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**HOUSE OF
REPRESENTATIVES**

STANDING COMMITTEE ON CLIMATE CHANGE, WATER,
ENVIRONMENT AND THE ARTS

Reference: Climate change and environmental impacts on coastal communities

WEDNESDAY, 29 APRIL 2009

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**HOUSE OF REPRESENTATIVES STANDING COMMITTEE
ON CLIMATE CHANGE, WATER, ENVIRONMENT AND THE ARTS**

Wednesday, 29 April 2009

Members: Ms George (*Chair*), Dr Washer (*Deputy Chair*), Mr John Cobb, Mr Dreyfus, Mrs Irwin, Ms Liv-
ermore, Ms Marino, Mr Murphy, Mr Scott and Mr Zappia

Members in attendance: Ms George, Ms Marino, Dr Washer and Mr Zappia

Terms of reference for the inquiry:

To inquire into and report on:

Climate change and environmental impacts on coastal communities. The committee will inquire into and report on issues related to climate change and environmental pressures experienced by Australian coastal areas, particularly in the context of coastal population growth. The inquiry will have particular regard to:

- existing policies and programs related to coastal zone management, taking in the catchment-coast-ocean continuum
- the environmental impacts of coastal population growth and mechanisms to promote sustainable use of coastal resources
- the impact of climate change on coastal areas and strategies to deal with climate change adaptation, particularly in response to projected sea level rise
- mechanisms to promote sustainable coastal communities
- governance and institutional arrangements for the coastal zone.

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Committee met at 9.07 am**REICHELT, Dr Russell, Chairman, Great Barrier Reef Marine Park Authority**

CHAIR (Ms George)—We will open today's proceedings by welcoming Dr Reichelt, Chairman of the Great Barrier Reef Marine Park Authority. Although the committee does not require you to give evidence under oath, I advise you that the hearings are legal proceedings of the parliament and warrant the same respect as proceedings of the House itself. In that regard, the giving of false or misleading evidence is a serious matter and may be regarded as a contempt of parliament. I am sure you are very familiar with these procedures.

The committee has received your submission, which has been authorised for publication. You hosted an important visit that we made very early in our deliberations and that was very useful for the work of the committee. We are very pleased to have you with us this morning. We would now like to invite you to make a brief opening statement before we proceed to questions and discussion.

Dr Reichelt—Thank you. It is good to see you again. I will make a few comments and then answer questions. The main thing is to bring you up to date with things that happened since your visit to the Great Barrier Reef, and probably a general statement.

Under all of the climate change scenarios the Great Barrier Reef will be very significantly impacted by climate change and this will have implications for coastal communities. The extent of the impact is proportional to the global response to do with CO₂, in other words, things beyond our direct control, and the resilience of the ecosystems. To me a lot of the debate around the impacts directly relate to the resilience of the systems and how we plan for their use. The risks from climate change are compounded in the coastal and inshore areas, where we have issues other than climate, such as degraded habitats or declining water quality. Again, those issues influence the resilience of the system.

We have had an extreme set of weather events in the Great Barrier Reef since your visit. This summer, in December, was one of the hottest on record and we were 40 per cent towards a major catastrophic bleaching event. I can be so precise about this because scientists now talk about warming days or bleaching days. We had 44 days in a row where it was at a temperature that was stressing the corals. When that figure gets up to 80 to 100, that is the condition under which you get mass coral bleaching. We put out an alert and upgraded the warning on our website. That was followed by the wettest January in 100 years with major flooding events, which was well documented in the media. The coastal flooding was extensive, particularly in the wet tropics, and it did influence and caused coral mortality in some inshore reefs.

In February, we had Cyclone Hamish, which was one of the most intense cyclones after Cyclone Larry. However, unlike Larry, which cut straight across the Great Barrier Reef, Cyclone Hamish tracked along about 40 per cent of the Barrier Reef. We had a category 5 cyclone running down the outside of the Great Barrier Reef and then over the top of it towards the southern end. The surveys are still being carried out to see what precisely happened offshore, but we know already there were significant effects on the offshore coral reefs. I had a report of a new island being formed at one reef and, of course, the media did pick up on that.

In big cyclonic events offshore the fishery for coral trout disappears and that caused the fishermen to be asking for interventions and measures to change the zoning plans. Of course, we are unable to do that, but with all sympathy to those fishermen, the cyclone is not respecter of the zoning of the reef. It was affecting green zones as much as it was affecting the fishing areas.

I will discuss a couple of things specifically that are more in the policy area. Since your visit there has been a reef summit to progress the Reef Water Quality Protection Plan, a joint agreement between the Australian and Queensland governments. That is in progress. It was a fruitful meeting. Minister Garrett, the then Queensland Minister for Environment and also the Queensland Premier made presentations there. I believe that plan is progressing towards an agreement this year. Reef Rescue, the Australian government's initiative for improving land use practices, is now well under way. It was just beginning when you visited.

The Great Barrier Reef Water Quality Guidelines, which my organisation has developed after wide consultation, has now been released. The change to our act went through parliament in November and we are now working on upgrading and aligning the regulations under that act. The main one in relation to this inquiry would be the alignment of our regulations with the EPBC regulations. They were not incompatible, but they were different. The change to our legislation has brought them into alignment. It means, in some respects, upgrading of our capacities to match the EPBC's and also simplifying things from the public's point of view that an application to do something under one act or the other will be deemed to be an application under the other one.

Also, in the intervening period, Queensland has finalised its first statutory regional development infrastructure plan outside of the southeast corner. They are the main things. I do have other issues. Since meeting your committee I have been thinking about the issue of strategic planning along the coastline, and it was only this morning that I thought it would probably be better if I talk about the outcome we want. The outcome is not to prevent coastal development. The outcome we want is functioning coastal ecosystems, clean water and resilient ecosystems in the face of climate change. To give effect to that probably does mean intervening in particular development actions. To take that problem apart a little bit further, we need to make a distinction between the very visible and major projects, such as the shale oil project that the Premier of Queensland declined last year, and the Port Clinton coal port, which would have crossed a major wetland system and which was declined by Minister Garrett last year. They are the visible decisions. Probably the more difficult ones and where the machinery is not working so well is in the many small decisions that are taken along the coast. That has been a conclusion of the previous dozen or so inquiries into the coastal zone and I am sure you are well aware of that.

I do think that we would do well to focus on the outcome that we are looking for. If we are looking for sustainability of our natural systems we need to maintain their natural functions. It sounds like a trivial point, but if you think of it that way there might be a number of different paths to achieve that. It opens up some of the policy options for dealing with things on land. I am also happy to talk about the issues of how we work with the state and how the marine park authority's processes operate in managing the marine park to the extent that it would be helpful.

CHAIR—I must say having looked at many examples of coastal zone management across the nation, GBRMPA, for all the limitations that you might see and the position that you are in,

provides really a best case study of how you can integrate the different levels of government in the protection of an icon for the whole nation. I note in your submission that there are 21 local government authorities that you interface with. One of the terms of reference is to look into existing policies and programs related to coastal zone management, taking into account the catchment coast-ocean continuum. We are finding that continuum does not really come into play in lots of decisions that are made by various organisations responsible for land use. What is it about the way that you can interface with the three levels of government, plus your catchment management authorities, that might give us some inspiration for good practice models that we can recommend to government?

Dr Reichelt—If I think about what brings the groups together, keeps them aligned or helps them achieve what they do achieve, it is probably the focus on the issues and the outcomes, as opposed to power, jurisdiction and control. The topic that I talk to the mayors of coastal councils about, the peak body reps or the community groups will not be the act they are implementing or who is in charge, it will be, ‘How’s the water quality? How’s the management of your coastal habitats going? What’s the effect of it on the dugongs, the birdlife, the barramundi or the mangrove jack that rely on those habitats?’ The biggest single factor linking them all is, and has been, an early recognition, maybe 15 years ago or longer in some areas, that the quality of the water running off the farms, out of the towns, out of the sewerage plants and down into the coastal waters is a major issue. It is something that people can intuitively understand. The focus on water quality has been at the core of it.

There are other issues that have evolved since, such as waste management and our Reef Guardian Schools program. I think we briefed you on it. There are now nearly 200 schools involved with 60,000 to 70,000 students. The main thing we are teaching the young people is things like, ‘What you do in the towns and what you do here will run off into the creek.’ That is why there are signs along the footpath saying, ‘This drain runs to the ocean’, which you do see in some areas.

