Serious Concerns Regarding GBRMPA Scientific Integrity

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pp. 36-38. **Reply from W. Starck to JCU Vice-Chancellor's letter of 13 July.** 19 July 2010

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This document including all of the above may be downloaded at:
http://www.goldendolphin.com/WSarticles/Extraordinary%20Claims%20Regarding%20GBR%20Green%20Zones+++.pdf

McCook *et al*. (2010) report available online at:
http://www.pnas.org/content/early/2010/02/18/0909335107.short

19 March 2010

To:

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Editor-in-Chief
PNAS
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From:

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Townsville, QLD 4810
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Re:

McCook, L.J., *et al.* 2010. Marine Reserves Special Feature: Adaptive management of the Great Barrier Reef. PNAS 2010 : 0909335107v1-200909335.

The above referenced study presents a number of concerns:

- The most serious concern is a major conflict of interest involving all of the 21 authors. It should be noted that the lead author is employed by the Great Barrier Reef Marine Park Authority (GBRMPA) and all of the 20 additional authors are either employed by them or are recipients of substantial funding from them. It is incongruous in the extreme that all these employees and repeated recipients of generous GBRMPA funding, could, *"…declare no conflict of interest.*" when they are in fact assessing the benefits of their own work and that of the organisation which supports them. Combined with the rather unrestrained positive spin on the benefits and cost effectiveness achieved by GBRMPA management, the appearance of this report is that of a promotion piece which the most productive and respected beneficiaries of their research funding have been invited to endorse. In such case, it would have been very difficult for them to decline or to offer much objection to the claims made. At the same time, their names and status would provide credibility and deterrence of criticism while greatly increasing the prospect of acceptance for publication in a prestigious journal such as PNAS.

- In addition, PNAS, *"Authors must acknowledge all funding sources supporting the work."* There appears to be no such disclosure in this study.

- PNAS must also, *"…make materials, data, and associated protocols available to readers."* McCook *et al.* state that, *"Another important observation emerging from this review is the extent of relevant data that are not published or readily accessible. A full picture of the effects and effectiveness of zoning on the GBR has required extensive use of gray literature, previously unpublished data, and collation of separate data sources."* GBRMPA has been the sponsor of most of the research cited and, through the permit system, they exercise control over the terms of all other research conducted there. They are also a major publisher of GBR literature, both scientific and non-technical. The extent to which relevant data is not published or readily accessible is their direct responsibility. As the data referred to for this review has obviously been assembled, why has it not been made available?

- The major claim of a doubling of fish on protected reefs appears to rest on a single example. This is inconsistent with abundant other evidence including that which is presented in the report itself. Only one reef area of the 8 featured in the report showed a 2-fold increase and that area had the lowest level to begin and lowest difference between fished and unfished reefs. In 5 of the 8 areas featured in the report the protected reefs actually showed a decline in coral trout numbers. On fished reefs, three areas showed increases in biomass while 5 showed declines. This is hardly the "extraordinary" 2-fold increase in protected areas being bannered.

- McCook *et al.* state, *"The economic value of a healthy GBR to Australia is enormous, currently estimated to be about A$5.5 billion annually...." "Relative to the revenue generated by reef tourism, current expenditure on protection is minor." "Tourism accounts for the vast majority of reef-based income and employment. ...income from tourism is estimated to be about 36 times greater than commercial fishing."*

  These claims are highly misleading. The economic value cited includes the total value for all tourism in the region when half of all tourists do not even visit the reef. For those who do, the reef component of the large majority is a one day, one time participation in a reef tour and the value of reef tours is similar to the value of commercial fishing. If one also considers the economic value of recreational fishing, retail fish sales and seafood meals in restaurants, the total value of fishing is closer to twice that of reef tours. In addition, the reef tour industry regularly uses only about 2 dozen out of the 2500 reefs of the GBR and, on those which are used, the actual area visited would only be about 1% of the area of even those reefs. Unfished reefs to optimize scenic value for tourism could easily coexist with an order of magnitude greater fishing effort, and no detriment at all to tourism. The attribution of total tourism value to the reef is no more justifiable than attributing it to the similar numbers who visit the rainforest or who eat seafood meals while visiting the region. Such claims have been repeatedly made by GBRMPA and would, if used by a business, constitute violations of advertising and corporate law. To see it done repeatedly and included in a report in a leading scientific journal is a sad indictment of GBRMPA sponsored science as well as basic honesty.

- Babcock *et al.*, 2010 (in another study published in PNAS on the same day as McCook *et al.*) also examined the ecological effects of marine protected areas. However, this report is much more widely based geographically and longer term. Although the observed effects were generally positive, they were decidedly less large, rapid, extensive, and uniformly positive than those reported for the GBR. All of them also involved areas subject to much greater fishing pressure than the GBR. One might reasonably expect that increased protection for the least impacted areas would result in a less marked beneficial effect rather than the much more widespread rapid and dramatic benefits claimed by McCook *et al.* For example, Babcock *et al.,* "*…found that the time to initial detection of direct effects on target species … was 5.13 ± 1.9 years….*" Note that this was the time to initial detection, not the even longer time required to reach a doubling of population. When compared to the much greater effects claimed for the GBR over two years, the latter do indeed appear to be "*extraordinary*".

- Various key claims are contradicted by other more extensive work by the same researchers with no acknowledgement or discussion of this.

In reading over McCook *et al.,* some 40 such discrepancies were noted and more detailed examination would surely reveal more. However, without going further it should be clear that PNAS has been badly used. The serious and obvious conflict of interest alone can neither be ignored nor credibly explained away. If not addressed, it makes a farce of the declaration of no conflict. It alone must surely be more than sufficient grounds to retract this study. Although doing this may be unpleasant it would be far less damaging than to try to examine and defend all of the sad and disreputable details.

Coming at a time when public credibility in science is being seriously eroded by ongoing revelations of malpractice in what the public was assured was irrefutable fact and settled science regarding climate change, these "*extraordinary*" (their own description) claims regarding the GBR are well positioned to become a "Reefgate". This is especially so in that a key claim in this report and widely made elsewhere, is that a major benefit of protected areas on reefs is the increased resilience they provide against climate change.

Although controversy regarding the management of the GBR may appear of minor public interest from a U.S. perspective, it will be national news here in Australia and PNAS could find itself very much involved in a most difficult to defend position should prompt and decisive action not be taken.

A public release on all this will be made here in the near future. Whatever the decision of PNAS, it would be better made sooner than later.

Sincerely,

Walter Starck

Extraordinary Claims in Great Barrier Reef Assessment Require Evidence

Walter Starck

17 March 2010

Typical Great Barrier Reef Seascape

A vast panorama of reefs stretching over the horizon without a fishing boat in sight is the norm. You don't need a PhD with a computer model to tell that fishing pressure is very low, (The white marks are breaking waves, not boats.)

Extraordinary Claims in Great Barrier Reef Assessment Require Evidence

Walter Starck

17 March 2010

A new Great Barrier Reef Marine Park Authority report claims remarkably rapid, large, widespread and diverse environmental and economic benefits from the expanded protected areas introduced on the Great Barrier Reef in 2004. An examination of this report finds:

- **The authors declare no conflict of interest, yet all 21 are employed by or recipients of generous funding from GBRMPA and they are reviewing outcomes of their own findings and recommendations.**
- **Claimed results of protection are notably larger, more rapid, widespread and uniformly positive than has been observed anywhere else or than appears probable.**
- **Several of the most important claims are contradicted by other more extensive work from the same researchers and such disparity is glossed over or ignored.**
- **The major claim of a doubling of fish on protected reefs rests on a single example inconsistent with abundant other evidence including that which is presented in the report itself.**
- **Economic analysis is heavily distorted by attributing total value for all tourism in the region to the reef, when only half of visitors even take a one day reef tour.**
- **Scant actual evidence is provided to support claims.**

A recent report (McCook *et al.*, 2010) published in the prestigious U.S. scientific journal *Proceedings of the National Academy of Sciences* (*PNAS*) makes claims of remarkably rapid, large, widespread and diverse environmental benefits from the expanded no-take (green) zones introduced on the Great Barrier Reef (GBR) in 2004. For a variety of reasons many of these claims are doubtful.

Rather than subjecting the general reader to the tedious details of an exhaustive examination, this discussion will be restricted to a sampling of key points as emphasized in the report and in the press release (Anon., 2010) issued by the lead research institution involved in the study, the ARC Centre of Excellence for Coral Reef Studies at James Cook University in Townsville.

Claims from the Report

The quoted text below is from the report itself. The comments and questions which follow are by the author.

1. The expanded protected zones have resulted in, *"…major, rapid benefits of no-take areas for targeted fish and sharks…."*

The changes reported are no more rapid or major than what is known to often occur naturally and the benefit of substantially increasing two species of predators is only assumed, not considered.
Q. What is the actual evidence for, and nature of, the benefit from increased numbers of coral trout and grey reef sharks?

2. In the report the claim is made that, *"Monitoring has documented very fast and sustained recovery, with up to 2-fold increases in both numbers (of coral trout) and size of fish on many no take reefs." "...With 32% of GBR reef area in no-take reefs, and fish densities about two times greater on those reefs, fish populations across the ecosystem have increased considerably."*

Only one reef area of the 8 featured in the report showed a 2-fold increase and that area had the lowest amounts to begin and lowest difference between fished and unfished reefs. Ayling (1997) had this to say regarding his earlier much longer term and more extensive coral trout surveys:

> *"Is the protection that has been afforded some reefs by Marine Park zoning preventing overall coral trout numbers from declining in the face of continuing fishing pressure? Counts that have been made on protected and fished reefs since 1986 suggest that this is not the case. In 1986, coral trout were counted on 12 reefs in the Capricorn-Bunker Group off Gladstone (Ayling and Ayling 1996a). Six of these reefs had been closed to fishing for an average of about five years, while the other six were open to fishing. There were more coral trout on the closed reefs than on the fished reefs but this difference was not significant (Table 1). In 1991 fish were counted on a large number of reefs in the Cairns Section (Dunk Island up to Lizard Island). Of these reefs, 29 were open to fishing and 18 had been closed to fishing for seven years. Coral trout density on the two groups of reefs was almost exactly the same (Mapstone and Ayling unpublished data). In 1992 another set of counts was made in the Cairns Section, using five different closed reefs and five fished reefs (Ayling and Ayling 1992). Once again there was no difference in density between the two groups of reefs (Table 1). The 1996 CRC Effects of Fishing count of coral trout on 24 reefs between Lizard Island and the Swain Group, recorded fish numbers on 16 closed reefs and 8 fished reefs. This survey found more common coral trout on the fished reefs than on the protected reefs, but this difference was also not significant (Table 1)."*

See also Ayling (undated) which is appended. It should be noted as well that the level of fishing pressure has also been reduced in recent years by a variety of other new restrictions.
Q. What is the evidence (actual data) to support the blanket claim of a 2-fold increase in protected areas and why have the extensive earlier Ayling surveys been ignored, especially since he is a co-author of the present study?

