose its disease free status for farmed prawns and industry consider this a high risk area.

The other issue for farms who are known to the public is that access via boat can sometimes be possible and some general public try to access the farms outside hours to pilfer product – a free feed of prawns.

Questions raised on page 8

Given current economic and environmental conditions, is there potential for greater development of aquaculture in Queensland?

Yes the APFA believes there is. Development can occur both as new farm developments and providing a regulatory framework that allows existing farms the capacity to expand. Current farms could farm more intensively but current operational regulations hog tie farms from increasing too much. Current farms could produce 20 tonnes per hectare but this would increase their nutrient release and the current conditions would make this very difficult.

ABARES (Agricultural Commodity September Quarter 2013) reports that in 2011-12 Australia imported 37.5 tonnes, compared to 23 tonnes of wild produced prawns. Farmed prawns for that same period are estimated to be 4.5 tonnes.

Australia imports around 70% of its seafood needs – if aquaculture was allowed to develop would we need to?

With population predictions expected to reach 9.7 billion by 2050 if Australia does not look after supplying food for its own needs we may soon be in a predicament one day where countries where we import from will say they need the food for their own people.

International prawn producing farms have been hit very hard with a disease called Early Mortality Syndrome (EMS) during the 2013 year. EMS affected shrimp producing countries like – China, Thailand, Vietnam, Malaysia, Mexico, the Philippines and India.



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Percentage of production affected varies – from Shrimp News the following article stated that the 4 countries hit by EMS accounted for about 70% of the worlds shrimp exports.

[Thailand Mat Briggs EMS to Spread](#)

Thailand Matt Briggs, EMS Likely to Spread In a long article in the Bangkok Post about increasing shrimp prices in the United States and Europe, caused by the early mortality syndrome (EMS) epidemic in China, Thailand, Malaysia and Vietnam, Matthew Briggs, an aquaculture consultant for Ridley Aquafeed, said, “The shortage is going to last at least a couple of years, maybe longer.” The four countries hit by EMS accounted for about 70% of the world’s shrimp exports in 2011, according to figures from the Food and Agriculture Organization (FAO). My farm was affected in August 2012, when we lost about 80% of our stock,” said Prayoon Hongrat, president of Sureerath Farm in Chantaburi Province, in eastern Thailand. “We need to bring our water supply from outside, and we think that is what spread the disease in our nursery.” China’s total output of shrimp was more than 1.5 million metric tons annually before EMS, of which about 200,000 tons were exported, said Cui He, vice-
<http://www.shrimpnews.com/FreeReportsFolder/NewsReportsFolder/ThailandMatBriggsEMStoSpread.html> - 18 kB

http://www.daff.gov.au/_data/assets/pdf_file/0004/5755/best_practice_paper.pdf

Would the increased production be sold primarily in the Australian market or elsewhere?

Market forces would most likely determine the selling market. Using figures from a summary report from CSIRO if Australia was to increase its farming size to 5000 hectares and produced 30,000 tonnes there would not be a need to import as much prawns which could be reduced and if the current Australian market can currently consume that amount why can’t it be Australian?

Some farms have looked to export their prawns but overseas countries require bigger production and a more continuous supply.

Does the Queensland aquaculture industry need to increase its scale of operations in order to become globally competitive?

Yes – APFA has compared Australia to Vietnam. Australia is 23 times bigger in land size yet there is no national zoning or planning framework to expand aquaculture.

Table one

Vietnam ha farmed end 2013	QLD farmed ha end 2012	Vietnam tons produced tiger prawns	QLD tons produced tiger prawns	Surface area Vietnam	Surface area Australia	Population density Vietnam	Population density Australia
652,612ha	692 ha	232,853	3,751	329,310 km sq	7,741,220 km sq	237.62 people per sq km	2.47 people per sq km



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Does the industry need to enhance its technical expertise?

Yes if the industry was to expand rapidly we would currently have to import the technical expertise and education facilities have all either removed or reduced aquaculture studies from their curriculum. Renewed training initiatives will naturally have to follow any expansion.

Page 8 correction 3.3

Second dot point – prawn farmers do not use chemicals such as antibiotics, growth hormones, disinfectants, and paracitocides.

Any veterinary prescribed treatments must be registered for use with APVMA.

Fourth dot point – any anti fouling paint has to be registered with APVMA.

Page 9 comment

Second dot point – Dr Nigel Preston, Flagship Director (Acting)

Food Futures National Research Flagship | Marine and Atmospheric Research

CSIRO, has said that prawn farm nutrients are assimilated into the estuarine environment before they get anywhere near the reef.

APFA general consensus is that aquaculture farms should not need to consider any offsets at all. Simply by developing a prawn farm where possibly there was once a cane farm is an offset and this has reduced the run off of chemicals, fertilisers, pesticides, nutrient from a cane farm.