Water quality is the linking theme and that is what has brought the farming community together under Reef Rescue. They do understand it. They will sometimes express doubts that it is their farm that is causing the problem, but that is the perennial problem of dealing with the public. ‘It is not my piece of litter that has caused the problem’ or ‘It’s not this fish that I’ve taken that has caused the problem.’ The way that has been handled along the Great Barrier Reef coast is education. There has been a major program of putting out information to alert people.

Just as an aside, when I first arrived in Townsville in the late seventies, on the roadside as you approached there was nothing but broken glass, usually brown stubby glass. That was true of a lot of towns in Australia. If you look at the culture that has happened since in that intervening 30-something years, people do not do that anymore. Maybe we can thank Ian Kiernan for that, but there has been a definite culture change. I think that same kind of groundswell of change is happening now in cleaning up water. I would like to see it happen more in the planning and implementation of some of the quite good bits of legislation that are along the coast to the Barrier Reef. Am I getting at the problem that you are interested in?

CHAIR—Yes. One of the dilemmas we have is that in many situations local government boundaries prohibit the catchment to coast-ocean continuum coming into play when people make decisions about what development is going to go ahead and what land use will apply in

particular regions. It is almost like we have these two parallel systems at work without an adequate input from, say, the catchment management bodies or the NRMs into land use planning decisions. Do you have a comment that you can shed on that regarding some of the frustrations that you might have experienced?

Dr Reichelt—Yes. I visited the Mackay canegrowers recently, and listening to that industry talk about their catchment management group was instructive. They felt it was getting too much into their business, yet they work closely together. When I asked them about how they were going in monitoring their water quality they very proudly talked about their NRM. The community groups themselves might have common goals, but they each see it through their window.

I was thinking about the NRMs and the councils. One of the things that we are trying at the moment, and we will see if it works, is that we have created a movement called the Reef Guardian Councils. Having the Barrier Reef just offshore is a tremendous hook. We have to accept that, and it does not occur right around the coastline. My charter is to bring that to the attention of the public. My long-term goal is its ecological sustainability.

Getting the councils onside with cleaning up water is not particularly difficult because it is something that they are interested in. They might be limited with infrastructure funds to upgrade some of their treatment facilities. If we are looking at a strategic enhancement of infrastructure in the country, some of it could go into enhancing the environmental qualities of our coastal towns.

I will repeat something that has been said before. The legislation that operates at the multiple jurisdictions along the coastline in Queensland stands up to scrutiny. In my view, it is pretty good. The decisions taken by the ministers and the first minister in Queensland on those two projects I mentioned show that that system can work to influence things and stop things that perhaps would be harmful to the ecosystem. The reason the small decisions fail, or appear to be failing—a death of a thousand cuts-type problem—is a missing overlayer. It is the leadership that comes from having a widely accepted strategic plan or an accepted future vision. I would be quite in favour—and I am not sure if it has been discussed already—of provisions in the EPBC Act for a more strategic approach in planning. My comment on that would be to make sure that every effort is made to bring the jurisdictions along with it. The 25-year positive relationship between Queensland Parks and Wildlife and the marine park authority is evidence that joint arrangements can work, but they cannot be unilateral. For instance, to make the park's management work on the water we have a joint committee. There are operational committees under it. There is a steering committee and then that reports to me and the head of the Premier's Department in Queensland. We give it a working infrastructure or we give it a governance structure and we use it. I think a strategic approach to the use of the coastline would need something similar, something to make it work and be accepted at the council level.

CHAIR—You state in your submission:

The long-term, cumulative impacts of incremental developments must be assessed within a whole of region planning context that considers the entire coastal development footprint. In addition, future climate change needs to be incorporated into a whole of region approach to not only influence coastal planning but to address emergency response and other key government responsibilities.

You have talked before about the death by a thousand cuts along the coastline and that often decisions are made considering the totality of the individual decisions that are made along the coast. What concerned me a little bit when we talked yesterday with a number of bodies here in Queensland was that it seems the regional plans here in Queensland, up to date at least, have not factored in impacts of climate change. For example, they talk about the population growth, the projected targets and a big emphasis on infrastructure planning to meet those targets, but it seems that the equation of climate change has been the missing link. I think that is being addressed in the South East Queensland revised plan. If we go to a more regional approach in considering development along the coastal zone, how do we ensure that the climate change framework informs those decisions?

Dr Reichelt—I would take a pragmatic approach of: what are the likely impacts and how are they going to be managed? I am sure that you are well aware of the example that the heart of Cairns is below the surge level. Where we put things sometimes does not make sense. In the case of extreme weather events, cyclones are well known to produce massive tides and storm surges. Through the wind and the atmospheric pressure effects you can get several metres more water than you would at the most extreme high tide. Cyclones are a tropical/subtropical phenomenon. But with rising sea level and increasing intense storms any regional plan would have to have strong regard for coastal surge and flooding events. I did read of a decision in Victoria recently where the prospects of flooding and surge were taken into account in a planning decision. You have probably had that example. I am not aware of that kind of thing happening along the Queensland coast, but that would be one practical way of bringing in forecast effects of climate.

In terms of the Barrier Reef, again, probably the warming, acidification and sea level rise. I would put them in that order. Rising sea level for the reef of the order of tens of centimetres or even a metre would not spell the end of the Barrier Reef. It would mean some deeper reefs might have more trouble growing or might become what they call drowned reefs. The big issues are hotter water and falling pH with rising acidity.

It is no accident, for instance, that IAG, the big insurance group, were very early players in highlighting the impacts. They had the best cyclone impact models for northeast Australia, well ahead of the government's, and they were using oil industry models from northwest Australia for the obvious reasons of damage caused by those storms. You were talking about planning. I understand that.

CHAIR—There seemed to be a lack of understanding of the impact of climate change, to date at least, in informing the regional plans here in this state. I think it is the only state that does not have any statutory protection of wetlands, and you make the point in your submission about the degradation of wetlands and the long-term impact that it is going to have.

Dr Reichelt—The actual figures were reviewed.

CHAIR—Something like 70 per cent of wetlands have been degraded.

Dr Reichelt—There was a recent assessment that up to 80 per cent in some catchments and of those remaining wetlands over 70 per cent are classed as being high or very high conservation value. When I spoke earlier about loss of habitat, that is probably a primary one, because the uses of wetland typically are bund them and drain them for better grazing, fill them in for

farming or make an urban canal development. They are the first to be modified, as evidenced by the changes that we have seen. There has been talk of legislation in Queensland, but it has been around farming practice and use of fertiliser. I think the original recommendation in the first reef plan was to institute wetland protection, and I strongly support it.

CHAIR—Dr Washer.

Dr WASHER—Thank you for a good presentation. I thought it was great. I have an interest in this nitrification and run-off. I notice that you certainly still have a problem with herbicide runoff—atrazine, diuron and also nitrogen runoffs—plus also the problems of waste water management. Can you clarify what the position of the state is in terms of policy and how those 21 local governments fit in? Surely they would all have an individual waste water management. How do they cooperate to do this, and what level of purity is required in terms of the effluent flow out of those into the ocean and so on?

Dr Reichelt—This is an area that is outside my specific expertise. I know the person following me, Ms Morris, is full bottle on this. I will be brief, but I do suggest that you ask your technical questions to Ms Morris. In terms of nitrogen runoff or nutrient runoff, the phosphorus and other things in the water, most of it is from farming and agricultural activity. The actual amount from urban council controlled things is relatively small, with varying figures, but I would defer to my scientific colleague.

Pesticides are of increasing concern. There have been reports very recently and, again, the research presentations from Ms Morris will help you on that. Essentially they are far more widespread in the marine system than was previously thought and, admittedly, there have been laboratory studies, but at a micro scale. Very small amounts have a significant effect when the animals are only a few micro millimetres long, looking to settle and regrow. I have had some people say to me, ‘Aren’t these chemicals everywhere anyway? What are we worried about?’ The point is that when the corals evolved they were not everywhere. These are manmade chemicals. They are not naturally occurring things. They are now distributing in smaller amounts further afield in the coastal marine systems. I would be strongly in favour of restricting their runoff in some way.

I would put wetlands first, then I would put working on restriction of pesticides and then I would look at the third thing you mentioned, which is the waste water issues. They are all important, but I would probably put them in that order. I would be interested to see, from a scientific point of view, what Ms Morris has to say on that one.