3. In the report the claim is also made that, *"These increases appear to reflect genuine recovery of exploited fish populations on no-take reefs, rather than declines in abundance on fished reefs due to displaced fishing effort."*

In 5 of the 8 areas featured in the report the protected reefs actually showed a decline in trout numbers. On fished reefs, three areas showed increases in biomass while 5 showed declines. This is hardly the "*extraordinary*" 2-fold increase in protected areas being bannered. A doubling or halving of the numbers of trout observed by divers is not uncommon from reef to reef or between different years, seasons or weather conditions. In the area where the 2-fold increase occurred, it was between 2006 and 2008 and both fished and protected reefs showed similar rates of increase. Similar increases in numbers have been reported by Ayling (undated) on other reefs, including ones open to fishing.
Q. Is a 2-fold increase a widespread result or only an extreme case, not unlike the similar increase on fished reefs in the same region? Why is this increase attributed to increased protection when similar increases also occurred before the protected area was expanded? Why is such an increase not just a naturally occurring fluctuation in recruitment commonly observed in many marine populations? Post Climategate expert opinion is no longer good enough. Provide the data, all of it.

4. *"Critically, reserves also appear to benefit overall ecosystem health and resilience: outbreaks of coral-eating, crown-of-thorns starfish appear less frequent on no-take reefs, which consequently have higher abundance of coral…."*

A half century of global scientific effort has found no significant correlation between any human influence and Crown-of-Thorns outbreaks. Various other species of starfish and sea urchins also exhibit similar sporadic population blooms. There is reason to think that these starfish may even play a role in maintaining coral diversity (see Starck, 2005a, p.3). Starfish outbreaks are very irregular and of decadal or multi-decadal frequency on a given reef. In view of the small number of protected reefs and five year time span on which this claim is based, the level of statistical confidence for this claim would have to be quite low. These reserves are also among those established before 1994. They were not selected as representative, but at the recommendation of public submissions suggesting their protection because they were perceived to be of especial richness or other value. Although McCook *et al.* do acknowledge there is no known ecological mechanism which could explain how an absence of fishing might reduce starfish outbreaks, they still go on to attribute this to protection from fishing. It should also be noted that in other recent GBRMPA reports, the most likely explanation of starfish outbreaks is suggested to be nutrient runoff from agriculture.

Q. What reason is there not to attribute a low incidence of starfish outbreaks and high coral cover to natural causes rather than to starfish? Why is such an uncertain possibility of benefit labelled with a term of emotional index , *i.e. "Critically"*?

5. It is also claimed that, *"…fish abundances in no-entry zones suggest that even no-take zones may be significantly depleted due to poaching."*

In fisheries science the term "depleted" is used to indicate a stock where the biomass has fallen below the level of maximum sustainable yield (MSY). For most finfish, such as coral trout, MSY is usually attained in the range of 25 to 40% of the virgin or unfished biomass. Coral trout are the most heavily fished species on the GBR and nowhere on the GBR has there ever been evidence that it has been overfished to depletion. Use of this term to describe reductions in population that are still well above any limit of sustainability is misleading and scientifically incorrect.

Q. Where is the evidence of actual depletion for any GBR fish stock?

6. *"…the evidence suggests that coral trout stocks on inshore reefs generally were markedly depleted by 1984…."*

Not according to either the fishery statistics or the only extensive surveys from that era, those conducted by Ayling (see item 2. above)

Q. Where is the evidence?

7. *"…baseline populations of target fish may have been significantly more abundant than previously recognized, with stocks in most areas significantly depleted in comparison with that baseline."*

Q. Where is the evidence? Why did this not show up on the many closed reefs included in the extensive earlier surveys by Ayling?

8. *"Increases in the marine reserve network in 2004 affected fishers, but preliminary economic analysis suggests considerable net benefits, in terms of protecting environmental and tourism values."*

Neither fishing nor tourism has experienced any increase in volume or profitability attributable to the expanded green zones. These have, however, resulted in decreased production and profitability in the fishing industry, greatly increased prices and decreased availability of local seafood for consumers, increased costs for tourist operators and considerable inconvenience and harassment for all reef users.

Q. What specifically are the "*considerable net benefits" to anyone other than GBRMPA and grant seeking researchers"?*

9. *"Given the major threat posed by climate change, the expanded network of marine reserves provides a critical and cost-effective contribution to enhancing the resilience of the Great Barrier Reef."*

The threat of climate change is far from "*given*". It is in fact decidedly uncertain in magnitude, effects and timing. If it indeed approaches anything close to the predictions being made, increased

"*resilience*" of the GBR from green zones would be about as significant as a hand fan in Hades. This is simply gratuitous eco-gibberish offered without a shred of evidence.

Q. How does one ascertain the cost-effectiveness of providing a totally ineffectual response to a problem of unknown effects, timing, intensity and probability no matter how low the cost? How is cost determined when no assessment of constraints on productive activity has been made?

10. In the body of the report it is further claimed that (The GBR), *"…is under serious threat from a range of human causes, with climate change at the fore...."*

Grant seeking researchers have been inventing purported threats to the reef for the past half century. None have ever become serious and all of the hundreds of millions of dollars spent on reef research has never resulted in a practical solution for any of them.

Q. What threat other than climate change is not actually trivial and decreasing?

11. The report also states that, *"In surveys of reefs zoned before 1992, whitetip (Triaenodon obesus) and gray reef (Carcharhinus amblyrhynchos) sharks respectively were ≈4 and 8 times more abundant on no-entry reefs than on fished reefs in the central GBR. …. Gray reef sharks were up to 30 times more abundant on no-entry reefs than on fished reefs in the northern GBR."*

Heupel *et al.*, 2008 in the most extensive study to date of GBR shark populations found a 2-fold difference between closed and open reefs in areas that are regularly fished. In view of the slow growth to maturity and low reproductive capacity of sharks, this difference seems credible. The much higher differences cited by McCook *et al.* were based on diver observations and are subject to a major source of bias. Sharks have acoustical ability to detect divers from far beyond the limits of human vision underwater. They also have visual contrast discrimination superior to humans and can see a diver from a distance where the diver cannot see them. On regularly dived reefs where they are familiar with divers, above water observations from an elevated position reveal they often turn away from divers at a distance where they are unseen by the divers. Conversely, on reefs where they are unfamiliar with divers, they are attracted to them at first and substantial numbers may closely approach and circle divers on initial dives. After a few dives, however, they lose interest and the numbers seen soon become more like those seen on regularly dived reefs. Spear a fish, though, and they quickly reappear in numbers. Comparison of the numbers seen by divers on reefs where entry is normally prohibited, with the numbers seen on regularly dived reefs can be highly misleading.

It should also be noted that in the area of Lizard Island where the largest differences in shark numbers were seen, the reefs are subject to very low fishing pressure. The ELF study (Mapstone *et al.,* 2004) found no significant difference between coral trout on open or closed reefs there and this was attributed to the low fishing pressure. In addition, Heupel *et al.*, 2010, in a study of *Large–Scale Movement and Reef Fidelity of Grey Reef Sharks* reported that, *"...few individuals showed fidelity to an individual reef suggesting that current protective areas have limited utility for this species."*

Q. Why is attraction to divers on previously undived reefs not a more credible explanation for the much higher numbers seen there than is the very low level of fishing pressure in the area studied? Please also explain the apparent clear contradiction between Heuple's findings and those in McCook *et al.* where Heupel is a co-author?

12. *"The economic value of a healthy GBR to Australia is enormous, currently estimated to be about A$5.5 billion annually...." "Relative to the revenue generated by reef tourism, current expenditure on protection is minor." "Tourism accounts for the vast majority of reef-based income and employment. ...income from tourism is estimated to be about 36 times greater than commercial fishing."*

These claims are highly misleading. The economic value cited includes the total value for all tourism in the region when half of all tourists do not even visit the reef. For those who do, the reef component of the large majority is a one day, one time participation in a reef tour and the value of reef tours is similar to the value of commercial fishing. If one also considers the even higher economic value of recreational fishing as well as retail fish sales and seafood meals in restaurants, the total value of fishing is closer to twice that of reef tours. In addition, the reef tour industry

regularly uses only about 2 dozen out of the 2500 reefs of the GBR and, even on those which it does use, the actual area visited would only be about 1% of the area of those reefs. Unfished reefs to optimise scenic value for tourism could easily coexist with an order of magnitude greater fishing effort and no detriment at all to tourism. The attribution of total tourism value to the reef is no more justifiable than attributing it all to the similar numbers who visit the rainforest or who eat seafood meals while visiting the region. Such grossly misleading claims have been repeatedly made by GBRMPA. If used by a business to promote itself, such misinformation would invite prosecution for violations of advertising and corporate laws. To see this done repeatedly and now see it included in a report in a leading scientific journal is a sad indictment of GBRMPA sponsored science as well as basic honesty.

Q. How can such misleading and *prima facie* extraordinary claims be presented without evidence and pass peer review both in house at GBRMPA and the research institutions involved as well as the formal outside review by a leading journal? How can 21 scientists described in their own press release as *"from a 'who's-who' of Australian coral reef scientists"* put their names to such material? Now that attention has been drawn to this, will any correction or retraction be made?

13. *"A large scale manipulative study of offshore reefs found that no-take reefs generally, but not always, had more, larger,and older fish for the two main target species than did reefs open to fishing....)*

Although this sounds like supporting evidence from an earlier study, examination of that study (Mapstone *et al.*, 2004) reveals a quite different picture. "*generally, but not always"* is the operative phrase. Generally the differences were longer to appear, quite mixed and much less than the doubling claimed for the 2004 closures. Since Climategate, "trust us, we're experts" is no longer good enough.