Offsets are not applied to the management of nutrient run-off from any other agricultural enterprises and should not be considered for aquaculture.

Current farms have locked up a large percentage of potentially productive land for settlement systems so that what water is released meets strict environment conditions.

Settlement systems equates to farms already investing \$millions of dollars a year in environmental practices by locking up valuable production land as settlement ponds (e.g. a Mackay farm denotes 20ha of settlement system out of 53 ha in total to achieve current best practice – this equates to lost production value of \$4,000,000 per year.



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Third dot point – as far as APFA is aware there has been no disease spread from any prawn farm in Australia. APFA are worried about slack biosecurity allowing diseased prawns to be imported into Australia.

Fifth and seventh dot point – QCA report needs to recognise that APFA have partnered with FRDC, CSIRO and AIMS and have spent \$2,012,389 on a domestication program spanning 2002-2006. The prawn industry has reduced its reliance on wild broodstock thanks to the domestication program as evidenced by the figures below – taken from DAFF Annual Report to Farmers.

Table two

Year	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Spawners purchased	6164	5910	4996	3521	4070	2712	2759	2471	1990

Sixth dot point – APFA is not aware of any conflict over water use from other users. However during periods of heavy rain some estuaries are so black from run off of neighbouring properties that pumping to a farm cannot be done until the water settles.

APFA discussed this with QCA on Friday 14th February and disputed that zero or near zero was not and has not been achieved to date on any aquaculture site in the world.

Questions raised page 11

Is it appropriate to apply the precautionary principle to aquaculture development?

No – APFA believe that the precautionary principle has been misused with regard to aquaculture development in Queensland. It may have been an appropriate tool when the industry was first developed but 30 years after development there have been no adverse environment affects and over those years research has been carried out that supports industry development. Farms themselves are continually adopting best practice, adopting relevant research and implementing cutting edge technology that has enabled them to farm sustainably and profitably.



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Refer also to the attached Hansard report – Netting the Benefits – Inquiry into the Role of Science for the Future of Fisheries and Aquaculture. House of Representatives Standing Committee on Agriculture, Resources, Fisheries and Forestry. November 2012. Canberra. Alistair Dick President of the APFA at the time presented to the committee.

Which gaps in knowledge make it appropriate to apply this principle?

There has been significant R&D effort over the last 15 years to fill these knowledge gaps. We strongly believe this and the environmental record of the industry means the precautionary principle is not justifiable.

Between 1995 and 2001, Australian scientists conducted a major, multidisciplinary program of research that examined several prawn farms throughout the production cycle for several successive years. A key focus was on the ecological impacts of farm discharges on downstream environments and the development of cost-effective effluent treatment systems. The research program produced 46 peer reviewed research papers on prawn pond nutrients and was the most comprehensive analysis of the environmental impacts of prawn farming ever conducted.

In which cases concerning aquaculture development has the precautionary principle been applied?

In all cases especially where GBRMPA is involved. The Guthalungra proposal is a prime example.

The unfairness and discriminatory way in which GBRMPA apply the principles of the EPBC Act and the Precautionary Principles is evident in what GBRMPA allow with other developments.

There is a large cane farm development that has recently been approved by the Burdekin Shire Council which is only 40-50km from the Guthalungra development and will have discharges into the same receiving environment. The property is “Glenyarra” station at Inkerman, owned by Rushel Produce. It is a 3000ha property that has been approved for 600ha of ‘intensive agriculture’. The reference number is Cons 13/0012 on the Burdekin Shire Council website.



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APFA notes that a new Federal Act is being prepared that, if passed, will protect the Federal govt if the EPBC Act is breached as a result of approvals of environmentally contentious developments such as mining or port developments.

http://theconversation.com/australias-environment-minister-could-soon-be-above-the-law-23361?utm_medium=email&utm_campaign=Latest+from+The+Conversation+for+27+February+2014&utm_content=Latest+from+The+Conversation+for+27+February+2014+CID_c408a42058dd9079144a098707f56a2a&utm_source=campaign_monitor&utm_term=Australias%20environment%20minister%20could%20soon%20be%20above%20the%20law

GBRMPA Chair is able to justify the Abbott Point dredging...

<http://theconversation.com/lets-dump-great-barrier-reef-dredging-myths-authority-chief-22991>

Aquaculture is being deliberately targeted and held to ransom while others who cause damage to the Great Barrier Reef are allowed to grow and develop and continue to release unknown quantities of nutrients and pesticides onto the reef without any of the rigorous testing that is applied to prawn farming.

Page 12 comment on Great Sandy marine aquaculture

QCA's assessment – was probably more complex than if a set procedure had been used is consistent with the thinking of the APFA.