Also, our guidelines are now out and I can provide them to you for the precise figures in there. They have had a lot of input, particularly from the fertiliser industry and others who have looked at it. I do not expect coastal systems to meet all those guidelines at once, but I think it is important to create a benchmark and then work to meeting it. The best example of that I have seen was in a presentation five or six years ago where the cotton industry in the region was essentially a pariah industry; it was getting very bad press. They took it on to give honest assessments of what they were using in the water and what chemicals were running off. It did not look good, but then at least they had a benchmark and over time those figures tracked down.

The best policy response to these things is better information. Even if it is bad, put it out there. That is something where the authority is cooperating hard with the science community, and the NRMs are taking a strong role as well in getting much better widespread geographically and spatially explicit information. I am a strong fan of the report card with public information on it, otherwise there is no way of knowing if you are getting better and there is no incentive to improve on it.

Mr ZAPPIA—You have talked, in general terms, about the issues that are still of concern. If there were one or two issues that were of major concern to you right now, where we should act perhaps a little faster, what would they be?

Dr Reichelt—To me, it is the lack of a strategic approach to the use of what they call the contested landscape of the coastline, and I would add the contested seascape, because a million people in 2025 are probably going to want to own a small boat and go fishing in the marine park. I would say that is the most important and urgent thing. There are probably other urgent things, but they are not so important. It is the classic time management problem. You can spend all your time overlooking the important. The lack of that strategic frame within which quite good legislation is operating, to me is the thing that needs to be done now.

The analogy that I will draw for you is—I cannot remember the date, but it was in the 1930s—there was a public report about how the Murray-Darling system was headed for disaster. We all know what its current state is. They were talking about water management essentially. I started looking around for literature that related to this issue. If you look on the internet, ‘early warning/slow response’ gets many hits. The hardest thing to do is to act now on strategic problems, and I would urge you to look for those opportunities. I know there is pressure to take the low hanging fruit. I am not steering you off those. I am putting them in that order. Once you have come up with some approaches for developing that strategic oversight and essentially the leadership framework, after that I would say are the land use practices, the legislation of wetlands, protecting the wetlands, preventing runoff, and excessive use of chemicals and fertiliser would come straight after those.

Mr ZAPPIA—You talked earlier about some of the growers out there and the work that they are doing. Many of the things that you just referred to would come under the jurisdiction of state and local government. Do you detect a willingness on their part to do everything they possible can, or are they doing perhaps what I would describe as the bare minimum to be seen to be acting responsibly but not embracing their responsibility fully?

Dr Reichelt—Thank you for that easy question. As a representative of the Great Barrier Reef Marine Park Authority I am conscious of the formality of the proceedings and that I am representing a Commonwealth statutory agency here. I would say that the pressures for local short-term decisions are very strong on people working locally. It eases off if you work from a very large area like the state of Queensland and it certainly eases off if you have the luxury of a 30,000-foot view of it from a national point of view.

I have heard it said recently by a senior public official that the Commonwealth is pretty good at strategic planning, but it can take that view because it is not making micro decisions 10,000 times a day. It does not have the constituents coming through its door. The states are better at implementation typically because they have the local knowledge. That might not be generally

true, but what we need is the combined effect of that. We need the ability of the state to be in touch with local issues and deliver programs, combined with a strategic approach from groups like yourselves and Commonwealth departments and governments who look for simplifying cross-jurisdictional red tape and the other kinds of strategic things you do. You really need both. I will harp back to the point I made: a strategic assessment of the coastline will not really serve any effect if it is delivered unilaterally from one jurisdiction to another one. I think they need to be jointly developed. The example I give of that working will be the day-to-day management of the Great Barrier Reef.

CHAIR—In relation to the proposition that you put about the importance of a strategic approach, there are a number of ways that the Commonwealth could have a more interventionist role in terms of the coastal zone and that is one of the issues that we have been asked to look at. It was suggested in one of the contributions yesterday that an assessment of the economic value of the coast to Australians, both in terms of quantifiable economic outcomes and non-market values, be undertaken. I am thinking, from everything that I read from GBRMPA, that you do that very effectively. You talk about the jobs and the tourism industry so there is that socioeconomic analysis that you do as well as the obvious argument about protection of the iconic status of the reef. Do you think that idea has some merit at the federal level, the committee recommending that perhaps for the first time we do a more comprehensive analysis of the economic value of what is occurring on our coastline, as another means of raising community consciousness about these issues?

Dr Reichelt—Yes, I do. You mentioned the economics. I dwelled earlier on the ecosystem, the state of it and the information base that you might use, but I should have gone further. I agree strongly that it is about understanding the economic basis for people using those ecosystems, and the social basis—remember you have got cultural uses with traditional owners—so I would add that you need to boost the social aspect as well in terms of the state of the system and the aspirations. The aspirations of local communities are something that governments have to be in tune with.

I know there has been thinking going on, but I am not sure whether there have been any public reports as such, about a better understanding of how we can use natural resource accounting with economic and social analysis to get better outcomes for Australian people. When I say ‘social’ I mean including traditional owners’ values and Indigenous issues as well.

There is an area that various jurisdictions have been looking at. It comes under different names, but a common one is net gain management. It is finding mechanisms for decision making that include all of those aspects. This is not new territory. Those three were pillars of ESD debates in the 1990s and the late 1980s. We are struggling to find ways to do it well.

The idea of net gain management that I have seen talked about at state and council level in North Queensland related to finding common language and finding ways of talking to communities so that the micro decisions are more in tune with the strategic goals. I can give you example. There might be a development needed near a port to put a road in to service the port, and it might be involving sensitive habitat. The first part of that assessment would be not just how many hectares of wetland might be affected; it would be the social impact of it and the broader impact of that activity. Is it appropriate for the port to be getting bigger and bigger? Is that part of the overall strategic plan for the region?

The concept of offsets used to be talked about as a right to pollute; if you pay your money you can do the action. We have moved on from that. I believe there are publications around regarding better ways of using offsets. In the net gain management debate the offsets are determined by the multiple jurisdictions and the local community. Their idea of an appropriate offset might well be that their council has an improved water treatment plant and better services for their schools in the area. What they value locally will vary from place to place. There needs to be some way of integrating the social, economic and the ecosystem. Essentially, that tends to happen at local scales, but there would be value in the Commonwealth and the states exploring ways of doing that and not inventing seven different ways of doing it.

Ms MARINO—Thank you for your submission. In your submission you touched on the very real issue of coastal population growth and some of the impacts that will have. You also touched on the issue of contested coastline. To your knowledge, what is the impact and do state government policies here override any local government policies and decisions? I would also be very interested in your comments on the state government's coastal government policies as well.

Dr Reichelt—Again, I will defer to Ms Morris, who does know more about this than many people. In a sense, there is an override effect. There is also a fundamental principle. If we think about what works and what does not work, as I said before, the decisions taken at senior levels to halt projects that were deemed to have an unacceptable environmental consequence occurred at state and federal levels last year, with the shale oil and Port Clinton. As you get down the scale, an example would be when the council's sewerage treatment plant overflows in a flood and releases 10 or 20 megalitres of untreated sewerage into the coastal ecosystem. They do not like that happening. They may not have the capacity to stop that kind of problem without more infrastructure investment, but essentially what happens is that impact then moves out of their jurisdiction and becomes a problem for me, the EPA or someone else; it is somebody else's problem. That means that there is not a congruence between what you are trying to achieve in the bigger scale with the capacity of decision makers to deal with it at the lower scale. I am not sure if I am making that clear.

Jurisdictionally, I am advised by the lawyers and by the institutional specialists that the actual laws are pretty good along the Queensland coast. In theory, they should be sufficient to maintain the quality of the environment and so on. The issue is how they are implemented. I would be focussing more on the mechanisms of implementation as opposed to the actual wordings in the act and whether the tools are okay. How they are being used is the biggest problem.

Ms MARINO—I am really pleased to hear you talking with the NRMs and those sorts of groups, but could you just give me some indication, in your view, of the level of awareness of the potential impacts of sea level rise in the groups that you work with at this time?