Q. Where is the evidence? (Note that Mapstone, the senior author of the earlier study, is a co-author of the McCook *et al.*, report.

14. *"The major economic cost associated with the rezoning was a once-off, structural adjustment package for commercial fishing industries, which totalled A$211 million at July 2009...."*

In initially arguing for the expanded green zones, GBRMPA initially estimated such costs would not exceed S1.5 million. This was later revised to $2.5 million. After the zones were implemented the actual cost proved to be over 10,000% higher. The *"A$211 million at July 2009"* is only the costs to that point. The final total has been estimated to be over $300 million before all claims are settled and this does not include permanent ongoing future losses to production. Local fish shops now have only meagre supplies of local product and what they do have is so expensive few can afford it.

Q. When are we going to see a genuine economic audit of GBR management by qualified economic analysts , not a chorus of researchers singing for their supper?

Claims from the Supplementary Material Online at PNAS

15. *"Surveys of fish abundance and size on no-take and fished reefs before the 2004 zoning found generally similar effects to those found after the 2004 zoning."*

See items 2. and 11. above.

Q. This is untrue. Where is the evidence?

16. *"Surveys of* (unfished prey species) *fish abundance and size on no-take and fished reefs before the 2004 zoning found generally similar effects to those found after the 2004 zoning."*

It seems remarkable that the claimed doubling or more of large fish easting predators would have no discernable effect on the population of prey species.

Q. Will the experts please explain why it is that such a large increase in predators who are resident all day, every day, year around has no apparent effect but occasional low level predation by humans has such a dramatic effect? Why is this not in fact evidence that the increase in large predators has actually been considerably less than has been estimated?

Claims from the official press release

(Issued by the ARC Centre of Excellence for Coral Reef Studies)

17. *"The researchers say that preliminary economic analysis points to considerable net benefits, both to the environment and to tourism, fishing and related enterprises."*

Q. Please specify and provide evidence?

18. *"The Great Barrier Reef generates far more economic benefit to Australia than the cost of protecting it"*

GBRMPA provides hypothetical solutions to imaginary problems while prohibiting a great deal of potential for sustainable productive activity and severely restricting that which is allowed to exist. It now spends over $45 million annually to conduct a charade of management which in reality has delivered only increasing cost and decreasing productivity.

Q. Protection from what at what cost? Please identify any clear benefit from GBRMPA management that is not already adequately addressed by other agencies and regulations?

Discussion

Coming at a time when public credibility in science is being seriously eroded by ongoing revelations of malpractice in what the world was categorically assured was incontestable fact and settled science regarding climate change, these "*extraordinary*" (their own description) green zone claims demand clarification and confirmation in answer to a number of important questions.

In 2006, barely two years after the green zone expansion, the Great Barrier Reef Marine Park Authority (GBRMPA) announced finding dramatic increases in fishes in the protected areas. These increases were not only well above anything found in earlier protected areas on the GBR, they were too soon to be credible as new recruits could not grow fast enough to explain the claimed increases in larger fish. Considerable public doubt was expressed and when no responding evidence was forthcoming, public attention moved on.

Now, three year further on, these and even more dramatic claims appear. In reading through this report over 40 dubious claims which are clearly conflicted by other evidence were noted.

Extraordinary claims demand strong evidence. This report presents little evidence and what it does offer is equivocal. It appears that, along with fishing, evidence too has been declared no-take in the GBR green zones. The claim of *"major, rapid benefits"* from the expanded green zones is inconsistent with the evidence offered, previous more extensive research by some of the same researchers, the very low level of fishing pressure on most of the GBR and plain common sense. Such conflicting evidence is rarely acknowledged; and, in a few cases where it is mentioned, it is misrepresented.

McCook *et al.* also state that, *"Another important observation emerging from this review is the extent of relevant data that are not published or readily accessible. A full picture of the effects and effectiveness of zoning on the GBR has required extensive use of gray literature, previously unpublished data, and collation of separate data sources."*

GBRMPA has been the sponsor of most research on the GBR and, through the permit system, they exercise control over the terms of all research conducted there. They are also a major publisher of GBR literature, both scientific and non-technical. The extent to which relevant data is not published or readily accessible is their direct responsibility and something they should address. As the data referred to has now been assembled for the McCook review, it would be a relatively easy task to make it available via the internet and this should be a particular priority. Unsupported scientific claims used to justify major public costs and policies are not good enough. Proper science demands that **evidence must be made available for independent examination; and, that should include all of**

it, not just a cherry-picked selection. Although PNAS also requires that authors, "*…make materials, data, and associated protocols available to readers*." It seems that this critical requirement has been ignored by all concerned in this study.

Babcock *et al.*, 2010 in another study published in the same journal on the same day as McCook *et al.* also examined the ecological effects of marine protected areas. However, this report is much more widely based geographically and longer term than the GBR study. Although the observed effects were generally positive they were decidedly less large, rapid, extensive, and uniformly positive than those reported for the GBR. All of these MPAs were also in areas subject to much greater fishing pressure than the GBR. One might thus expect that increased protection for the least impacted areas would result in a less marked beneficial effect rather than the much more widespread rapid and dramatic benefits claimed for the GBR. For example, Babcock *et al.,* "*…found that the time to initial detection of direct effects on target species … was 5.13 ± 1.9 years….*" Note that this was the time to initial detection, not the even longer time required to reach a doubling of population. When compared to the much greater effects claimed for the GBR over only two years, the latter do indeed appear to be "*extraordinary*".

Unlike on land, no marine species in Australia has ever been lost due to human impacts nor are any now in danger of such extinction. The Great Barrier Reef is in near pristine condition. Of the over 2500 named reefs in the complex, only a few dozen near population centres are regularly visited. Over 90% of the reefs are seldom or never fished or even visited by anyone. Most are too far offshore to be affected by human activities on the coast and most of that remains undeveloped. The GBR commercial fishing harvest is limited by quota to a total which equates to an average harvest rate of about 9 Kg/Km²/yr (or 90 gm/Ha). This is less than one-quarter of 1% of the 4000 Kg/Km²/yr conservative estimate of the average sustainable harvest rate for coral reef fisheries. All this is easily verified, non-controversial fact. The reality of this situation is readily observable to anyone by making an extended reef cruise or a flight over the reef. Away from the proximity of the few small population centres, boats are hard to find and one passes reef after reef with no fishing vessel anywhere in sight.

The GBR is not actually threatened by anything. For over 40 years it has survived unscathed from a constant litany of purported threats, all dire, all demanding urgent attention, and of course funding. Hundreds of millions of dollars have been spent on research with little achieved other than the establishment of a parasitic industry predicated on imaginary threats. This reef salvation industry now supports hundreds of researchers, bureaucrats and activists when we can't afford enough police, teachers or health care workers to properly provide for vital services where very real need exists.

Generations of researchers have been schooled in a culture wherein threats to the reef are an unquestionable belief and all evidence is interpreted from such perspective. When evidence of good news cannot credibly be explained away, it is simply shelved, as were the extensive coral trout surveys by Ayling and the large ENCORE (Anon., 1994) experiment on enhanced nutrients. For a researcher to question the prevailing orthodoxy and insist on presenting evidence contrary to consensus belief would be professional suicide. The gravy boat steams on.

It is disheartening to see capable researchers, whose other extensive work clearly conflicts with claims made in this report, lending their names to it and, worse yet, such conflicting evidence being glossed over or ignored.

It should be noted that the lead author is employed by GBRMPA, all of the 20 additional authors are either employed by them or are recipients of substantial funding from them and this study was funded by them. The authorship and rather unrestrained positive spin on the benefits and cost effectiveness achieved by GBRMPA management presents the appearance of a promotion piece for

and by GBRMPA which the most productive and respected beneficiaries of their research funding have been invited to endorse. In such case, it would have been very difficult for any to decline or to offer much objection to the claims made. At the same time, their names and status would provide credibility and deterrence of criticism while greatly increasing the prospect of acceptance for publication in a prestigious journal. It is incongruous to note that all these employees and repeated recipients of generous GBRMPA funding, could, *"…declare no conflict of interest.*" (see footnote, p.1 of the report) when they are in fact assessing the value of their own work and that of the organisation which supports them. To compound the impropriety even further, PNAS also requires that, *"Authors must acknowledge all funding sources supporting the work."* There appears to be no such disclosure in this study either.

In December 2009 another study involving GBRMPA management was produced by the ARC Centre of Excellence for Coral Reef Studies. It is titled, *Marine protected area management costs: an analysis of options for the Coral Sea* (Ban *et al.*, 2009). This was prepared for the "Protect Our Coral Sea campaign". It found that the most cost effective management would be to make the entire Coral Sea area a protected zone with no fishing and for GBRMPA to manage it. No assessment of losses from prohibition of actual or potential productive activity was conducted and none was made for any need of management beyond what is already provided. Followed by the McCook e*t al.* report, it does not seem unduly suspicious to wonder if an agenda may be involved. It would be interesting to learn how much the Ban *et al.* study cost and where the money for it actually came from.

For an alternative perspective on the Coral Sea MPA issue see Diggles, 2010.

It almost seems that somewhere there must be a handbook for agenda science as the reef salvation industry has managed to cover all of the same points of scientific malpractice as revealed by Climategate:

- ☒ Hide or ignore conflicting evidence.
- ☒ Dramatic claims and language.
- ☒ Massage data.
- ☒ Misrepresent data.
- ☒ Offer conclusions only. Employ opaque data and methods.
- ☒ Use peer review to publish in prestigious journals and block publication of conflicting studies.
- ☒ Denigrate dissent without addressing its substance.
- ☒ Assert authority and expertise,
- ☒ Claim Noble Cause to excuse excesses.
- ☒ Maximise credibility and defence with as many authors from as many institutions as possible.

Reef Salvation score - Ten out of ten.

Bureaucratic restrictions, requirements and charges imposed by GBRMPA have become a major deterrent to any healthy productive use of the GBR. At the same time, it has fostered a substantial pseudo-industry of research and PR serving to promote its own institutional agenda. In a world facing serious economic difficulties, bloated unaccountable bureaucracies addressing non-problems are a luxury we can no longer afford. It is time for the electorate and the Parliament to start demanding answers and pruning the rot. In the lead up to the last election, Kevin Rudd said that, if elected, he would, *"…take a meat ax to the bureaucracy."* This is a good place to start.

