APFA COMMENTS ON GBRMPA SUBMISSION TO PC 13 NOVEMBER 2002

Extracts from the Great Barrier Reef Marine Park Authority submission to the Productivity Commission are presented in *"italics"*. The Associations comment is recorded below each statement.

"Aquaculture

The aquaculture industry is a relatively young industry in the GBR catchment and still in an expansion phase."

APFA Comment
There has been only one new prawn farm, approved and operating in the past three years. Whilst there has been expansion in terms of production, this has come largely from existing farms using entitlements which were granted many years ago. The statement should be conditioned with words to that effect.

"Aquaculture operations adjacent to the GBRWHA can be considered as users of the GBRWHA for the assimilation of aquaculture waste".
APFA Comment:
This is not accurate or balanced in that the same argument can apply to all activities on land adjacent to the GBR. Why would GBRMPA single out aquaculture, but not other activities with this comment?

CRC for Aquaculture research (AIMS and CSIRO) on the assimilative capacity of coastal estuaries found that most of the nutrients and solids discharged from land-based prawn farms are assimilated within 500 metres of the discharge point. Importantly, neither CSIRO nor AIMS found any evidence of eutrophication despite more than 15 years of prawn farming activities adjacent to the GBR.

AIMS and CSIRO strongly support the siting of land-based aquaculture adjacent to coastal creeks and streams *to allow assimilation* prior to mixing with open water of the GBR lagoon. This is a major and as yet unresolved point of difference between the regulators and the scientists. Indeed, AIMS and CSIRO have argued that the Authority's preferred approach to siting land-based aquaculture farms would have the effect of reducing the capacity for assimilation and increasing the risk of waste waters entering the GBR World Heritage Area (Trott, L. AIMS & Preston, N. CSIRO written submissions to GBRMPA 2000, 2002).

"Discharge of aquaculture waste has the potential to cause nutrient enrichment (eutrophication) of estuarine and near shore ecosystems"

APFA Comment:
CSIRO and AIMS research has found no evidence of eutrophication despite more than 15 years of prawn farming activities adjacent to the GBR. What evidence does GBRMPA rely on to support this statement?

"Discharge of aquaculture waste has the potential to cause changes to estuarine and near shore ecosystems due to alterations of light, salinity, and oxygen regimes"

APFA Comment:
The Authority has not ever been bought this concern to the attention of the Association or the scientific community. The Authority should make an effort to justify this claim or provide a reference to support it. Discharges from prawn farms and barramundi farms are regulated as environmentally relevant activities by EPA pursuant to the Environment Protection Act. These licenses cover all aspects of water quality including salinity, temperature, dissolved oxygen, pH, N, P, solids etc. Licenses are issued consistent with ANZECC Water Quality Guidelines and having considered a range of relevant matters including ambient water quality, catchment issues, assimilative capacity and other values.

"Discharge of aquaculture waste has the potential to cause disease and genetic contamination (by escapees) of wild fisheries stocks

APFA Comment:
This concern is a perceived rather than a real threat. Australian aquaculture, with the exception of salmon farming in Tasmania, relies exclusively on native stocks for broodstock, and this is certainly the case in relation to Queenslands major sectors (prawn, barramundi, oyster, silver perch).

In the case of prawns, there are a number of known viruses which have the potential to affect productivity, the most well known being 'Gill Associated Virus'. This virus has been found in all east coast prawn stocks, both farmed and wild and has been determined by CSIRO Livestock Industries to be a naturally occurring Australian endemic pathogen. CSIRO's Dr Peter Walker is regarded as one of the worlds leading authorities on crustacean pathology and he is the Australian representative on the OIE which considers the international listing of animal diseases. It is widely known that GAV was introduced into Australian prawn farms by wild broodstock through normal breeding augmentation programs. For this reason, the Fisheries Research & Development Corporation in collaboration with the Association, has invested $1.5 million in a new collaborative research project aimed at domesticating stocks of Black Tiger prawn – the primary aim of this investment is to provide high health larvae free from GAV, and reduce the risk of unreliable supply of wild stocks.

APFA is not aware of any documented case of a virus or pathogen ever having been transferred from an Australian aquaculture facility to wild stocks. Indeed, the Association is not aware of any such example worldwide. It does not stand to reason that viruses or pathogens are suddenly created in a farm environment. The literature shows that the greatest risk of disease introduction on a farm is through transfer of live wild caught animals into a farm or hatchery environment. Whilst there may be a risk of 'amplification' of a pathogen in a densely stocked and poorly managed farm environment, however there is no supporting evidence that this leads to increased risk to wild stocks.

In relation to escapees, Australian prawn farms are required to harvest and cultivate stocks so as to minimise the risk of animals escaping either during grow-out or harvest. There are four key mechanisms to control this risk:

- EPA license for water discharges
- DPI Aquaculture licence pursuant to the Fisheries Act
- Environmental Code of Practice for Australian Prawn Farmers and/or

Another significant incentive to minimising escapees is of course, economics – why would a farmer knowingly permit his animals to swim off into the wild, never to be seen again? The issue is thus also one of financial risk management in which the farmer has a vested interest.

