17 September 2002

Great Barrier Reef Study
Productivity Commission
Via email : gbr@pc.gov.au

RE: Submission on Measures to Address Declining Water Quality on the Great Barrier Reef

Dear Sir

Introduction

I wish to express some views concerning certain aspects of the pressing problem of environmental damage to the Great Barrier Reef.

First, to declare my interests in this matter. I am a communications consultant with a long-standing interest in public policy matters and have worked in the past on communications projects relating to large-scale environmental problems.

I believe well-conceived and well-executed communication programs can effectively raise awareness and change behavior in ways that directly support desired public policy outcomes.

In the case of the Great Barrier Reef, I believe a package of Government measures are likely to be required to reduce levels of industry-sourced pollution in the Reef lagoon.

In particular, a 'mix' of financial and other incentives and coercive regulatory penalties is likely to be needed to reduce the use of traditional chemical fertilisers (and other harmful chemicals) by farmers in the Reef catchment areas. Run-off of excess chemical fertilisers is clearly a key factor in the creation of damaging pollution in Reef waters. I outline the type of policy approaches that could be effective later in this document.

In addition, I believe the effectiveness of any package of measures adopted to reduce chemical fertiliser run-off will be greatly enhanced by the implementation of awareness-raising programs targeting the users of polluting chemicals.

In particular, an authoritative, Government-sponsored awareness campaign would be able to steer a 'middle course' between the entrenched positions taken by environmental groups on one side and farmer groups on the other.

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The debate about the effects of chemical fertiliser run off into the Reef lagoon is hotly contested and as with all such public debates, both sides argue their cases strongly. An objective of an authoritative communication effort would be to gain common acceptance across various lobby groups of the extent of the problem and of the need for and nature of remedies that should be implemented.

However, initiatives aimed at achieving change by persuasion are unlikely to be sufficient alone to effect the degree of change required. A combination of incentive and coercion (by Government policy measures) and persuasion (through communication and awareness-raising activities) will be required.

As a communications consultant I have worked on public awareness projects related to environmental issues and currently represent in Australia the developer and manufacturer of an environmentally-friendly agricultural fertiliser, which is based on a new bio-technology involving the activation of dormant genes in the cells of microbes (e.g. yeasts) to perform specified functions in the target environment.

I believe there is great potential for such products to provide an at-source solution to the problem of excessive nutrient run-off resulting from traditional chemical fertiliser usage.

As well, my experience suggests there are interesting opportunities to involve such corporations in communication partnerships as part of any awareness-raising campaign.

For example, one of my clients, CK Life Sciences International (Holdings) Inc. (CKLS), is currently exploring communication partnerships and sponsorship arrangements with both farmer groups and environmental groups, aimed at raising broad awareness of the need for sustainable nutrient management programs throughout Australia.

Assumptions

It is assumed in this submission that the Great Barrier Reef is a natural wonder and asset that is worth preserving. The Reef was proclaimed a Marine Park in 1975 and was listed on the World Heritage Register as a natural asset of outstanding universal value.

It is also clear that the Commonwealth and Queensland Governments, who share responsibility for preserving the Reef, have indicated their willingness to implement initiatives required to preserve the Reef through their Memorandum of Understanding signed in August 2002.

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Policy Issues of Interest

Environmental

There appears to be an overwhelming body of evidence, particularly in the data generated and reported by the Great Barrier Reef Marine Park Authority (GBRMPA), that the use of chemicals (NPK fertilizers especially) in agricultural production is resulting in significantly higher chemical loads in Reef waterways than would otherwise occur.

The GBRMPA notes in its Water Quality Action Plan (2001) that “elevated sediment and nutrient concentrations have long been regarded as the most significant water quality threats to the inshore Reef”.

“Effects of elevated nutrient inputs to Reef waters range from reduced growth and reproduction in marine organisms through to shifts in the community structure and functioning of coral reef and seagrass ecosystems”.

In particular, I note various findings pointing out that the run-off of excess nitrogen from sugar cane farms in the Reef catchment area is the greatest single contributor to the excess nitrogen load on the Reef, leading to various harmful effects that seriously threaten the future of the Reef as a viable ecosystem.

Banana growing and dairy and beef pasture activities have also been named as significant agricultural contributors to the nutrient load on the Reef.

Many assessments of the current problems point to the need for precision application of ‘traditional’ chemical fertilizers and/or the use of alternatives.

I would suggest the use of environmentally-friendly fertilizers, if they can achieve similar yields at similar costs, would be preferable to the more careful use of chemical fertilizers, as this would be a way to tackle the problem ‘at source’.

Awareness / communication

The proposition that agricultural use of chemicals, especially fertilisers, causes damage to the Great Barrier Reef, is hotly contested.

For environmental groups, the causal connection between chemical fertiliser run-off from farms in the Reef catchments and excessive nutrient loads in the Reef lagoon is regarded as incontrovertible. /4. . . . .

But many farmer groups believe the evidence of this link is open to dispute, with some farmers claiming that evidence that casts doubt on the link has been suppressed or that academics who take a contrary position have been denied access to research funding.

Many Queensland farmers appear to believe that they might have been singled out as scapegoats in the debate on environmental damage to the Reef.