An excellent essay on "***How government corrupts science***" (Robinson, 2010) is well worth reading. Although it focuses on climate science, the situation it describes is endemic across the environmental sciences and many parallels with the reef salvation industry are obvious.

References

Note: All references are available for download at the links provided. All but Heupel *et al.*, 2009 are free.

Anon.
1994. Research Projects. ENCORE: Enrichment of Nutrients on Coral Reefs.
http://www.reef.edu.au/CRRI/LIBRARY/act-rep1.html

2010. World class protection boosts Australia's Great Barrier Reef. Press release dated 22 February 2010 from
. Australian Research Council Centre of Excellence for Coral Reef Studies, Townsville.
http://www.coralcoe.org.au/news_stories/reserves.html

Ayling, A.
1997. Long-term trends in reef fish abundance in the Great Barrier Reef World Heritage Area. Workshop Series 23. State of the Great Barrier Reef World Heritage Area workshop, 1997. GBRMPA. pp.223-227.
www.gbrmpa.gov.au/corp_site/info_services/publications/workshop_series/ws023/ws023_paper_15.pdf

Ayling, A.
Undated internet document. Where are all the coral trout? (See appended copy below)

Ban, N.C.; V. Adams, and R. L. Pressey
2009. Marine protected area management costs: an analysis of options for the Coral Sea. Australian Research Council Centre of Excellence for Coral Reef Studies, Townsville. 46 pp.
http://protectourcoralsea.org.au/media/transfer/doc/oc20100204_coral_sea_management_costs_report_-_final_dec09.pdf

Babcock, R. C., N. T. Shears, A. C. Alcala, N. S. Barrett, G. J. Edgar, K. D. Lafferty, T. R. McClanahan, and G. R. Russ
2010. Marine Reserves Special Feature: Decadal trends in marine reserves reveal differential rates of change in direct and indirect effects. PNAS 2010 : 0908012107v1-200908012. 5 pp.
http://www.pnas.org/content/early/2010/02/17/0908012107

Diggles, B.
2010. Review of Literature Used by DEWHA to Underpin Declaration of the Coral Sea Conservation Zone. DigsFish Services Report: DF 10-01. 30 pp.
http://www.aflp.org.au/Diggles%20Report.pdf

Heupel, M.R., A.J. Williams, D.J.Welchb, A. Ballaghb, B.D. Mapstoned, G. Carlos , C. Davies, C.A.Simpfendorfer
2009. Effects of fishing on tropical reef associated shark populations on the Great Barrier Reef. Fish Res 95:350–361.
http://era.deedi.qld.gov.au/1217/

Heupel M.R., Simpfendorfer C.A., Fitzpatrick R.
2010. Large–Scale Movement and Reef Fidelity of Grey Reef Sharks. PLoS ONE 5(3): e9650. doi:10.1371/journal.pone.0009650
www.pnas.org/cgi/content/short/0909335107

Mapstone, B.D., C.R. Davies, L.R. Little, A.E. Punt, A.D.M. Smith, F. Pantus, D.C. Lou, A.J. Williams, Jones, A. A.M. Ayling, G.R. Russ, A.D McDonald.
2004. The Effects of Line Fishing on the Great Barrier Reef and Evaluations of Alternative Potential Management Strategies. CRC Reef Research Centre. Technical Report No 52. CRC Reef Research Centre, Townsville, Australia. 219 pp.
http://www.reef.crc.org.au/publications/techreport/pdf/Technical%20Report%2052.pdf

McCook, L.J., A. Ayling, M. Cappo, J. H. Choat, R. D. Evans, D. M. De Freitas, M. Heupel, T. P. Hughes, G. P. Jones, B. Mapstone, H. Marsh, M. Mills, F. J. Molloy, C. R. Pitcher, R. L. Pressey, G. R. Russ, S. Sutton, H. Sweatman, R. Tobin, D. R. Wachenfeld, and D. H. Williamson
2010. Marine Reserves Special Feature: Adaptive management of the Great Barrier Reef: A globally significant demonstration of the benefits of networks of marine reserves. PNAS 2010 : 0909335107v1-200909335. 8pp.
http://www.pnas.org/content/early/2010/02/18/0909335107.short

Robinson, A.
2010. How government corrupts science. WorldNet Daily, 3 March 2010
http://www.wnd.com/index.php?fa=PAGE.view&pageId=126706

Starck, W.A.
2005a. "Threats" to the Great Barrier Reef. IPA Backgrounder 17/1, Institute of Public Affairs, Sydney. 21 pp.

2005b. Fishy Claims of Overfishing on the Great Barrier Reef. Professional Fisherman, September 2005, pp.14-22
http://www.goldendolphin.com/eco/Fishy.pdf

2008. Are GBR Shark Populations Really Collapsing. Go Fishing. January 2008. pp. 10-12
http://www.goldendolphin.com/eco/GBRsharks.pdf

Ayling Coral Trout Survey Document

For a time, before the period of public debate leading up to the imposition of expanded green zones on the GBR, an informative summary of Dr. Ayling's coral trout surveys was available on the web at: www.fastinternet.net.au/~rock/trout.htm . It was entitled: WHERE ARE ALL THE CORAL TROUT? In September 2003 Shortly afyer attention was drawn to the availability of this document it disappeared from the web page. Fortunately, it was cited in full in a legal submission made by the recreational fishing group, Sunfish, Townsville, in the lead up to the introduction to the expansion of the Green Zones. The copy below is from that source.

Are Trout Overfished

WHERE ARE ALL THE CORAL TROUT?

Or are coral trout numbers on the GBR being reduced by current levels of fishing?

Notes prepared by Dr. Tony Ayling, a private marine biological consultant not affiliated with any Government Department.

Over the past 14 years we have made extensive underwater surveys of coral trout numbers on several hundred reefs along the entire length of the Great Barrier Reef. This has included repeat surveys on some reefs over a period of more than 10 years to get some idea of the long term changes that have been taking place. We have also made counts on many of the protected reefs in the Marine Park to see if protecting them from fishing has made any difference to coral trout numbers.

We will look first at the effect of protection on coral trout numbers:

In 1986, we counted coral trout numbers on 12 reefs in the Capricorn-Bunker Group off Gladstone. Six of these reefs had been closed to fishing for an average of about 5 years, while the other six were open to fishing. Average coral trout density on the protected reefs was 57 per hectare (an hectare in an area of 100 x 100 metres), compared with 49 per hectare on the fished reefs. Although there appear to be about 15% fewer coral trout on the fished reefs, by using statistical techniques we can show that this difference is not significant as it may just have been due to the variability in the counts.

In 1991 we counted fish on a large number of reefs in the Cairns Section of the Marine Park (Dunk Island up to Lizard Island). Of these reefs, 29 were open to fishing and 18 had been closed to fishing for 7 years. Average coral trout density on the protected reefs was 33.9 fish per hectare compared to 34.6 per hectare on the fished reefs. Basically, coral trout numbers were the same on both groups of reefs.

In 1992 we made another set of counts in the Cairns Section, using five different closed reefs and five fished reefs. Once again there was no difference between the two groups of reefs, with 28.4 fish per hectare on the protected reefs and 27.8 on the fished reefs.

From these figures it is obvious that coral trout numbers have not increased on reefs that have been closed to fishing. What does this mean? There can be three different interpretations:

1. Coral trout may move around a lot between reefs, and so any extra fish on the protected reefs quickly move onto nearby open reefs and average out the numbers. However, tagging and movement studies show that while a very few coral trout do in fact move from one reef to another most of them stay on the same reef, and even on the same place of the same reef.

2. Closed reefs are not protected from fishing. It may be that fishermen are ignoring reef zoning and that enforcement levels are not high enough to prevent this happening. Recent analysis of vessel sightings by coast watch has indicated that there is probably a lot of fishing on reefs that are supposedly closed.

3. The current level of fishing on the GBR has no effect on coral trout numbers.

It is probably a combination of low effect of fishing on coral trout numbers, and illegal fishing on closed reefs, that is responsible for the lack of difference in coral trout numbers we have shown between closed and fished reefs.

If surveys on closed and fished reefs are not giving us a good idea of what is going on with coral trout numbers, perhaps the long-term counts we have done can give us a better picture.

We have counts from three reefs off Townsville (John Brewer, Lodestone and Davies) over the period from 1983 to 1994. These reefs are close to the coast and are fished by both recreational and commercial fishermen. In 1983 the average density of coral trout on these reefs was 34 per hectare, in 1989 it was 34.3 and in 1994 it was 66 per hectare.

In the Cairns Section we have counts from some reefs in 1983 and again in 1991. In 1983 average density of coral trout was 22.5 per hectare and this had increased to 31.7 by 1991.

Off the Whitsundays, on the three reefs Hook, Line and Hardy, mean density of coral trout was 57 per hectare in 1984, 84 in 1988 and 124 in 1994.

All these figures suggest that far from decreasing in numbers that has been a marked increase in the numbers of coral trout on the GBR over the past 10 years.

So why is it that a lot of fishermen are always talking about the good old days? Why is it that the general consensus is that there has been a drop in catch rates of coral trout over the past few decades? This apparent contradiction can be resolved if we separate catchability from numbers. Poor catches do not mean that the fish are not there, just that they are not taking the bait. Reported catch rates by commercial fishermen from experimental fishing done for scientists on protected reefs are three to four times those from fished reefs, in spite of the similar densities we have mentioned above. This indicates that naïve populations of coral trout, ie those that are not often fished, are far more catchable that exploited populations. Similar results were reported from Heron Island where catch rates were much higher on protected parts of the reef than in fished parts, but no significant density differences between the two areas could be found. It is often reported by fishermen that catches are good after a long spell of bad weather when fishing activities are restricted; the fish have become more naïve and more catchable.