Dr Reichelt—It is quite patchy. If you spoke to the Torres Strait Islanders they are very well aware of it through some of the scientific work that has been going on and the communication efforts to talk about it. In fact, three or four communities up there are at great risk of going under water fairly soon. Elsewhere we have further to go in getting people to understand. What they do understand is surge levels and low-lying land issues, but they are probably equally as concerned with perhaps the rising mosquito populations as opposed to the rising waters. People focus on the impact on their daily lives.

It is hard to relate to long-term slow changes to your day-to-day, whether it is changes in our economic status versus changes in sea level. Until under the house is under water it does not hit home. I do not know really. I cannot speak authoritatively on that. I have not done an attitude survey. But my impression is that people are aware that climate is an issue and that councils are increasingly aware that rising sea levels should be impacting their planning. I am not sure how that is translated into changing building codes and those sorts of things, but I suspect that is a bit slow.

Ms MARINO—Thank you.

CHAIR—In terms of the situation here in Queensland, while you have overarching policy in the coastal act, from what we understand there is no requirement necessarily for local governments, in a mandatory sense or underpinned by a regulation, to give effect to those policies. For example, yesterday there was an example of a development approved by a local government authority that seemed to be in breach of certain policy statements made by the Queensland government on the issue of inundation and storm surge. Submitters have also put to the committee an argument that the system in Queensland of pre-existing development rights has constrained a lot of local government authorities who may want to give more consideration to climate change impacts, and the fear of litigation because those existing property rights are enshrined in statute here in Queensland. It seems from what we could ascertain yesterday that in the new legislation going to parliament injurious affection provision will continue into the future.

Dr Reichelt—I wish I could help you. I am not a legal expert and I tend to focus on the laws up to the low water mark. Our work with the catchment groups and so on has been around—

CHAIR—I am thinking of a project such as the False Cape development, up in that region.

Dr Reichelt—In terms of the local council's responsibility, I cannot comment on that. My apologies, I cannot help you on the very local scale jurisdiction. Where I have been focussed on things like that is what runs off those developments and whether the EPBC is triggered. I have been giving thought to the Marine Park Act, at the moment, and its potential to extend jurisdiction into things flowing into the park or happening next to the park that affect us. There are terms in our act that are potentially usable and they have been used for regulating aquaculture where aquaculture is discharging into the marine park. But my involvement stops there.

I think the sorts of things you are talking about are critical to having a consistency. It is no good having an overarching strategic goal if the elements below are not bound by it or are not consistent with it. If what you say is true then that would be an impediment. There would be no point in having this big strategic plan if people were playing by different rules.

CHAIR—In terms of the strategic plan, there have been a number of suggestions raised with the committee, including the option of perhaps amending the EPBC Act. Others have argued for the introduction of a national coastal act. The view came through yesterday more strongly that there ought to be some level of intergovernmental agreement like through a COAG process, and that the different jurisdictions' responsibilities be more clearly defined in an agreement that locks in the three levels of government. It is a matter really of enunciating, as you said earlier, the

objectives and the principles that would govern that approach. Do you have a view about how this agenda could be best progressed?

Dr Reichelt—I do have some views on the elements. This is an area that is fraught with difficulty. I was talking earlier about the thinking of planners versus what really happens. I arrived in Townsville when the Institute of Marine Science was built out at Cape Ferguson. At the time there were plans for a new satellite city. There were plans for a tech park next to it. All sorts of things were going to happen, but the Delfin Corporation decided that the town would develop north and not south over 30 years. If you go to Townsville now there is still a long drive out to the AIMS laboratory through a lot of beautiful wetland. That is probably a good thing. It highlights the fact that legislation is important and the rules of operation are important, but that somehow still falls short. Call it the mindset of the planner. Planning is essential, a strategic plan. Town planning principles actually underpinned how the marine park was developed when planning began in the 1970s in the Heron Island area. People were recruited out of town planning and saying, ‘Now we need to decide how this area is going to be used.’

When I say ‘it falls short’, the population or the economy does not always develop in the way that the planners might have envisaged. What further needs to lay over the top of that or lie with it is some broader principles. When I very first began I said, ‘The principles ought to be based on the outcomes that you are looking for and they are the aspirations of the country.’ If it wants functioning ecosystems along the coastline, if you want to be able to eat the fish you catch along the coastline, then you need to establish those principles and take whatever action is needed when you see them being violated.

You can go to Los Angeles and the beach looks great. You can go out on the pier and there is a big warning sign saying, ‘Don’t eat any fish you catch off here.’ I use that as an example. You need to articulate the end goal or the broad status that you are seeking and then legislate. If you see the rules or something not operating, or the economy or the population growth happening differently, then re-evaluate those aspirations. For all of the good work done by the planners and the legislators, we seem to fall short in the implementation for that kind of reason. If you can come up with a good way of handling that problem then that would be great.

Mr ZAPPIA—On that same issue, is it your view that broadly the community has embraced not only the importance of the reef but also the measures that need to be taken to try to protect it, or do you believe that perhaps an investment in more education would be necessary?

Dr Reichelt—From the feedback I get in most places is that it is broadly very well accepted. We have 13 local management advisory committees that are publicly advertised and interested community members join them. Whether they are reflecting the views of their community I am not sure, or in many cases they are influencing the views of their community, but it probably does not matter. The feedback I get is that the people who live along the coastline of the Barrier Reef are proud of it and value it highly. That includes farmers and industrialists.

We had a problem recently where, after the wettest January in 100 years, the Queensland nickel refinery tailings ponds were full. The company stopped production for a month. They did everything they could to prevent overflow. In talking to the senior management, I know it was out of a genuine desire to not do anything to the marine park. There were reputation issues in the company for that as well.

I think it needs to be continually reinforced, and that is one of the charters and why the authority opened more offices along the coastline to have a couple of people on site in Rockhampton, Mackay and Cairns who can be communicating with the locals more frequently. The education issue is not an either/or. You have got to do both. One feeds off the other. The reaction from the schools has been tremendous. When you think that we implemented that program with a person with a half-time helper, and it has to be one of our cheapest programs; legacy-wise it is going to pay off in spades.

CHAIR—Has the controversy about the fishing zones all died down?

Dr Reichelt—I would not say it has died down completely. Broadly we get more positive media now about the positive effects of closed areas. Last November I saw an article in the *Townsville Bulletin* written by a leader in recreational fishing about how he was very sceptical of these zones but, boy, the fishing is good right next to them. Well, that is how they are meant to work. Broadly, they are going well.

Where there is disaffection it is either people who have somehow lost something in the zoning five years ago, notwithstanding the several hundred million dollars of compensation that were paid to people along the coast. There are still people who will be vocal and public about either the way it was done or how they are now suffering. That is dying down as well. There are areas where, because of the population distribution and the types of activity—I would say the Cairns area, for instance—they were particularly squeezed by the process, and that is the area where there are the most people being vocal. It depends on where they were and what they were doing.

CHAIR—I know you have spoken a lot about the issue of resilience. I recall just in the last couple of weeks there was a report on the local radio about a section of the reef that had regenerated sooner than people had anticipated. Could you just make some comment about that? Obviously the issue of coral bleaching and the reef's ability to regenerate is an important issue for all of us. Is there something of value to this committee in that account?

Dr Reichelt—Yes. The account you mention is an area down around the Keppel Islands. It is essentially an inshore reef area that was hit a few years ago by a bleaching event and then a flood event. It was not a run-off event. It was actually a rainstorm that sat over the top of it and dropped a lot of water in a short period at low tide and that caused widespread coral death. I think the overall message out of it is that the impacts of things other than mass bleaching are localised. Notwithstanding some of the media you hear from some people, the entire reef is in good health, among the best in the world, and the tourism industry do their best to promote that view as well. It is true that the Great Barrier Reef, by and large, is in very good condition. It is under pressure in certain areas by certain things. The greatest pressures come along the coastline and they come from activities of people on land, like the ones your inquiry has been focussed on.

CHAIR—The water quality is the biggest factor.

Dr Reichelt—Water quality is the biggest and rather than, as I said, coastal development I would say loss of coastal habitat. The functioning of coastal habitats is very important to the reef. There is a range of recreational commercial fish species that breeds in the inshore and mature in the offshore. There is the water quality improvement function of low-lying areas.

I read somewhere a proposal to dredge a river to allow the water to run off more quickly because the river had filled up with silt. We will not discuss how it filled up with silt. It is an infill area, the whole Hinchinbrook area, but there is also a lot of agriculture in the Herbert area. The first thing I thought of was that the natural system has the water running off slowly. There are a lot of little creeks and logs. They are all crooked and they slow the water down where the silt drops out by that process. If I was looking after the health of the ecosystem I would be looking to restoring the function of floodplains and the way they operate naturally.