QCA's assessment that lack of interest arises from the fact that the plan defines this area as suitable for only extensive aquaculture, where Queensland's traditional strengths are in prawns and barramundi is consistent with the thinking of APFA.

QCA's assessment when considering overlays – If overlays address only Queensland regulation, without any change in the other two layers of government, they may have only a minimal impact on regulatory hurdles faced by proponents is consistent with the thinking of APFA.

Questions raised page 13

In relation to creation of overlays – Cropping were successful in getting strategic cropping areas identified in Queensland and a Strategic Cropping Land Act 2011 was developed.

APFA believe that strategic aquaculture zones can be developed along the same principles as cropping.



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One stop Shop likely effect? A one stop shop relative to the Commonwealth Government MOU with Queensland government will only work for aquaculture if proposed future developments don't impact on or are built close to the Great Barrier Reef. Any development that involves the reef is likely to trigger the EPBC Act and while Queensland government may approve such developments the final decision usually reverts back to GBRMPA whose Commonwealth parent SEWPAC has the ultimate say regardless of any MOU.

Comment page 15 – 3.8

“On the other hand, imposition of a requirement for an offset greater than 100 per cent, while not equitable, satisfies the principles of transparency, simplicity and predictability. A perfectly equitable framework is unlikely to be implemented, as it would involve imposing new emissions.

Tropical cyclones are estimated to be the largest cause of decline in coral cover, accounting for around 48 percent.

Obligations on existing enterprises that have previously operated (often for decades) without them. Given the restricted development over the past decade, an offsets requirement greater than 100 per cent would at least provide more predictability and transparency than current regulatory arrangements, and would be consistent with general policy goals of improving (rather than just maintaining in its current state) water quality in the vicinity of the GBR.”

Off sets are not being considered for NEW developments in other agricultural enterprises, not just existing enterprises. This is neither equitable nor logical from a GBR management perspective.

Research undertaken over a seven year period, and attested to by Dr Nigel Preston from CSIRO, by CSIRO, AIMS, JCU indicate that any nutrient release from a prawn farm is assimilated in the estuary/environment before it reaches the reef.

No GBRMPA report or scientific study – to the knowledge of the APFA, shows any impact on the reef from prawn farming.

It is universally acknowledged Australian prawn farmers have to meet the world's strictest environmental conditions which were set down by DAFF, EHP and GBRMPA.



Data that can easily be collated from the 6 reef catchment areas – Cape York, Wet Tropics, Burdekin, Mackay Whitsunday, Fitzroy and Burnett Mary record the baseline releases in 2009 from grazing, sugar cane, horticulture activities in table three.

APFA have been offended by comments from GBRMPA that even though we don't impact on the reef, as the newcomers to the block we are responsible for cleaning up the traditional farmers contribution to run off into the reef.

Table three

Region	Suspended solids per annum/tonnes	Total nitrogen tonnes	Dissolved Nitrogen tonnes	Total Phosphorus tonnes	Dissolved Phosphorus load tonnes	PSII pesticides/kg
Cape York	2,000,000	14,000	5,500	1,500		
Wet Tropics	1,400,000	16,000	11,000	2,000	530	10,000
Burdekin	4,700,000	14,000	5,700	2,600	430	4,900
Mackay Whitsunday	1,500,000	8,100	3,300	2,200	370	10,000
Fitzroy	4,100,000	15,000	2,700	4,100	245	2,300
Burnett Mary	3,100,000	13,000	2,800	3,100	350	990
Totals	16,800,000	80,100	31,000	15,500	1,925	28,190

Comment page 15 sentence:

For example, an aquaculture proponent might finance a better method of fertilising a sugar cane farm, leading to an overall decreased run-off of nitrogen and phosphorus – why should we. It should be the responsibility of the source of the pollutant to have to finance a better method. It is not the responsibility of the prawn farmer nearby to look after the mess caused by neighbours.

APFA agrees with QCA obvious question raised under the above example.

Questions raised on page 16

Is there sufficient information available about the impacts of aquaculture on water quality adjacent to the Great Barrier Reef? If not what are the information gaps?

How significant is the impact of well-managed aquaculture on GBR water quality compared to the impact of other activities? Does this impact justify the current level of regulation?



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Relevant to prawn farming – The following information was taken from a 2002 CRC report – Submission to the Productivity Commission on Industries in the Great Barrier Reef Catchment and measures to address declining water quality – A report to Australian Prawn Farmers Association (Inc), September 2002.

http://www.pc.gov.au/data/assets/pdf_file/0003/17607/sub045.pdf

Table four – prawn farm contribution to GBR loads.