Another way of looking at the effect of fishing on coral trout is to use the count figures we have from along the GBR to get some idea of the total number of trout out there, and compare this to the number taken by fishermen. The Marine Park Authority has listed about 2,500 reefs on the GBR but our counts on charts and maps of the reef area indicate that there are about 1,200 major reefs. Measurements from these maps show that the average major reef has about 500 hectares of reef slope where coral trout are common, and about 2,500 hectares of reef flat and lagoon where coral trout are not very common. Our density figures indicate that the average density of coral trout on the reef slope is about 50 per hectare, compared with about 10 per hectare in the lagoon and reef flat. Length estimations show that an average of half of these are over 38 cm long and able to be taken by fishermen. From these figures we can calculate that there are about 30 million adult coral trout on the GBR.

These figures do not include inter-reef numbers of coral trout. There are large areas of broken ground between the true reefs that also support coral trout, and the true figure may be twice or more the 30 million we have calculated.

The Marine Park Authority and DPI have made recent estimates of the total annual catch of coral trout from the GBR of about 2 million kilograms, including both the recreational and commercial catch. Given the average size of coral trout this equates to about 3 million fish or only about 10% of the available stock.

We have also made counts of young coral trout on the reefs we have surveyed. By young coral trout I mean those that have resulted from the spawning season in the previous year. These figures show that an average of about 20% of the total coral trout on any reef are these young of the year (often called juveniles). Thus the annual input of young coral trout is equivalent to about 40% of the available stock,

far higher than the annual catch of 10% of available stock.

In addition coral trout grow rapidly, the fastest growing individuals reach 30 cm long in about 12 months and most individuals are over 38 cm at the end of two years.

These figures are all rather approximate but they are based on actual records and probably give a good indication of what is happening in the fishery. On this basis it seems unlikely that the present exploitation levels of coral trout on the GBR are any threat to coral trout numbers. On the contrary is seems possible that numbers will increase, as some of our counts are already indicating.

Just remember: the number of fish that are caught does not relate to the number of fish that are there, but to how easy they are to catch.

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From: http://www.quadrant.org.au/blogs/doomed-planet/2010/03/starck-barrier-reef
(Published as an introduction to accompany the preceding article)

Reefgate on the Barrier Reef

by Walter Starck
March 29, 2010

A new gate opens on the Great Barrier Reef

For the past half century the Great Barrier Reef has sustained a Queensland industry predicated on "saving" the reef from a never ending succession of purported "threats". All have been declared as dire and of course, they require urgent funding. None have ever become manifest in any serious manner and the hundreds of millions of dollars spent in research has never resulted in a solution for any of these non-problems.

The reef today remains a vast area of pristine nature with the majority of its over 2500 individually named reefs seldom fished or even visited by anyone. The Great Barrier Reef Marine Park Authority headquartered in Townsville has grown into a 45 million dollar a year bureaucracy charged with "managing" the reef. This it does by remote control from air conditioned offices where it oversees the application of hypothetical solutions to imaginary problems and administers a morass of regulations which have effectively strangled most healthy productive activity on the reef. Starting with no problems and only their own assessment of results, they have declared great success. This has been proclaimed widely through their extensive "educational" activity which serves to promote the Authority and create a high public profile for it.

In 2004 they stumbled badly with a large expansion of no fishing areas (a.k.a. green zones) on the reef. This resulted in a devastating impact on the small but important commercial fishing industry in the region as well as over 300 mandatory criminal convictions for otherwise law abiding recreational fishermen almost all of whom were arrested for inadvertently crossing one of the complex maze of unmarked boundaries. The upshot has been a massive compensation payout for the commercial fishermen, considerable public resentment and replacement of the GBRMPA chairperson.

With a sore need to remove the smudges from their workbook after the green zones debacle plus a juicy prospect for substantial expansion through management of a vast new Marine Protected Area in the Coral Sea, GBRMPA recently produced a glowing report of "extraordinary" benefits from the expanded green zones. To underscore the credibility and importance of their claims the report was published in one of the world's most prestigious scientific journals rather than as just another of their own numerous publications. However, in doing this they badly overreached.

The report appeared in the *Proceedings of the National Academy of Sciences* in the U.S. This journal has strict requirements for authors. These include:

- A requirement that authors declare no conflict of interest; yet, all 21 of them are employed by or are recipients of generous funding from GBRMPA and they are reviewing outcomes of their own findings and recommendations.

- A requirement that authors must declare sources of funding; yet, this cannot be found in the report.
- A requirement that all data and materials be made available for independent examination; yet, the supplementary information posted on the *PNAS* website fails to provide this.
- A requirement that authors acknowledge and address any conflicting evidence. Not only was this not done in regard to a number of key claims, the conflicting evidence is clear, convincing and, most extraordinary of all, authored by some of the same researchers as those in the report.

This situation has been brought to the attention of *PNAS* and they have promptly responded that they are looking into it. The appearance of repeated serious breeches of scientific ethics as well as explicit requirements of the journal is incontrovertible. It is difficult to imagine any credible explanation which might indicate otherwise. This is a very big deal and a full explanation by GBRMPA is demanded. Any attempt to pretend otherwise will only compound the seriousness of this matter.

A detailed review of this report is available here…

Serious concerns with report on adaptive management of the GBR.

from Walter Starck <wstarck@gmail.com>

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date Wed, Apr 14, 2010 at 4:10 PM

subject Serious concerns with report on adaptive management of the GBR.

Dear Dr. Reichelt

The recent report by McCook *et al*. on adaptive management of the GBR poses a number of matters of serious concern with respect to both scientific propriety as well as the factual validity of claims made.

Several matters of ethical concern have been exacerbated by publication in a prestigious journal (PNAS) which has strict requirements for authors. These include:

- A requirement that authors declare no conflict of interest; yet, all 21 of them are employed by or have benefited from substantial funding through GBRMPA and

any other research they do on the reef must also be approved by GBRMPA. To maintain that this situation entails no conflict of interest is simply not credible.

- There is also a requirement that authors must declare sources of funding; yet, this cannot be found in the report.
- It is further required that authors acknowledge and address any conflicting evidence. Not only was this not done in regard to a number of key claims, the conflicting evidence is clear, convincing and, most extraordinary of all, authored by some of the same researchers as those in the report.

Important matters of factual discrepancy include:

- A major claim of a doubling of fish on protected reefs which appears to rest on a single example (Fig. 1, McCook *et al.*). This is inconsistent with abundant other evidence including that which is presented in the report itself in the very same figure. Only one reef area of the 8 featured in the figure showed a 2-fold increase in numbers and that area had the lowest level to start and lowest difference between fished and unfished reefs, both of which show a similar increase. In 5 of the 8 reef areas featured the protected reefs actually showed a decline in fish numbers. On fished reefs, three areas showed increases in biomass while 5 showed declines. This is hardly the "*extraordinary*" 2-fold increase in protected areas being bannered in both the report as well as news releases.

- McCook *et al.* also state that, *"The economic value of a healthy GBR to Australia is enormous, currently estimated to be about A$5.5 billion annually...." "Relative to the revenue generated by reef tourism, current expenditure on protection is minor." "Tourism accounts for the vast majority of reef-based income and employment. ...income from tourism is estimated to be about 36 times greater than commercial fishing."*

  These claims are highly misleading. The economic value cited includes the total value for all tourism in the region when half of all tourists do not even visit the reef. For those who do, the reef component of the large majority is a one day, one time participation in a reef tour. The value of such tours is in fact similar to the value of commercial fishing. If one also considers the economic value of recreational fishing, retail fish sales and seafood meals in restaurants, the total value of fishing is closer to twice that of reef tours. In addition, the reef tour industry regularly uses only about 2 dozen out of the 2500 reefs of the GBR and, on those which are used, the actual area visited by tourists would only be about 1% of the area of even those reefs. Unfished reefs to optimize scenic value for tourism could easily coexist with an order of magnitude greater fishing effort, and have no detriment at all to tourism. The attribution of total tourism value to the reef is no more justifiable than attributing it to the similar numbers who visit the rainforest or who eat seafood meals while visiting the region. Such claims have been repeatedly made by GBRMPA. If used by a business, such claims would constitute violations of advertising and corporate laws. To see this done repeatedly and now included in a report in a leading scientific journal is a sad indictment of GBRMPA sponsored science as well as basic honesty.

- Babcock *et al.*, 2010 (in another study published in PNAS on the same day as McCook *et al.*) also examined the ecological effects of marine protected areas. However, this report is much more widely based geographically and longer term. Although the observed effects were generally positive, they were

> decidedly less large, rapid, extensive, and uniformly positive than those reported for the GBR. All of them also involved areas subject to much greater fishing pressure than the GBR. One might reasonably expect that increased protection for the least impacted areas would result in a less marked beneficial effect rather than the much more widespread rapid and dramatic benefits claimed by McCook *et al.* For example, Babcock *et al., "…found that the time to initial detection of direct effects on target species … was 5.13 ± 1.9 years…."* Note that this was the time to initial detection, not the even longer time required to reach a doubling of population. When compared to the much greater effects claimed for the GBR over only two years, the latter do indeed appear to be not just "*extraordinary*" but indeed difficult to believe.

In reading over McCook *et al.,* some 40 such discrepancies were noted and more detailed examination would surely reveal more. The serious and irrefutable breaches of propriety alone can not be credibly explained away. The additional matter of directly conflicting evidence and conclusions by the same authors is also unequivocal as can be seen in my attached report.

Coming at a time when public credibility in science has been seriously damaged by ongoing revelations of malpractice in what everyone had been repeatedly assured were irrefutable facts and settled science regarding climate change, these "*extraordinary*" (McCook *et al.'s* own description) claims regarding the GBR have already become referred to as "Reefgate". If this study is not withdrawn it will amount to a tacit endorsement of scientific misconduct and can only become an even more severe discredit to GBRMPA along with the ARC Centre of Excellence for Coral Reef Studies.

In a recent article in the Cairns Post on this subject, Dr. Terry Hughes was quoted as stating I am not a marine biologist and have never published anything on the GBR. Although this is provably false on both counts it is also revealing as well as irrelevant. Such a*d hominem* attacks are invariably resorted to only when there is no effective defence for the real issue. It demeans the attacker more than the target. The real issue here is not a schoolboy pissing contest over credentials. It matters not if I were a garbo. In fact it could well be argued that such might even better qualify me to handle this matter.

This involves a serious matter of scientific impropriety and any attempt to ignore, deny or obfuscate it will only compound the ultimate discredit. I bring it to your attention as Chairman of GBRMPA in the hope and expectation that you will promptly and properly address it.