Water quality inshore is the big one for the reef. Offshore it is climate change. I am concerned about the nano scale, the micro amounts of some chemicals reaching further offshore. We do get records of coral disease in the Barrier Reef. It is not widespread. Coral disease was widespread in other parts of the world. Among other things, particularly sewage pollution has essentially wiped out the Caribbean's coral reefs. They are very damaged. If I said there were sleepers out there, things that I am wondering what is causing them and what could you do, it is things like coral disease. At the moment, I have enough to be worrying about with water quality.

CHAIR—Thank you for your very informative presentation and congratulations to you and your staff on the wonderful work you do. We wish you well in your future endeavours. We will now take up some of those issues with Ms Morris. The secretariat will send you a copy of the transcript for any corrections that need to be made, and if there is any material that you have indicated that you would forward on to us, we would appreciate receiving that as soon as feasible.

Dr Reichelt—Thank you very much for the opportunity to present to the committee.

[10.06 am]

MORRIS, Ms Sheriden, Managing Director, Reef and Rainforest Research Centre Ltd

CHAIR—We would now like to welcome Ms Morris, the representative from the Reef and Rainforest Research Centre, to our public hearing. Although the committee does not require you to give evidence under oath, I advise you that these hearings are legal proceedings of the parliament and warrant the same respect as proceedings of the House itself. The giving of false or misleading evidence is a serious matter and may be regarded as a contempt of parliament. The committee has received your very insightful submission and it has been authorised for publication. I invite you to make a brief opening statement before we proceed to questions and discussion.

Ms Morris—Thank you. I will give a quick introduction to the Reef and Rainforest Research Centre. It is a consortium of both research providers and major end users, of which your previous speaker is one. It basically brings together 300 researchers to work on very specific public-good solution based science. Many of the issues that are of concern to you today are collectively worked on by this group. There are 15 research organisations working in the RRRC and we carry on from the Department of Environment, the Marine and Tropical Science Research facility, which is a \$40 million investment into public-good research in the reef, rainforest and in the Torres Strait, and climate is a major factor in that research.

You will know from the IPCC report and what will emerge out of Copenhagen that the Asia-Pacific region will experience climate impacts up to two times greater than other areas. This is particularly around catastrophic events. I listened to your discussion earlier, so I thought I would break up the discussions around some of the response and give you an update of where some of the science is at the same time. Catastrophic events with more frequent higher intensity, particularly cyclonic events which have associated tidal surges, are an increasing worry for low-lying areas, particularly the Torres Strait. This year we had the highest tide ever. It was the highest AHT and the highest tide ever. Three streets back from the Esplanade in Cairns went under water and whole townships and islands on Saibai and Boigu went completely underwater. The arguments and discussions we have had are that a rise in sea level of between 10 and 40 centimetres may see those islands inundated up to 40 times a year. You could probably take being inundated once or twice, but if you are inundated 40 times a year then you cannot live there anymore. These are real and emerging issues in the Torres Strait.

We will do further modelling to refine that, so I will say this is early modelling. The highest tide ever was enough to highlight it. We are looking at both tidal surge and a rise in HAT, the highest astronomical tide, in these regions. We do note that rise has not been taken up in any of the planning processes to date. An immediate response is to redress what is known in planning as HAT and adjust that for the new measurement of what is actually occurring in real life. It was set in 1930 and I know it has been revisited, but I do believe that level needs to be revisited in terms of any sort of planning policy and legislation around the coastal act. I was using Torres Strait as an example, but that has to be redressed. We have also had the highest rainfall recorded ever in the Townsville region over the first three months, so the one in 100 year events are being surpassed and we are starting to move into a new regime.

I would like to comment on some of the emerging science areas. You heard the previous speaker, Dr Reichelt, talk a little about the importance of resilience to the reef. We work very hard on the fact that there are matters well outside our capacity, and that is the global response to climate change, but we do find that there are local adaptation capacities within the reef and some of the bounce-back capacity that you have been hearing about revolves around a pre-existing adaptation capacity within the zooxanthellae of particular corals of the reef. This is an exciting emergence in the science, because it means that, in terms of temperature, we may have some ability to adjust. It is a little more than what we expected. It will be patchy. It will not be across the entire reef, but in what looked like a very dark cloud there are a few glimmers of hope, which is clearly bringing strong focus from us into this area, but also asking what adaptation capacity do we actually have. We are working closely with the marine park authority and others to look at how we can help manage that.

The other emerging science is very much around water quality, reef resilience and climate, with some early modelling—I do stress early modelling—that will need further work. It is showing that with substantive improvements in water quality—and this is looking at an 80 per cent reduction in nitrogen leaving the land—that we could buy the reef in terms of its resilience up to 60 years in the face of a two degree rise in climate. It is linking improvements in water quality and the high necessity to improve water quality to the actual resilience in real terms and real figures. How far will this come and where will it actually go? An 80 per cent reduction in nitrogen is massive in terms of our capacity to achieve that. We are going to model for more realistic figures and see what that actually gives us in terms of resilience to the reef, but there are clear links now and measurable links in those relationships.

We have also had absolute and significant improvements in our technologies for monitoring. We can now monitor pesticides in ways that we have not been able to do before through things called passive samplers, which can stay in the water up to one month. It captures pesticides as they move through these areas. They are cheap and effective. We can place them all over. We also have more automated loggers that have come down in price, so we can now monitor and know what is going on in the reef system much better than before. It is to the point where we are seeing land use change, say, in the Innisfail region, where they are starting to use herbicides like tebithion and simizine in the timber industry, where it is going from sugarcane to timber production. Out on the islands and the reef systems out the front of that we can see the extent of land use change. We can pick it up. These are big changes. Previously we have never been able to do that. We have talked broadly and say, 'Yes, we have chemicals.' We can say what chemicals, where, how and what is happening on land. These are major steps forward that we have not been able to do before.

Picking up on diuron, diuron is pulled out a lot, because it has high toxicity. One microgram per litre affects the actual coral function. The zooxanthellae affect photosynthesis. That is why it is important, but also because it persists in the marine environment. Most pesticides, when they are going through the mixing zone, can exist quite successfully in pH neutral environments, like six or seven pH, but when they go into more alkaline environments like seawater, which is about eight or 8.3, through that mixing zone they often get broken down. Diuron is very persistent. It is focused on because it does persist in the marine environment and it can be measured and picked up.

Some of our newer technologies allow us to pick up pesticides that were more difficult. There are things like chlorpyrifos, which is an insecticide and is ubiquitous right the way through the agricultural industry. It ends up in a lot of waterways and drinking water. We can now pick that up in those processes. We are also working on indicators for picking them up in species. The latest work shows that some of these pesticides, particularly the organophosphates of which chlorpyrifos is one, cause DNA damage in some of our icon species such as barramundi. We can catch barramundi in, say, the Johnstone River and know that they have been quite substantially exposed to these pesticides. That information is not out in the public forum at this point, but we will put it in the public forum in due course. However, that sort of thing has to be managed very carefully. We do have those emerging issues. We do have significantly improved technologies and capacities and we will continue to do that. That is on the federal based side and that is working with the marine park authority.

On the Queensland side, where Queensland has jurisdiction, I would say the understanding is there but the monitoring is not anywhere near as comprehensive, connected, linked up or integrated. We also have concerns that the monitoring does not link through to the marine monitoring at this point in time. It is a clear show in the coastal zone of jurisdictional tensions and institutional failure. Many of the matters that you alluded to earlier about that actually play out on the ground when you are trying to put systems in place to monitor, to improve, to do adaptive management and inform back.

I will put on the record that I am a farmer. It is one thing to have the agricultural industry understand that there are pollutants going downstream. We now have the capacity to show people exactly what is coming off their farms. That changes your focus, because you know what is yours and what is not. I think that is a very important part of that education process. We are keen to see that engaged, but we are not at that point yet. Again, that is a jurisdictional and institutional issue and it will be part of a negotiated process to introduce some of that technology into Queensland systems. I thought I would give you a quick update on some of the science.