If there was a "mass escape", the question then becomes a matter for risk assessment and must necessarily consider issues such as stock origins, likelihood of passing on a pathogen to native stocks, likelihood of carrying a virus or pathogen which is not already present in native stocks, viral load etc.

Finally, on the issue of genetics, it should be remembered that all animals grown and cultivated in Australian east coast prawn farms are grown from stocks harvested from the Great Barrier Reef. There is no risk of genetic contamination, as we are growing the same genetic stocks as occurs on the reef itself. Into the future, a risk management approach may be desirable or necessary.

"Discharge of aquaculture waste has the potential to cause competition with and displacement of wild stock through accidental release of farmed stock"

APFA Comment:

This comment is so silly it cannot be taken seriously. It could only have been written by someone with an active imagination and a desire to dream up any reason to oppose aquaculture. Along with earlier comments this demonstrates GBRMPA's tendency to act as an advocate rather than a statutory management authority. Nonetheless APFA must assume that it is a genuine concern to the Authority and therefore warrants discussion.

Anyone with a reasonable working knowledge of land-based aquaculture operations knows that it is simply not possible to "accidentally release" a crop unless perhaps there is a major flood event equivalent to a 1-100 year event (even then unlikely). The most likely route of

escape may be during harvest and would only occur if a farmer accidentally dropped or broke his sock net into open waters whilst harvesting (note: risk of this is very low). If this were to occur the maximum number of accidental releases could not amount to more than the maximum sock harvest haul of around 100kg or maybe 50,000 prawns (assuming 100% survival and 100% escape). Considering that the GBR trawl fleet harvests around 9,000,000 kg of prawns per annum, and that this would represent only a tiny fraction of the total population of prawns on the reef, it is not likely that 100kg of escaped prawn is likely to represent a major risk to the environment. Is GBRMPA serious?

"Discharge of aquaculture waste has the potential to cause loss of coastal habitat for migratory (land/sea) species.

APFA Comment

This statement is unsubstantiated and unbalanced. The vast majority of prawn and barramundi farms are constructed on pre-existing cane and cattle land, land which was cleared many decades ago and has long since ceased to be regarded as high conservation value habitat. Very few prawn farms are built on intertidal lands, and the APFA Code of Practice actively discourages any development below highest astronomical tide. The risk of high conservation value land being allocated to aquaculture is very minimal if at all, particularly considering the vast areas already allocated formal conservation status through the Fisheries Act (Fish Habitat Areas), the Nature Conservation Act and local government planning schemes.

The 'destruction of habitat' argument conveniently ignores the flipside argument - vast areas of water and habitat are created by marine pond aquaculture. Migratory birds are commonly observed to feed, roost and rest in and adjacent to prawn farms on Australia's east coast, particularly in settlement pond areas and privately owned intertidal lands. These birds pose no threat to prawn farming operations and no threat is presented to them by the activities of prawn farmers.

"There is a history of environmental problems resulting from the rapid expansion of prawn farming during the 1980s to 1990s in a number of Asian countries. Environmental impacts of prawn farming and the subsequent costs to local communities when prawn farming fails due to pollution and disease are often attributed to a lack of government environmental regulation of the industry."

APFA Comment:

By 'Asian countries' we assume GBRMPA is referring to Thailand, Vietnam, Indonesia and India. GBRMPA fail to mention that poverty was the primary driver of development of coastal lands in these nations, and that until recently these societies did not place as high a value of conservation of coastal lands as Australia historically has. Today Thailand produces more than 380,000 tonnes of farmed prawn whilst Australia produces around 3000. Both

countries commenced development at around the same time, fifteen years ago. Hence the Thai industry developed about 100 times faster than Australia, without regulation, without regard for conservation and with a goal of alleviating poverty. In contrast, Australian industry has developed under intense scrutiny from regulators, the community and research organisations. This "Asia" versus Australia comparison is often made loosely and without much thought. Rarely do we hear regulators speak in terms of the balance of trade or Australian industry's capacity to compete in a global market. Instead of justifying the amount of regulation of Australian aquaculture by relying on poorly applicable international experience, we should be highlighting the positive aspects of sustainable aquaculture in an Australian context.

"It is argued that the high level of pollution in effluent discharged from prawn farms has contributed to the collapse of the industry in Taiwan and China (Phillips et al., 1993)."