In closing I would like to note that PNAS authors must also, *"…make materials, data, and associated protocols available to readers."* McCook *et al.* state that, *"Another important observation emerging from this review is the extent of relevant data that are not published or readily accessible. A full picture of the effects and effectiveness of zoning on the GBR has required extensive use of gray literature, previously unpublished data, and collation of separate data sources."*

As it appears the data referred to for this review has thus been assembled, I would like to formally request that all of it be made available for independent examination via download from the internet. This should include all of the numerous unpublished coral trout, crown-of-

thorns and coral bleaching survey reports conducted for GBRMPA and paid for with public money.

Attached is a copy of my report on this issue as published online at www.quadrant.org.au

plus a copy to the Editor-in-Chief of PNAS regarding it. I look forward to your reply.

Sincerely,

Walter Starck

2 attachments — Download all attachments

PNAS letter.doc
90K View as HTML Open as a Google document Download

Extraordinary Claims Regarding GBR Green Zones.pdf
315K View Download

Email to: Peter Garrett MP

from	Walter Starck <wstarck@gmail.com>
to	Peter.Garrett.MP@aph.gov.au russell.reichelt@gbrmpa.gov.au, admin@baird.com.au, alanjones@2gb.com, amoran@ipa.org.au, Anthony.Gray@nationalciviccouncil.org.au, bob.baldwin.mp@aph.gov.au, bob.carter@jcu.edu.au, Bob.Katter.MP@aph.gov.au, bolta@heraldsun.com.au, den50@bigpond.com, glennwinsen@westnet.com.au, grantl@tasmanianseafoods.com.au, jeff@mccloygroup.com.au, joanne@joannenova.com.au,
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date	Thu, Apr 15, 2010 at 6:48 AM
subject	Fwd: Serious concerns with report on adaptive management of the GBR.

Dear Mr. Garrett,

It has occurred to me that as GBRMPA comes under the responsibility of your Department you should the following matter should be brought to your attention.. While this is another major stuff-up, at least fixing it by retracting the report should be somewhat easier than extracting the batts from a million attics.

Sincerely,

Walter Starck

---------- Forwarded message ----------

(Preceeding email to Dr. Reichelt was include here}

Email re: Reefgate and Australian Research Integrity Committee

from	Walter Starck <wstarck@gmail.com>
to	russell.reichelt@gbrmpa.gov.au, admin@baird.com.au, alanjones@2gb.com, amoran@ipa.org.au, Anthony.Gray@nationalciviccouncil.org.au, bob.baldwin.mp@aph.gov.au, bob.carter@jcu.edu.au, Bob.Katter.MP@aph.gov.au, bolta@heraldsun.com.au, den50@bigpond.com, DSalsbur@nas.edu, era@arc.gov.au, glennwinsen@westnet.com.au, grantl@tasmanianseafoods.com.au, jeff@mccloygroup.com.au, joanne@joannenova.com.au, laurence.mccook@gbrmpa.gov.au, leabun1@yahoo.com.au, minister@innovation.gov.au, mmansfield@iig.com.au, oceanoils@bigpond.com, peter@goboating.com.au, phocion@connexus.net.au, pwestmore@national-civic-council.org.au, peter.ridd@jcu.edu.au, Peter.Garrett.MP@aph.gov.au, Senator.Bernardi@aph.gov.au, senator.boswell@aph.gov.au, senator.ian.macdonald@aph.gov.au, senator.joyce@aph.gov.au, vforbes@bigpond.com, warrenentsch@yahoo.com.au, wizardprawns@optusnet.com.au
date	Fri, Apr 16, 2010 at 7:26 AM
subject	Reefgate and Australian Research Integrity Committee

Please note the following Media Release (the highlighting is my own).. If the GBRMPA adaptive management study is not retracted it can provide an excellent example for the new committee to blood its teeth and demonstrate its own *bona fides.* That one of ARC's own Centres for Excellence plays a central role in this particular matter should facilitate quickly getting to the heart of it and send a clear message.

Sincerely,

Walter Starck

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http://minister.innovation.gov.au/Carr/Pages/INDEPENDENTBODYTOENSURERESEARCHINTEGRITY.aspx

Media Release

Senator the Hon Kim Carr

12 Apr 2010 INDEPENDENT BODY TO ENSURE RESEARCH INTEGRITY

Innovation Minister Senator Kim Carr today announced the establishment of an independent body to ensure that institutions are taking appropriate action in response to allegations of research misconduct.

"The Australian Government takes the issue of research misconduct very seriously," Senator Carr said.

"With the establishment of the Australian Research Integrity Committee, Australians can be confident that research activities will meet moral and ethical standards. This is about ensuring that taxpayers get value for their investment in public sector research and protecting the Australian brand.

"The committee will assure researchers and the Australian public that institutions are taking appropriate action on serious allegations of research misconduct.

"While the committee will assess whether an institution has followed proper process in response to an allegation of research misconduct, it will not impinge on the institution's autonomy—institutions will still be responsible for assessing if misconduct has occurred.

"The committee's considerations will be in line with the framework set out in the Australian Code for the Responsible Conduct of Research, which guides institutions and researchers in responsible research practices and promotes integrity," Senator Carr said.

The Australian Research Integrity Committee will be jointly administered by the Australian Research Council (ARC) and the National Health and Medical Research Council (NHMRC).

The ARC and NHMRC are seeking expressions of interest for membership of the Australian Research Integrity Committee.

To find out more about the committee or find out how to submit an expression of interest, visit www.arc.gov.au or www.nhmrc.gov.au.

Media contacts: Aban Contractor, Minister's Office, 0457 989 842
Sheena Ireland, ARC, 0412 623 056

Confirmation by Silence

GBRMPA offers no explanation for scientific Integrity concerns.

Walter Starck
22 April 2010

The serious issues of scientific integrity presented by the scientific report on adaptive management of the Great Barrier Reef (McCook *et al.*, 2010), and to which I have drawn attention (Starck, 2010) have resulted in no response from the authors, the Great Barrier Reef Authority or Minister Garrett. It appears no credible explanation can be offered and responsible authority must think the entire matter is insignificant enough to just be ignored.
To reiterate briefly, the major concerns raised include:

- The authors declared no conflict of interest when all 21 of them are either employees of GBRMPA or have benefitted from a total of millions of dollars in funding from them. In addition, any other research they do on the reef must also be approved by GBRMPA. That this situation should be seen as devoid of conflicting interest makes a farce of the very concept. Although the journal which published this study has clear and explicit requirements for authors to disclose sources of funding and to address conflicting evidence, neither was done. This omission falsely presents that no such funding or conflicting evidence exists when in fact it is voluminous.
- It has been falsely represented in both news releases and the report itself that closure to fishing has resulted in a doubling of fish numbers on many protected reefs when in fact only one of the eight reef areas surveyed showed such an increase and five of the eight areas showed a decline. In the one area which did show the doubling, it had the lowest numbers to start with and the fished reefs in that area also exhibited a similar increase. That such inter-annual fluctuations are common, natural and well known was ignored.
- It was also falsely claimed that the economic value of the GBR is $5.5 billion and that, *"Tourism accounts for the vast majority of reef-based income and employment. ...income from tourism is estimated to be about 36 times greater than commercial fishing."* These claims are highly misleading. The value cited for the GBR includes the total for all tourism in the region when half of all tourists do not even visit the reef and the reef component for the majority of those who do see it, is a one day tour. The economic value of commercial and recreational fishing plus retail fish sales and seafood meals in restaurants, actually makes the total value of fishing closer to twice that of reef tours.
- Numerous additional arguable, doubtful and even demonstrably false claims are also made with no discussion of conflicting evidence. Remarkably, some of the strongest and clearest of such conflict comes from other work published by the same authors.

It seems surreal, that this situation stems from what their own press release describe as, *"…a 'who's-who' of Australian coral reef scientists.…"*, an institution which modestly calls itself a "Centre of Excellence" and publication in one of the world's most prestigious scientific journals. Left to stand unaddressed, this situation makes a farce of any pretence of scientific integrity, procedure or even facts. If as a society we can no longer recognise such an obvious violation of both reason and ethics on this level, the future of what is indeed the world's luckiest country does not look very hopeful.

Across the nation farmers, graziers, fishermen, miners, developers, ordinary property owners and indeed the entire productive sector is struggling under the burden of a bloated and unaccountable bureaucracy claiming scientific authority based on made to order research findings they have bought and paid for. The resulting impact on people's lives is not just an inconvenience. It is frequently devastating and is growing steadily worse. Recent ABARE statistics show a 30% decline in the gross value of Australian fisheries and a 44% decline in real value of fishery exports over the past decade. None of this is due to collapse of the resource. All of it is a direct result of increased regulation with dubious science playing a central role. When are we going to hear any expressions of outrage or even concern about any of this? Is it going to require an economic collapse and real hunger to halt this obscene charade?

Coincidentally, the lead author and two others of the McCook *et al*. report have been recipients of generous Pew foundation fellowships. The Pew Environment Group is also a prominent sponsor of the Protect Our Coral Sea campaign which has commissioned another recent study by the same Centre of Excellence for Coral Reef Studies that produced the McCook *et al.* report. One author is common to both reports. This study finds that the most cost effective management for a vast new Coral Sea Marine Protected Area would be to make it a no-take zone and have it managed by GBRMPA. Taken together, the findings of the two reports and Pew involvement raise a further concern with regard to undisclosed interests.