Suspended solids (TSS) per annum/tonnes	Total nitrogen tonnes	Dissolved Nitrogen tonnes	Total Phosphorus tonnes	Dissolved Phosphorus load tonnes	PSII pesticides/kg	Suspended solids per annum/tonnes
1,314	53		6.5			

TSS discharged from Queensland prawn farms represents just 0.008% of the total annual anthropogenic sediment input to the Great Barrier Reef region.

This report estimated that if prawn farming were to expand to 10,000 ha in the GBR area the total TSS load would be 26,280 tonnes a total of 0.15% of the current load.

What would be the impact on the GBR of a significant expansion of aquaculture? In which areas would the impact be smallest, and in which areas would it be greatest?

From above – the 2002 CRC report estimated that if prawn farming were to expand to 10,000 ha in the GBR area the total TSS load would be 26,280 tonnes a total of 0.15% of the current load.

Note: these figures are based on current discharge concentrations- these levels will be lower with implementation of cutting edge treatment techniques in new developments.

Is there sufficient information about GBR water quality and pollution sources to enable establishment of environment offsets? If not, what are the information gaps and how could they be remedied?

No - there is not sufficient information available with regard to offsets. APFA understand that there is currently no offset policy and this may be available in June this year. Such an offset policy should include all industries and contributors- not just point source or new industries.



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<http://www.reefplan.qld.gov.au/resources/assets/reef-plan-2013.pdf>

When specifying offsets, what is the appropriate ration of emissions to offsets (ie should the offset be equal to the emission, should it be greater, or should it be smaller?)

According to respected science none is required for prawn farming activities within an estuarine environment.

Comment on page 17 – 3.10

The Queensland coast of the Gulf of Carpentaria appears to have many features suitable to aquaculture.

The rest of the paragraph does highlight some significant barriers. The GBR area does not have jurisdiction in this area so one could see why it might be considered favourable.

Trying to direct the industry North denies an individual's right of where to live and where to set up a business.

Put aquaculture out of the way and it won't be an issue, however transport costs getting product to market, having access to suitable labour and reliable electricity supply would make this area non feasible.

Another issue was highlighted to the APFA and it was that of climate change and rising sea levels in the Gulf top end of Australia.

<https://theconversation.com/a-wet-warning-from-australias-top-end-on-rising-sea-levels-22934>

In conclusion:

To help the authority to find a way forward for us we have designed a model framework following detailed consultation with all our stakeholders which we are confident would meet the requirements and give comfort to all the regulators responsible for our industry.

We would like to see Qld DAFF and or DEHP as the single environmental regulator for Qld aquaculture. This will require endorsement by the federal government, including GBRMPA.



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In a move towards this, Qld DEHP is currently working on a revised Operational Policy for aquaculture. However if this policy is developed per GBRMPA's zero net discharge with offsets agenda, our industry will not expand.

In order to address this impasse we propose a new twostep monitoring system as part of this operational policy.

- 1) Set limits at the outlet for factors that may have a localised impact, for example oxygen and ammonia
- 2) Monitor at the boundary of the mixing zone/ Marine Park for any nutrients that are not assimilated within the estuarine system. Any offset system should be based on the residual nutrients at this point.

In addition industry development should occur in line with precise BMP's (Best Management Practices) to provide assurance to all stakeholders

It is very important though that any review should be done with a new set of eyes in government and a peer or independent review of all the ready available and published science be commissioned as a matter of priority.

We would like to ask that a push for new people to assess and work with us to develop an outcome be made – inclusive of new people within the GBRMPA. We would also like to see high level scrutiny of this process to ensure it is developed with industry expansion in mind.

I consider that this changed operating licence and a freeing up of existing regulatory conditions would also satisfy GBRMPA and DEHP with regards to impacts upon the GBR. It should further satisfy GBRMPA with respect to ensuring that farms have no impact on the GBR through nitrogen monitoring directly at the GBR boundary; and, it would bring control of developing an important sustainable industry back to the State.

This is clearly a science based approach to our future industry development and one which we have consistently fought for.

As an Industry we are clearly and demonstrably focused on continual improvement to clean up our discharge waters and to reduce any localised harm to the environment.



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Farms have already invested \$millions of dollars a year in environmental practices by locking up valuable production land as settlement ponds (e.g. a Mackay farm denotes 20ha of settlement system out of 53 ha in total to achieve current best practice – this equates to lost production value of \$4,000,000 per year.

We continue to support projects like the current DEEDI Caring for Country project to enhance practices even further.

Once again we thank you for allowing us to make our case and look forward to your recommendations which I am sure will help us in our commitment to sustainable farming practices.

Yours sincerely

A handwritten signature in black ink that reads "Helen Jenkins". The signature is fluid and cursive.

Helen Jenkins
Executive Officer