I would like to talk about rainforests for a second, and emerging science about the absolute importance of lowland rainforests and lowland habitat, particularly in cloud cover. We know that 30 per cent of the water in the rainforest is actually stripped out of the cloud. It does not rain on it. It is taken out of cloud. When we do not have lowland rainforests the cloud is not held down low on the mountains. It is pushed up the mountain. As a result, we are dehydrating those systems at a rate faster than what we originally expected. To have a continuum and vegetative cover that draws water in from the coast and up the mountain is extremely important. Whether that is done through corridors or done through protected continuum of vegetation is important, and that is a policy decision undoubtedly. We do know that we are seeing less cloud cover on our major Great Dividing Range in the Tropics which is resulting in issues around frogs, arboreal mammals and the like. This is a dehydration of the system. It is unexpected, but that is how it is.

Again, it shows the importance of maintaining coastal vegetation and coastal habitat, not only for the fisheries and the fact that 70 per cent of the fish we catch and the fish on the Great Barrier Reef spend some part of their lifecycle within coastal wetlands and then move out to the ocean, but in addition to that it is also the actual trees and the connectivity to the range system for water. I think that will emerge further and further as water, even in the wet tropics, becomes an issue around some of the development areas. That was my update at this point in time, just to bring you up to speed with some of the science that is emerging.

CHAIR—One of the issues that you touch on in the submission where we do not really have good science informing our committee is the issue of ocean acidification and the impacts of that as a climate change outcome. Could you tell us a little bit about the sort of work your centre and other academics are doing in this area and the likely impacts that we should be mindful of?

Ms Morris—Acidification is a really big concern. We do know that with temperature increase there is some light in the capacity of some corals to adapt. I will say that very carefully. Acidification we do not know. We do not know what the tipping point is. Acidification is about the capacity to lay down calcium carbonate within the corals themselves. There are many species in the ocean that require calcium carbonate, from crustaceans all the way through to the actual corals. If there is a lack of capacity to actually lay down calcium carbonate, which makes these systems strong, if they are weakened—and they are may be weakened not only through acidification but also through the presence of nitrates and nitrogen from water quality pollution—if the two of those are combined and those systems are weakened then the whole of the coral reef systems, as well as many of the species like clams and things are highly vulnerable to storm effects and things along those lines. At the moment they form a very strong barrier. They can tolerate storms. They can tolerate those processes. In the face of weakening from acid situations and the failure to lay down calcium carbonate then they will become highly vulnerable.

We do not know the tipping point for that. We do understand there has been a 14 per cent reduction in the rate of lay down of calcium carbonate that we know from the coral coring that has been undertaken through the Australian Institute of Marine Science which looks back through the centuries that we have had the coral reef systems there. That 14 per cent reduction does raise concerns. Clearly, we are seeing a slowdown in the rate of calcium carbonate. We do not know at what point that will make the reef vulnerable.

CHAIR—What impact does it have on marine life beyond the reef in terms of acidification of the ocean?

Ms Morris—Right across from the Antarctic and all the way through—everything from krill/prawn, nearly everything that has an exoskeleton or a hard shell requires calcium carbonate. It has an impact that is incredibly broad reaching. There is no concept of what your adaptation capacity to that will be or how we could adapt to it, because it is highly linked the global issue of climate and the amount of CO₂ in the atmosphere.

CHAIR—Is this an area of research that needs to assume a higher priority in terms of funding arrangements and research undertakings funded by various levels of government?

Ms Morris—Clearly, it is an area that needs more focus. More importantly, it is how and what we do about it. It is one thing to know that is happening. It is just like climate. How and what do we do about it? What can we change to improve it? Resilience is clearly one thing. We always go back to resilience, because we know it does not matter what organism you are the healthier you are the better you are at surviving any situation. Acidification is a bit of a stumper. We are very worried. But we do not know exactly how to respond to that process yet.

CHAIR—Dr Washer, did you want to pursue the issue about chemicals?

Dr WASHER—Yes. I guess there must be fairly strong laws about nitrification, runoff from farms and agricultural areas, and also wastewater management and runoff, but obviously they are not being enacted to the degree that you would like?

Ms Morris—Non-point source pollution—runoff from farms—constitutes about 90-plus per cent or 95 per cent of the pollution load into the Great Barrier Reef. Point source pollution constitutes about three per cent to five per cent of the pollution load. Point source pollution, under Queensland legislation, is regulated under the EP Act and the EPP Water, which are pieces of legislation that are clearly and often used in these circumstances. Non-point source pollution is not regulated at all. There currently are no regulations around it. However, the Queensland government, as an election platform, announced that it would regulate farming activity. There are discussions on that being had at this point. The extent of that regulation farming activity and how it goes about that is obviously still in the hands of Queensland cabinet and is an emerging policy and legislative position. So, no, there are no regulations around non-point source pollution at this point in time.

Dr WASHER—Have you been invited to contribute to that?

Ms Morris—Yes, we have been invited to contribute to mechanisms around that. There are ways of doing it. One is to regulate on the input side, to say to farmers, ‘We’ll tell you how much fertiliser you’re allowed to put on. We’ll tell you what chemical you’re allowed to use. We’ll tell you those things and then you’ll do it.’ The other is to come from the output side, like what happened in the Great Barrier Reef aquaculture regulations, and you monitor the output side and say, ‘You’re welcome to do your business, but don’t pollute. If you do pollute, don’t go past these guidelines and standards.’

In the second case, where you are regulating the output, you allow for innovation from the farming side or the aquaculture side because, in our experience in aquaculture, the farmers are quickly innovated. They quickly change their behaviour in the amount of feed they apply and in how they go about treating their effluent. In under two years we had more effluent being treated before it entered the GBR to the standards that were required. That was a use of a piece of legislation in the Marine Park Act called 66(2)(e) that combined with EPBC to bring about those regulations. It was probably one of the most successful things that has happened in terms of coastal regulation, but it was intense and very focussed. It said, ‘You will meet these standards.’ It set the goalposts very clearly for industry and allowed them to innovate to meet those goalposts. It is a slightly different philosophy to some of the regulation that is floating at the moment, which is talking about regulating input, but there are considerable dangers in prescribing regulation on the input side. One of them, of course, is to totally prohibit innovation around that. You also get high resistance when you start to prescribe how to do business on people’s farms. It is a very difficult issue at this point.

Dr WASHER—Just to continue on that, in the west and I guess over here, you have Waterwise funded federally, which is part of the whole catchment management group. I am sure you have Waterwise over here.

Ms Morris—We have the equivalent of it.

Dr WASHER—They do monitor this and look at the wiser use of water, but also nutrient and nitrification runoff. They are certainly very active and doing a good in the west. Are you seeing that here?

Ms Morris—That sort of work is done through the NRMs, which are non-statutory. In other states they are statutory. In Victoria and Queensland they are non-statutory. However, they are quite plugged in to the communities and they are running that style of program. They are highly educative, which is the nature of those programs, but they also rely on the sort of work that our groups do through the marine park authority and the like to provide the science backup and then they do the education components of those science backups. That is quite a nice system, if we can have it working. It is happening well in the marine area. I can say quite bluntly that it is not happening particularly well on the Queensland side.

Dr WASHER—Thank you.

CHAIR—Ms Marino.

Ms MARINO—Thank you for your submission. It was interesting to hear that you are a farmer, from my perspective, as well.

Ms Morris—A banana farmer.

Ms MARINO—In the state government inquiry you referred to, who is contributing on behalf of the farmers? Also, I noticed you focused on some of the research that you are doing on scenarios for costs and environmental outcomes, tillage management, fallow, no till, low till and so on. What sort of research and resources, to your knowledge, are going into improvements of the types of fertilisers that will not produce the runoff that are the types that allow the farmers to—as they are required to do—increase their productivity and lower their outputs as a result because, let us face it, their profitability is taking a fair whacking? What sort of work and research are going into the development of fertilisers and ‘tools’ for farmers to be able to be competitive and yet meet these types of requirements?

Ms Morris—As to the development of best management practice components, which are packages about assisting farmers with how to get the best out of their process, currently the fertiliser regimes are such that about 30 per cent end up in the plant, 30 per cent volatilise—it goes up in the air—and 30 per cent are leached out and run into the water systems. There is \$200 million from the Reef Rescue package that comes out of the Commonwealth government’s Caring for our Country. That is specifically for on-farm change. That is focussed very strongly into on-farm change. There are the RDCs that are funded through DAFF and those areas. They are the rural development corporations and they all have a sustainability and environment program within them. There are funds associated with that.