REFERENCES

Ban, N.C.; V. Adams, and R. L. Pressey
2009. Marine protected area management costs: an analysis of options for the Coral Sea. Australian Research Council Centre of Excellence for Coral Reef Studies, Townsville. 46 pp.
Http://protectourcoralsea.org.au/media/transfer/doc/oc20100204_coral_sea_management_costs_report_-_final_dec09.pdf

McCook, L.J., A. Ayling, M. Cappo, J. H. Choat, R. D. Evans, D. M. De Freitas, M. Heupel, T. P. Hughes, G. P. Jones, B. Mapstone, H. Marsh, M. Mills, F. J. Molloy, C. R. Pitcher, R. L. Pressey, G. R. Russ, S. Sutton, H. Sweatman, R. Tobin, D. R. Wachenfeld, and D. H. Williamson
2010. Marine Reserves Special Feature: Adaptive management of the Great Barrier Reef: A globally significant demonstration of the benefits of networks of marine reserves. PNAS 2010 : 0909335107v1-200909335. 8pp.
http://www.pnas.org/content/early/2010/02/18/0909335107.short

Starck. W.
2010, (The original article on this situation plus subsequent correspondence including the current document may be downloaded at:)
http://www.goldendolphin.com/eco/Extraordinary Claims Regarding GBR Green Zones+++.pdf

GBRMPA non-response to research misconduct allegations

from	Walter Starck <wstarck@gmail.com>
to	Peter.Garrett.MP@aph.gov.au
cc	russell.reichelt@gbrmpa.gov.au, admin@baird.com.au, alanjones@2gb.com, amoran@ipa.org.au, Anthony.Gray@nationalciviccouncil.org.au, batemand@tcp.newsltd.com.au, ben@digsfish.com, bob.baldwin.mp@aph.gov.au, bob.carter@jcu.edu.au, Bob.Katter.MP@aph.gov.au, bolta@heraldsun.com.au, den50@bigpond.com, DSalsbur@nas.edu, era@arc.gov.au, glennwinsen@westnet.com.au, grantl@tasmanianseafoods.com.au, jeff@mccloygroup.com.au, joanne@joannenova.com.au, laurence.mccook@gbrmpa.gov.au, leabun1@yahoo.com.au, minister@innovation.gov.au, mmansfield@iig.com.au, oceanoils@bigpond.com, peter@goboating.com.au, phocion@connexus.net.au, pwestmore@national-civic-council.org.au, peter.ridd@jcu.edu.au, Senator.Bernardi@aph.gov.au, senator.boswell@aph.gov.au, senator.ian.macdonald@aph.gov.au, senator.joyce@aph.gov.au, vforbes@bigpond.com, warrenentsch@yahoo.com.au, wayne@mitchellsmarine.com.au, wizardprawns@optusnet.com.au, stephen.adam@abc.net.au
date	Sat, May 1, 2010 at 2:37 PM
subject	GBRMPA non-response to research misconduct allegations

Dear Minister Garrett,

I bring this matter to your attention as the Minister responsible for oversight of the Great Barrier Reef Mariner Park Authority.

My email of 14 April 2010 to Russell Reichelt, GBRMPA Chairman Re: *Serious concerns with report on adaptive management of the GBR,* has as yet received no reply or even acknowledgment of receipt from either GBRMPA or your office.

The attached **Media Response** from GBRMPA dated 30 April was received by Fishing World magazine in response to their enquiry on this matter. As the response quotes Dr. Reichelt extensively on this situation it seems apparent he is fully aware of it and has chosen to ignore it. This stands in marked contrast to the prompt response from JCU when this same matter was brought to their attention in connection with the involvement of the ARC Centre for Excellence in Coral Reef Studies which they administer. The Deputy Vice-Chancellor has assured me that JCU takes such allegations seriously and they will be investigated.

The dissembling Media Response from GBRMPA is not only pathetically inept, but also incorrect and self negating as well. It is dissembling in that it addresses none of the substantiative issues I have raised. It is inept in that not only is it unconvincing, it also presents the appearance that Dr. Reichelt must either believe he has no obligation to address such serious allegations or that he can simply ignore them. It is grossly incorrect in characterising my concerns as simply an opinion. On the contrary, the important issues I have raised are overwhelmingly matters of simple unequivocal facts which are clearly set forth and may readily be verified. It is self negating in that if one is to accept the argument presented, the response itself must be dismissed because it is only an opinion piece not published in a peer reviewed scientific journal. It might also be added that the idea that allegations of misconduct can be ignored if not published in a peer reviewed journal is pure self serving drivel.

I would like to draw your attention to the Australian Code for the Responsible Conduct of Research, which is jointly administered by the ARC, National Health and Medical Research Council (NHMRC) and Universities Australia. The Code is available on the NHMRC website at http://www.nhmrc.gov.au/publications/synopses/r39syn.htm

I am sure that a careful reading of this document and of the details of the issues I have raised will indicate that this is a matter of much greater concern, and indeed obligation, than has been recognised by either GBRMPA or your office.

The failure of GBRMPA management to properly address this issue has now been compounded by this pathetically inept attempt to justify ignoring it. As GBRMPA is your responsibility I assume you would wish to be appraised of this situation and take steps to assure it is handled properly before even more damage is done.

I will close with a quote from legal scholar Susan Kuzma (1992):

“In the long run, the more corrosive force [of scientific misconduct] is the undermining of public confidence in an important public institution and the engendering of a cynical perception that the reporting and the funding of scientific research is a rigged game. Criminal prosecution plays a valuable role in demonstrating a commitment to absolute integrity in this important arena.” (1.)

(1.) Sovacool, B. K., ‘Criminalization and Due Process to Reduce Scientific Misconduct,’ The American Journal of Bioethics, Volume 5, Issue 5 September 2005

Sincerely,

Walter Starck

Australian Government
Great Barrier Reef Marine Park Authority

MEDIA RESPONSE

30 April 2010

The following is supplied to Fishing World

Great Barrier Reef Marine Park Authority (GBRMPA) Chairman Dr Russell Reichelt said the GBRMPA recognises fishing as a legitimate use of the Marine Park.

"Fishing on the Great Barrier reef is an important pastime and source of income for both Queensland coastal communities and the Queensland seafood industry.

"While the primary aim of the zoning is to protect biodiversity, a scientifically robust Zoning Plan such as the one in place in the Great Barrier Reef Marine Park not only protects the health of the Reef but secures fish stocks for future generations."

Dr Reichelt said the management of the Great Barrier Reef is based on robust, peer reviewed science, conducted by many of the world's leading scientists.

"These scientists are based at such internationally recognised institutions as the Australian Institute of Marine Science and James Cook University and many have been published in the world's leading scientific journals.

"There is a significant difference between published, peer reviewed scientific articles and opinion pieces published in non scientific journals and web blogs.

"Dr Starck has offered an opinion on the report *'Adaptive management of the Great Barrier Reef: A globally significant demonstration of the benefits of networks of marine reserves',* as is his right, however we do not conduct technical reviews of such articles given there are a very large number of them in the public domain.

"If Dr Starck would like to go through the same stringent editorial processes that the aforementioned report did, we would be pleased to take his published work into account," he said.

The support provided by various science institutions and charitable trusts (ie. the Pew Charitable Trusts), and the affiliations of all authors were fully disclosed in the report.

The GBRMPA supports its staff in seeking or accepting professional development opportunities such as the prestigious Pew Fellowship in Marine Conservation awarded to Dr McCook in 2005.

"As a management and technical agency we strive to ensure our practices are world's best practice and such fellowships give our staff an opportunity to research and study the very best the world has to offer," he said.

Dr McCook's fellowship was for reef resilience and his work involved the Great Barrier Reef and reefs in Indonesia. His work did not involve the Coral Sea, nor does the report mention the Coral Sea.

Ends …

Media enquiries: (07) 4750 0846

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13 July 2010

Mr W Starck
72 Paxton Street
North Ward
Townsville Qld 4810

Dear Mr Starck

Re: Allegations of Research Misconduct against Staff and Students of JCU

I refer to your email to Professor C Cocklin dated 29 April 2010, in which you raise an accusation of misconduct against staff and students of James Cook University (**JCU)** under the Code of Responsible Conduct of Research [the **Code**]. Your accusations refer to the paper 'Adaptive management of the Great Barrier Reef: A globally significant demonstration of the benefits of networks of marine reserves' (PNAS, 2010), of which 12 JCU staff and students are co-authors [the **Paper**].

In accordance with the Code [clause 9.3.2], Professor Cocklin has undertaken a preliminary investigation of the allegations.

In clause 9.1 of the Code the essential elements of research misconduct are described in the following way-

> *Research misconduct includes fabrication, falsification, plagiarism or deception in proposing, carrying out or reporting the results of research, and failure to declare or manage a serious conflict of interest.*

The Code also recognizes that misconduct may involve " recklessness or gross and persistent negligence". I am informed that these comments do not have application to the Paper.

It is important to note that differences of opinion in relation to the analysis and interpretation of data do not, of themselves, constitute research misconduct.

The only matter raised in your documentation that would, if proven, give rise to a valid allegation of research misconduct is the allegation of a 'major conflict of interest involving all 21 authors'. So far as an allegation of research misconduct under the Code is concerned, I trust that you will appreciate that I can only have regard to any alleged conflict of interest on the part of the 12 JCU staff and students who were involved in the study which you have criticized.

In relation to your claim that JCU staff and students '.... are recipients of substantial funding from them ' (ie GBRMPA)' I am informed that-

- 7 of the 12 JCU authors have received no direct funding from GBRMPA (at least not since 1994, which is where our reliable records extend back to);
- Only 3 have received direct funding since 2000, and this amounts to only $54,000;
- Four of the authors received funds from GBRMPA between 1995 and 1999, amounting to a total of $191,000;

- Since 2004, 9 students supervised by JCU staff who are co-authors of the paper have received grants from GBRMPA, amounting to $16,323 in total.

In all of the circumstances, I believe that it is not proper to describe research funding from GBRMPA to JCU as 'substantial and generous'. In the situation under review, I do not believe that there is a conflict of interest on the part of JCU staff or students. Separately, I note that the PNAS paper does, in accordance with existing academic and professional practice, contain a fulsome acknowledgement of support from a variety of individuals and agencies including GBRMPA.

The Code sets out a range of decision making options which I may take. After consideration, I have determined that there is no prima facie case of research misconduct and the allegations are dismissed.