APFA Comment:

This is incorrect. Production in Taiwan and China declined in the early-mid 90's due singly to the rapid spread of the 'white spot virus', a virulent OIE-listed pathogen not present in Australia. The pathogen spread rapidly throughout prawn farming nations until the late 90's, and now effects every prawn farming nation in the world with the exception of New Caledonia, Madagascar and Australia. Taiwan and Chinese production has since recovered as farmers learned to manage and respond to the effects of the pathogen. This comment corroborates earlier comments in relation to disease and demonstrates GBRMPA's poor understanding of the industry, particularly in relation to animal health.

"Concern over the social costs of shrimp farming led to an Indian Supreme Court ruling against prawn farming, which included the cessation of prawn farming operations in a 100,000 ha region and banning of prawn farming in sensitive areas (Hagler 1997). This ruling was made on the basis of a cost benefit analysis that found the social costs of prawn farming were up to 4 times greater than the benefits (Primavera, 1998)."

APFA Comment

This case applied to inland freshwater shrimp farming in an area of poverty and high population density and intense competition for water resources. The reasons for the decision were principally social and planning issues. The decision has since been responded to by government and the ban has been overturned. It is irrelevant to the Australian context and again highlights the adversarial nature of the GBRMPA submission.

"The development of prawn farming in Queensland has been constrained by environmental regulations and to date large-scale environmental impacts caused by land-based aquaculture have not been identified. There are, however, a few examples of demonstrated impacts on local scales."

APFA Comment:

There is ample evidence to support GBRMPA's observation that development has been constrained. There is ample evidence to support GBRMPA's claim that large-scale environmental impacts have not been identified in Australia.

However there is no evidence to support the claim of local scale environmental impacts caused by aquaculture facilities. The Association would not argue that aquaculture does not cause an environmental impact. Rather, we accept that there is an impact and we seek to develop and apply management strategies, farming methods and technologies to minimise the risks associated with aquaculture. We would ask the Authority to substantiate this claim.

"Being a relatively young industry there have been a number of technological and economic failures. A number of these non-operational farms are located along the coast of the GBR catchment. These farms have not been rehabilitated and their proximity to the coast may pose an ongoing risk of release of acidic run-off from excavated acid sulfate soils into receiving waterways. A rough estimate of rehabilitation costs for a small (< 10 ha) site close to Townsville was $ 600,000 (Vern Veitch,Sunfish, pers. comm.). This site has 24,000 m3 of oxidised acid sulfate soils above the ground, which poses a significant risk of acidic wastewater leaching into the GBRWHA."

APFA Comment:

Unbalanced, inaccurate and unreliable opinion.

There are 24 operating prawn farms adjacent to the Great Barrier Reef Marine Park. The oldest of these was built 18 years ago (in 1984) on the banks of Trinity Inlet (owned and operated by the Wahday family) and is still going strong. The vast majority of existing prawn farms were built between ten and fifteen years ago, and all continue to operate successfully notwithstanding variability of crops between seasons etc as with any farming venture. Contrary to GBRMPA's view, the evidence would tend to indicate that the industry has been remarkably successful for those who have made a long-term commitment to the industry.

The Association is aware of only two so-called "failed"prawn farm sites, both near Townsville. The first is the site of the former "Aqua Industries Pty Ltd" at Saltwater Creek,

north of Townsville. This farm was recently purchased and is expected to be operating within the next 12-24 months. Hardly a failed site.

The second is the site of former Sun Sun Aquaculture Pty Ltd, and is probably the one GBRMPA is referring to. This site was run by a Taiwanese company in the mid-80s at a time when niether the Queensland nor Commonwealth governments had any knowledge of the industry nor any planning mechanisms to address site-related risks and planning matters. The business failed because of poor management and lack of infrastructure, NOT due to the site or the industry. It is understood that some of the operations were built on intertidal lands and included the removal of mangroves – practices which are not supported by industry or government today.

A third site owned at one time by "NQ Industries" was listed on the Australian Stock Exchange in the early-90s, but was never built. The site is now overgrown. It was never operated.

It is important to note that the Authority relies on the word of stakeholder, Mr Vern Vietch, in forming their opinion on 'failed sites'. Vern Vietch is the President of an organisation called SUNFISH, a non-profit organisation which represents the recreational club fishing sector. SUNFISH and APFA have quite a good working relationship, and we often exchange information with Mr Vietch on important stakeholder/industry issues related to the Great Barrier Reef, water quality and fishing. However, whilst we respect Mr Vietch and SUNFISH, we do not accept that he or his organisation is an expert in site rehabitation and we are unaware of any relevant formal qualifications Mr Vietch may hold. It is disconcerting that the Marine Park Authority would rely on unpublished opinion of a stakeholder in developing its submission to the Productivity Commission, particularly considering the Authority received nearly $2 million to manage aquaculture in the 2001 federal budget.

It is not reasonable or accurate to characterise the industry as having a disproportionate percentage of "failures". Clearly GBRMPA has its facts wrong and is unnecessarily boxing at shadows. It is our view that this argument is meaningless in a modern context, and may serve to fuel ill-will and fear within the community about aquaculture.

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