There is also Land and Water Australia, which is another RDC funded through DAFF, but that looks very much at the environmental components of land use practice and farm management practice. There are a number of agencies focusing on this process. The \$200 million from the Department of Environment through Caring for our Country, in conjunction with DAFF, is a major investment. It will bring about model farms. It will bring about some substantive change. It has a large education component and is being delivered through the NRM bodies. We are

hopeful, and with GBRMPA and others, we will be working to downstream monitor the effects of those changes to show the success if it is there.

Already existing on the market are a numerous number of herbicides, pesticides and fertilisers that are in patent and some out of patent that significantly reduce the discharge into the marine park. The use of Urea, even though it is cheap, has massive losses around it. One of the classic examples, and something to understand why we are in this situation, is that traditionally if you are a canefarmer you would use two bags of sulphate of ammonia per acre to grow cane. Sulphate of ammonia was taken off the market, mostly by Incitec, even though you can still buy it, but it was principally replaced by Urea. Sulphate of ammonia was 22 per cent nitrogen. Urea is 46.5 per cent nitrogen. They still put two bags on per acre. They have doubled the amount of nitrogen going on. It costs about the same amount of money, but it is much more readily available. It was a marketing process and it was a change and dominance by a different company. You can see fertiliser company policy actually play out in what we monitor out at the end of the reef. It is an interesting connection, but it is clearly there. If they are sourcing cheap urea out of South Africa, we will see it out on the reef. That is probably a very crude way of putting it, but that is how it operates.

Ms MARINO—The focus on the fertiliser company side of this process is also part of it?

Ms Morris—It is a cognisant part. I am not privy to how far that goes. I know there are discussions between the federal government, various fertiliser companies and the like, but I am not privy to them. When fertiliser prices went through the roof in 2003 we saw nutrient levels seriously flatten out that we were monitoring coming out into the reef systems. It is very good to have these long-term monitoring sites, because then we can reflect back on policy and what is happening on the land, and then be able to say what was important. There is clearly a price factor in that relationship.

Ms MARINO—You spoke about the potential for regulation of what farmers do on their properties, and I note your reaction there. What is the reaction so far—and it is probably out of this area—of the farmers to that particular initiative, given the issue is connected to climate change and others?

Ms Morris—That is tricky. Again, thank you for the question.

Ms MARINO—I appreciate that. Thank you.

Mr ZAPPIA—Is there any evidence that some of the remedial action being taken to prevent the pollution of the water is in fact being transferred back on to the land and therefore we are seeing environmental damage caused on land rather than off the land?

Ms Morris—The only example I could possibly find of that is in the sea dumping regulations and the Fisheries Act around dredging, looking not to put dredged spoil back into open systems and then placing that dredged spoil back up on land. In that circumstance often it is placed on salt flat and the like, which interferes with fishery habitat. That would be the only case where I think you would see those processes. Most of the other mechanisms would result in improvements, such as reduced fertiliser use, as long as you are not actually inhibiting the production. Given the vast amount of fertiliser that is lost to the system, then it would not be a

hindrance to the land. As a matter of fact, such large amounts of fertilisers such as urea cause acidification in the top 30 centimetres of soil itself. We see that quite frequently, through the Tropics in particular, but we are getting acidification at depth. Many of the practices will improve what is happening on the land.

There is a potential of constricting some of the herbicide use around feral weeds. If you have a lantana outbreak and suddenly you cannot use tebithion or any of those herbicides, then the capacity to control some of the feral woody weeds, which are very difficult to control, may get away. There are those trade-offs happening and we need to be alert to that. To bring up best management practices you have to put all of those things into a package, do those trade-offs and look at the costs. There are chemicals that do not persist in the marine environment that can be used for those things, but there are costs to the farmers for using those chemicals.

Mr ZAPPIA—Thank you.

CHAIR—I would like to ask about the impacts of climate change on Indigenous communities. I note that the federal department recently released funding for a study to assess the impact of climate change. Is your research centre involved in any of that work?

Ms Morris—We are involved in work linked to it looking at climate impacts on vulnerable Indigenous communities, particularly around fire regimes on the Cape, and around the Torres Strait with inundation and cultural aspects associated with community movement and things along those lines. And also access to food resources, particular around turtle. We are seeing a fundamental reduction in turtle, particularly in the northern GBR and in the Torres Strait, which in the next five to 10 years is going to have significant cultural and food source impacts around the Torres Strait. We do work on specific issues associated with that, and the changes.

We also work back with Indigenous communities for knowledge exchange. We put in a lot of automated observation networks and high technology, and we exchange that for 60,000 years of Indigenous observation networks around amazing things like various sexual regimes of bush turkey and things like that, where we see fundamental changes in the face of some of the climate change. It is even around temperature, turtle egg, crocodile egg and various macropoda eggs in the rainforest regions.

CHAIR—We have had a very comprehensive submission from the Torres Strait Regional Authority, for which we were very thankful, but we did not get anything from the Northern Land Council, despite our best efforts on several occasions to get the perspective of Indigenous communities on this issue. You might take on notice whether there are any particular pieces of work that you could draw to the committee's attention looking at the particular impacts on Indigenous communities, other than the work that you are currently doing? Is there something that would be of benefit for us?

Ms Morris—There is. I would like to take it on notice, and would like an opportunity to input that to the committee because it is an emerging, interesting and concerning area.

CHAIR—From the evidence received yesterday, I understood that there was not a coastal management plan concluded for the Torres Strait; is that your understanding?

Ms Morris—Yes, it is for the whole of the Torres Strait. There are a number of islands that have developed small-scale plans. However, the coastal plan almost falls into the coastal plan emergency response plan-type process. I think the islands that are getting closer to the emergency response plans or are seeing areas of the island erode away at a very high rate are starting to respond, but it is not comprehensive across the whole of the Torres Strait, and there probably is not a collective view at this point.

CHAIR—We will have the federal department back to brief the committee before we start writing the report, so that is an issue that we need to pursue directly with it. It is a worry that it is out of sight out of mind, and yet the impacts up there seem to be very catastrophic, particularly on the infrastructure. What happens when inundation occurs if you cannot get food supplies in?

Ms Morris—Your sewerage plant goes under. Your desalination plant goes under. This changes the scheme of things quite quickly, and they only need to be inundated once or twice and you have major infrastructure problems.

CHAIR—It points to some of the issues about infrastructure and asset protection on the mainland in worst case scenarios. In your submission under the heading of recommendations to bolster coastal defences you talk about the Queensland act but go on at the end of that section to state:

There is potential within the existing Commonwealth legislative framework to explore options that would afford these vital coastal areas the protection they require.

Would you like to expand on some of your views about those options?

Ms Morris—EPBC, through its development, has come under enormous criticism, but as it has evolved it has some facility in it to do planning processes. They can identify an area and put a collective plan across that area. To my knowledge, in my sphere it has only been used once around aquaculture in the Mourilyan Harbour region, where there was a series of developments for that region. They were going to collectively pollute and probably breach the guideline levels for a closed receiving water. EPBC was used to put a whole planning process in place, to consider all the developments in one process, which is something that the Integrated Planning Act in Queensland does not do. It does not consider collective or cumulative impact. It considers only individual impacts at that point. The Integrated Planning Act then relies on state planning policies to start picking up the cumulative impact or the broader scale. However, those state planning policies must be considered, but do not have a prohibition capacity associated with them.

The only piece of legislation with a full prohibition capacity is the Coastal Act, but that prohibition capacity only acts in about a 40-metre strip in that highest astronomical tide area. Whilst it must give regard to the broader coastal zone, whilst it must do those things, your capacity to prohibit under the Queensland legislation is limited to some very small areas. Before IPA, local government could prescribe areas of prohibition. That does not exist now under IPA. Those fundamental changes, whilst they were to smooth out the local government process, actually still have some flaws in them when they become operational.

EPBC had a similar flaw in it until it was tested under the previous government with Minister Kemp, under the Nathan Dam here in Queensland. The EPBC proposal was only constrained to looking at where the dam was and occurred. It did not consider the expanding agriculture and the downstream effects. The Wilderness Society and WWF challenged Minister Kemp in court over the EPBC and won that court case, which you may be aware of, and the result of it is that EPBC can span the temporal and spatial scale of the actual development. That is not often used. It would change how the piece of legislation was used considerably in places like Queensland and the coastal zone if it was used frequently. Both the planning component within EPBC and the expansion of temporal and spatial extent of the impact would change how things operated.