Yours sincerely

Professor Sandra Harding
Vice-Chancellor and President

19 July 2010

Professor Sandra Harding
Vice-Chancellor and President
James Cook University Townsville, QLD 4811
Re: Your letter to me of 13 July 2010, **Re: Allegations of Research Misconduct against Staff and Students of JCU**

Dear Dr. Harding,
Your response to my concerns is unsatisfactory both in what is said as well as what is ignored. Please note the following:

1. The reference to "**Allegations of Research Misconduct against Staff and Students of JCU"** are your words not mine. The concerns I raised were in reference to the ARC Centre for Excellence in Coral Reef Studies. They were submitted to JCU on the advice of ARC as JCU is responsible for administration of the Reef ARC. The concerns I expressed made no reference to JCU staff or students and no allegations against any particular individuals. I have assumed that any individual responsibility would emerge from a proper investigation.
2. Your response fails to address any of the 18 specific and clearly stated concerns enumerated in my submission of 29 April 2010 even though a number of these present a clear appearance of misconduct involving the deceptive reporting of results. The matters I have raised are not just differences of opinion. A number of them entail easily verified unequivocal matters of fact and in several instances the refuting evidence comes from other work by some of the same researchers. These concerns would seem to clearly be in violation of clause 9.1 of the Code in respect to, "… *deception in … reporting the results of research, and failure to declare or manage a serious conflict of interest.").*
3. In an email to me dated 21 May 2010, Dr. Cocklin stated that he had, *"…invited those against whom you have made allegations of misconduct to respond to your claims."* With 21 co-authors (described as comprising, *"…a 'who's-who' of Australian coral reef scientists…."*) to share in the effort of responding, it would not have been unduly burdensome to specifically address each and all of the concerns I have raised. As you make no mention of any such response, it appears that none exists and as my allegations have not been answered, it can be assumed that by such default they stand legally as proven.
4. In your reply you mention, *…that I can only have regard to any alleged conflict of interest on the part of the 12 JCU staff and students who were involved in the study which you have criticized."* It is unclear in this and other matters whether or not you are including ARC Reef staff as JRC staff. A clarification in this respect is requested.
5. As to the matter of conflict of interest in regard to GBRMPA funding of JCU staff and students, your statements seem to be carefully parsing words to avoid acknowledging the quite substantial GBRMPA funding to the Reef ARC. Your claim that "direct" funding from GBRMPA to JCU has been only modest is noted and accepted. However, this does pose questions about indirect funding and funding through ARC Reef. In the interest of transparency, a clarification as to whether your statements regarding JCU funding from GBRMPA also includes Reef ARC funding from GBRMPA and whether JCU is indeed the administering institution for the Reef ARC is also requested.

6. As for the *"fulsome acknowledgment of support"* which you mention, this is in reality nothing but a laundry list of bodies which have funded reef research. It serves more to obscure rather than to reveal the actual source of funding for the McCook *et al.* study itself.
7. Beyond the matter of funding, your response totally ignores the other very significant additional conflict of interest which is undeclared. This resides in the fact that all research conducted on the GBR must be approved by GBRMPA and all researchers who might hope to conduct any future work on the GBR would be in a most difficult position to express anything other than fulsome approval of GBRMPA management.

In addition it should be noted that:

- The study by McCook *et al.* did not just fail to declare any conflict of interest; they in fact specifically declare that none exists. This is not just an oversight but a deliberate act which by any reasonable assessment is misleading.
- The journal in which they published requires that authors address any conflicting evidence. McCook *et al.* fail to do this even though in several instances the conflicting evidence comes from some of the same authors. Failure to comply with publication requirements in this fashion presents the false impression that there is no conflicting evidence and thus also constitutes a deception.
- In addition, the McCook study made a point of the considerable effort entailed in compiling diverse evidence from varied sources. The journal involved requires that all data and materials be made available on request and although I have requested this in writing I have never received any response. To avoid any doubt in this regard I will repeat to you the request as follows: I would appreciate receiving a copy of the data and materials referred to in last sentence in the penultimate paragraph on page 8 in the Supporting Information section of the McCook *et al.* report. This sentence reads, *"A full picture of the effects and effectiveness of zoning on the GBR has required extensive use of gray literature, previously unpublished data, and collation of separate data sources."* As this is indicated to have been done it should not be difficult to forward a copy or provide Internet access to the files.

In view of the abundant and unequivocal evidence I have presented, I find it difficult to understand your response as other than reflecting that either you have not actually read my submission and/or have simply decided to deny a messy situation rather than address it.

If this issue was only a matter of some petty academic spat, I wouldn't bother. Nobody is paying me to do this (unfortunately) and there is nothing in it for me but hassle. However, much more important things are a stake. Proliferating bureaucracy abetted by misguided environmentalism and corrupt agenda driven research is one of the greatest threats facing this nation. If we do not wake up soon and begin to address this problem, another decade will see us unable to even fully feed ourselves. If you think this is overstated, the fastest rising food prices in any OECD nation will soon change your mind.

In addition, recent well conducted large scale studies have found very significant benefits from seafood for a wide range of major health concerns. In Australia literally billions of dollars could be

saved in health care and gained in productivity, not to mention inestimable improvements in quality of life for millions of persons, by increased consumption of sea food. With the largest *per capita* fisheries resource in the world, it is inexcusable that we have the lowest production when this is entirely because of mismanagement founded on corrupted research not any limitation of the resource itself. That we have to import two-thirds of the seafood we do consume and all of it comes from much more heavily exploited resources elsewhere, is unconscionable. That we are selling off non-renewable resources to pay $1.7 billion annually to import a renewable one we ourselves have in abundance, then call this sustainable management and proclaim ourselves to be the world's best fishery managers, is beyond moronic.

No marine species in Australia has ever been lost due to human causes nor are any now threatened with such extinction. The Great Barrier Reef is in near pristine condition. Of the over 2500 named reefs in the complex, only a few dozen near population centres are regularly visited. Over 90% of the reefs are seldom or never fished or even visited by anyone. The GBR commercial fishing harvest rate is 9 Kg/Km^2/year when 4000 Kg/Km^2 is considered to be an average sustainable rate for reef fisheries. All this is easily verified, non-controversial fact. The reality of this situation is readily observable to anyone by making an extended reef cruise or a flight over the reef. Away from the proximity of the few small population centres, fishing boats are seldom seen and day after day one passes reef after reef with no vessel of any kind anywhere in sight. Most of the reef isn't fished at all and the actual potential for reef fisheries has never been properly assessed. Without doubt it has to be at least several times greater than the pitifully small limit now being arbitrarily imposed.

On top of all this I have too much direct experience of the despair and suffering being wrecked on the lives of fishermen and their families by this kind of agenda driven research to simply ignore it. As a scientist the corruption of science also greatly offends me.

In view of a matter of such import and the evidence presented I do not think your administrative responsibility for JCU and ARC Reef has been fulfilled by the brief letter of dismissal you have sent me. Neither of the two most widely publicised claims of the McCook *et al.* report (*i.e.* large increases in fish populations on newly protected reefs and exemplary cost effectiveness of GBRMPA management) are credible by the evidence presented even before ever considering any of voluminous conflicting evidence. With these and all of the numerous other allegations and questions I have raised standing unrefuted and unanswered, the McCook et al. study if left to stand is a black mark on the reputation of all of the institutions and individuals involved. The least damaging, and indeed only proper response, would be to have the paper withdrawn.

Sincerely,

Walter Starck

15 August 2010
Professor Sandra Harding
Vice-Chancellor and President
James Cook University Townsville, QLD 4811
Re: Your letter to me of 30 July 2010 (copy attached)

Dear Dr. Harding

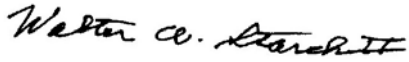
Contrary to your statement (in the letter referenced above) that my letter of 19 July 2010 does not ask you to respond, my letter did make requests and raise specific matters that any reasonable person would clearly understand as asking for and warranting a response. These included:

1. A notification that your response of 13 July 2010 had failed to address any of the 18 specific concerns enumerated in my submission of 29 April 2010.
2. A notification that a failure to respond to my concerns would leave them undisputed and thus legally proven by default.
3. A specific request for clarification as to whether or not ARC Reef staff are considered to be JCU staff.
4. A request for clarification as to whether your statements regarding JCU funding from GBRMPA includes Reef ARC funding from GBRMPA and whether JCU is the administering institution responsible for the Reef ARC.
5. A notice that your response of 13 July had totally ignored the significant undeclared conflict of interest residing in the fact that all research conducted on the GBR must be approved by GBRMPA and all researchers who might hope to conduct any future work on the GBR would be in a most difficult position to express anything other than fulsome approval of GBRMPA management.
6. A notice that McCook *et al.* did not just fail to declare any conflict of interest; they in fact specifically declared that none exists. This is not just an oversight but a deliberate act which by any reasonable standard is misleading.
7. A notice of failure (detailed in my submission of 29 April) to address conflicting evidence as required by the journal.
8. A repeated request (in accord with requirements of the journal) that, *" I would appreciate receiving a copy of the data and materials referred to in last sentence in the penultimate paragraph on page 8 in the Supporting Information section of the McCook et al. report."*

Certainly, it would have been in the best interest of good governance and of all parties concerned to have simply requested the authors of the McCook *et al.* report to respond to my allegations. By not doing so and by choosing to ignore all of my requests and concerns while opting to summarily dismiss the entire matter you have left yourself and JCU derelict in your responsibility if not in fact complicit in any malpractice which might be involved. Sadly it now appears that after being offered the opportunity to correct any such failure, you seem determined to compound it.

I now take it as confirmed by yourself that you dismiss any responsibility of yourself and/or JCU to do anything further to properly address the concerns I have raised other than to peremptorily dismiss them. I hereby extend a period of ten days for a third and final opportunity for you to correct this dishonour should you decide to do so.

Sincerely,



Walter Starck

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30 July 2010

Mr W Starck,
72 Paxton Street,
Townsville. Qld. 4810

Dear Mr Starck,

Re: Your letter of 19 July 2010

Thank you for your letter in response to my letter of 13 July 2010.

Your letter of 19 July does not ask me to respond and, given the process that has been followed in accordance with JCU's Code for Responsible Conduct of Research, I do not see that it is necessary or appropriate for me to respond in any detail.

I realize that you remain concerned about the issues you have raised and in particular, that you have raised a claim of deception under the Code as well as a conflict of interest issue. In relation to these concerns, as previously advised, it is my determination that under the Policy there is no prima facie case of research misconduct.

From the JCU perspective, your complaint has been dealt with, though I realize not to your satisfaction. As you are no doubt aware, if you remain dissatisfied, you are at liberty to make a complaint to the Australian Research Council.

Thank you for bringing your concerns to my attention.

Yours sincerely

Professor Sandra Harding
Vice Chancellor and President