For example, CANEGROWERS, which represents more than 90% of Queensland's sugar cane farmers, disputes evidence of the causal link. CANEGROWERS stated in its submission (April 2002) to the Independent Assessment of the Sugar Industry that "there has been no measurable change in the nutrient status of the waters of the Great Barrier Reef" since European settlement.

CANEGROWERS has suggested that the Great Barrier Reef Marine Park Authority might have taken activist, anti-grower positions to support campaigns by environmental lobby groups.

"GBRMPA does not appear to have prioritised the various pressures on the Reef in any way but rather tends to get behind the various campaigns that are periodically run by environmental activists or opportunistic researchers seeking more funding"(CANEGROWERS, April 2002).

CANEGROWERS claims that because of its 'iconic' status, the Great Barrier Reef has become "a rallying point for both opportunistic scientists and environmental activists".

At the very least, the position taken by CANEGROWERS and other farmer groups exemplifies a significant 'disconnect' between evidence of nutrient-related damage to the Reef and an understanding of the role farmers can play in implementing sustainable nutrient management practices.

I'm not in a position to judge which side is right or wrong. I cite this dispute as a strong indication that there is a need for creation of an awareness-raising program to inform and persuade various interest groups (and the general community) of the link between their activities, the sustainability of the Reef, and the sustainability of other industries and activities that depend upon the continued health of the Reef (notably tourism / recreation and fisheries / aquaculture).

GBRMPA itself has acknowledged the important role awareness-raising programs must play in any fully-developed strategy aimed at minimising environmental harm to the Reef.

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In its Action Plan on Reef water quality, GBRMPA says: "Education and extension have an important role to play in parallel with specific management tools to address water quality decline. Raising the awareness of stakeholders about the sources and impacts of pollution represents an on-going challenge. The overriding impediment to the uptake of this information is the fact that the impacts and the causes are frequently remote from each other, creating difficulties for recognition and responsibility".

I support GBRMPA's analysis of this 'disconnect' referred to earlier, and believe it demonstrates a clear need for a multi-layered and authoritative communication campaign that explains the need for behavioural change to those groups whose activities may be contributing to damage to the Reef.

Recommendations

I wish to respond specifically to Issue 18 listed in the Productivity Commission's Issues Paper. I wish to propose policy options that should be considered by the Commission in two areas: encouragement of the replacement of chemical fertilisers with environmentally friendly alternatives, and communications to modify polluters' behavior.

Policy Options

Current environmental impacts on the Great Barrier Reef are acute and appear likely to worsen. Many of these impacts are caused by agricultural practices in the Great Barrier Reef's catchment areas. Therefore, stronger policy measures should be introduced to encourage changes in environmentally harmful practices.

These measures could include:

- Mandated reductions in the use of traditional, chemical-based fertilisers and pesticides and herbicides. Baseline usage levels could be established, with mandatory targets set by Government for reductions to be achieved over, say, a ten-year period. Specific baselines and reduction targets would be set for different agricultural industries, depending upon current contributions to nutrient and chemical loads in Reef waters.

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- Sustainable agriculture subsidies and incentives. Tax incentives or direct subsidies could be used to encourage the use of more environmentally friendly fertilisers. These mechanisms could either be provided directly to farmers, encouraging changed purchasing behavior, or to manufacturers of eco-friendly fertilisers (permitting manufacturers to reduce prices and provide other support mechanisms that would encourage farmers to replace traditional chemical products with non-polluting fertilisers).

Awareness-raising

As well as using policy coercion or incentive measures, the Queensland and Commonwealth Governments should implement a multi-layered communication campaign to complement new policy measures. The campaign would clearly explain the direct connection between chemical use on farms and the levels of chemical pollution of the Great Barrier Reef.

The objective of such a campaign would be to encourage changed behavior in farm chemical usage in order to reduce environmental harm to the Reef. Farmers would be encouraged to use environmentally-friendly alternatives to 'traditional' chemical fertilisers. Such a campaign would address environmental issues to both the broad community and to farmer groups.

(Any campaign implemented to encourage sustainable agricultural practices in the Reef catchments could also be a model for similar awareness raising activities to encourage sustainable practices in other environmental 'hotspots', such as the Murray-Darling Basin).

Ideally, such a Government-sponsored communication campaign would incorporate direct contributions from industries that stand to gain from the behavioural changes that are being encouraged. For example, manufacturers of non-polluting fertilisers, whose use would be likely to increase if a shift away from traditional NPK products was encouraged, would be logical partners in such a campaign and would be likely to be willing to contribute as financial sponsors or communications participants.

Conclusion

In assessing the economic and social issues relating to industries present in the Great Barrier Reef region, the Productivity Commission clearly needs to consider the following matters:

- Environmental damage to the Reef is a pressing and growing problem, with impacts that reach far beyond the Reef lagoon and catchment area. The future of the reef is a matter of national and international concern.

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- The current depressed condition of the Queensland sugar industry and other agricultural industries in the region is a matter of concern, but cannot be permitted to override the need for measures to protect the Reef.
- Initiatives to encourage change by persuasion, and through use of the current system of voluntary codes of practice, are unlikely to be sufficient to effect the degree of change required. A combination of incentive and coercion (by Government policy measures) and persuasion (through communication and awareness-raising activities) will be required.

Thankyou for your attention to this submission and I wish you well in your deliberations.

Yours faithfully,

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