CHAIR—The capacity for the federal government to intervene in those situations would still have a threshold about the issues of national significance.

Ms Morris—The trigger of that, of course, is the World Heritage Areas. Queensland has both the Great Barrier Reef along its coast and the Wet Tropics, which tend to trigger it. EPBC is very real for us, as compared to some of the other places around Australia, because we have such significant triggers. That is probably why we look to that in the management regime more frequently. In some ways it has meant that Queensland probably did not have to be as rigorous as what it could have been in its coastal management and its coastal legislation. With the drafting of the legislation in 1994 a whole suite of NRM legislation went up through the Queensland parliament but never made it. The only successful piece of legislation to make it through was the Fisheries Act that had NRM components in it around protected fisheries areas on the coast. As a direct result of that we did not see the structure and the collective natural resource management and coastal management actually go forward. The Coastal Act then came in as a patch-up to that, but because it did not go forward as a collective right from the start we have not seen comprehensive legislation well structured in Queensland as a result. That is obviously my view, but there are others who would have other views. I have worked in this area now for 20 years, and you see the consequences of some of that failed structure.

CHAIR—You are saying that there are currently provisions in the act that are not often used, so it does not require a further amendment to the act?

Ms Morris—I do not believe it requires a further amendment. I think it requires a different approach for implementation.

CHAIR—On notice, could you take the opportunity to flesh out your views on that issue in a bit more detail?

Ms Morris—Yes.

CHAIR—You touch on it here. If you could forward that to the committee for our consideration that would be useful. One of the things that really alarmed me—and I am sure the others—when we visited Western Australia recently was a Ramsar listed wetland here and a canal estate here, where the draining of the wetland was mind boggling, with the developer leaving all the liability and transferring it to the local government authority after it was a state determined project.

Ms Morris—That is what terrifies local government. You are a small local government and to prohibit or to try to prevent has compensation components associated with it.

Ms MARINO—The liability issue.

Ms Morris—And there are liability issues. At a local government operational level it is very difficult and it is hard work.

Ms MARINO—With limited resources.

Ms Morris—Yes. Through the Integrated Planning Act the devolution of that responsibility from state down to local government—even though we went through the amalgamation in Queensland of local government, which was a positive thing for these outcomes—still puts a lot of pressure on small local governments.

Ms MARINO—It does.

Ms Morris—Particularly with the responsibility of these big World Heritage triggers in the areas. Whilst it is easy to sit back and say, ‘This is dysfunctional and that is dysfunctional’, there are considerable pressures on trying to make those decisions.

Ms MARINO—And at a practical level they are very difficult to manage.

Ms Morris—Yes. The fact that the Integrated Planning Act does not have specific prohibition capacity in it for local government means that everything is challengeable.

CHAIR—I understand that the injurious affection provision will continue in the new legislation that goes to parliament.

Ms Morris—Yes, because of the residual compensation component.

CHAIR—Local government was telling the committee that that acts as a real break in terms of approval or non-approval of development applications, even when they could see that those applications might have long-term consequences with the impact of climate change. That whole issue is exercising. We had an interesting submission from Professor Jan McDonald—I do not know whether you have come across her—from the National Climate Change Adaptation Research Centre at Griffith. It would be worth having a look at the transcript.

Ms MARINO—The liability issue is a very big one for local government.

Ms Morris—And clearly prohibitive.

CHAIR—That is all I have. Thank you for attending the hearing today. The secretariat will send you a copy of the transcript for any corrections that need to be made and we would be grateful if you could also forward on to the committee any relevant research in terms of the impact on Indigenous communities that you think should be brought to our attention. Also, if you could take the opportunity of fleshing out your proposals in regard to the EPBC Act—what exists currently, how it could be better used, or if indeed a further amendment might be

contemplated—we would be grateful if you could forward that information on as soon as possible. We commend you and all the people at your centre for the excellent world leading and world-class research that is being undertaken. It is a great compliment. I think it is very important that science is made useful to people on the ground, and your centre certainly shows the way that science can be fed into programs, policies, and certainly the Great Barrier Reef Marine Park Authority benefits enormously from the kind of useful work that you and your colleagues are undertaking. On behalf of the committee, I would like to convey our best wishes for their future endeavours, and thank you very much for your thoughtful contribution to the work of our committee.

Ms Morris—Thank you for an opportunity to submit to the committee. It was our pleasure.

[10.51 am]

ANDERSON, Mr Timothy Raymond, Past Member, Cairns Local Marine Advisory Committee

CHAIR—I would now like to welcome the representative from the Cairns Local Marine Advisory Committee to this public hearing.

Mr Anderson—I have been asked by the Cairns Local Marine Advisory Committee to present to this committee. I am a former member of that group. I was a member from 2000 to 2008. I was put forward by my catchment management association, which is the Barron River Catchment Management Association, and that group has been around for about 15 years.

CHAIR—Although the committee does not require you to give evidence under oath, I need to advise you that the hearings are legal proceedings of the parliament and warrant the same respect as proceedings of the House itself. In that regard, the giving of false or misleading evidence is a serious matter and may be regarded as a contempt of parliament. The committee has received the submission from the Cairns Local Marine Advisory Committee and it has been authorised for publication. We would now like to invite you to make a brief opening statement before we proceed to questions and discussion.

Mr Anderson—Firstly, I would like to point out that our committee is a voluntary based group, and as with any voluntary organisation there is a lot of passion. Some of the things people come up with are perceptions and in due course they do not turn out to be real. However, in my experience in natural resource management for over 20 years in a voluntary capacity, and 25 years in a professional capacity, most of the things that our group has flagged early on have proven to be correct. Our fundamental belief is that the government system does not deliver assured environmental outcomes and it requires strong community advocacy for the system to work.

The summation for our submission is basically that we have a view that the system is not working and we have a strong view that we do not need more legislation. We need to implement the existing legislation and do it correctly. With that, in terms of climate change, I will just put forward three specific examples of that for the committee to consider. The first one is in terms of water quality. Our collective organisations were raising water quality issues before they were on the public agenda and certainly before they were on the regulatory agenda. As a very brief example, LMAC in 2000 actively took on GBRMPA, at a director level, advising the agency that it needed to contemplate land based activities as they affected the reef. It is all minuted. We had very vigorous discussions and turned that institution around to actually embrace water quality as a land based issue and not just a marine based issue. With that, there has been a series of publications over the years, firstly, with the intergovernmental agreement in 1992, which recognised the precautionary principle. We then moved along to 2001, where we had a reef water quality action plan put out that set 10-year targets. Those targets are supposed to come through in 2011, but in our view they will not come through. We then had the reef water quality protection plan in 2003. Just by way of a very brief example, when that publication came out our group put through submissions and said, ‘What about temperature? Why isn’t temperature

considered in this reef action plan?' We were ignored and now I come down to this committee talking about climate change. My history in these groups is that we are probably about 10 or 15 years ahead of the regulatory system and we are extremely frustrated with the inability of the regulatory system to deliver outcomes.

I would like to move to specific examples and turn to erosion and sediment control, which has a direct influence on reef resilience. We are still struggling in our region with getting fundamental erosion sediment controls put in place. I know this is very brief, but the classic example in our region is the False Cape fiasco. False Cape demonstrates that the systems clearly cannot deliver the outcomes. Our view is before we start generating new discussions, new plans and so forth, go back and get the fundamentals right. Sediment erosion control is a very simple concept. It can be managed in the tropics, but without strong regulators to put these things in place we are not getting anywhere.

Another current example that I would like to put forward on behalf of our members is the Mulgrave aquifer, which is in the Cairns region. Currently, the Cairns community needs more water. One of the proposals put forward is to tap into the Mulgrave aquifer. The consultant's work, in our view, is flawed. We put through a long submission saying, 'We think there's all these holes in this report, put it through to the federal system', and we are amazed that report has progressed through the EPBC system. What we are saying is, 'How can this be possible?' We have put up our hands and are saying, 'We have a system.' The community is yelling out that there are problems with the performance of that system. We are putting forward evidence saying, 'Look, pick up this report. Have a look at it. Get an independent view on this report. Please don't just let it go through and ignore what we're saying.'

In terms of climate change, if we get a sea level rise, you could get saltwater intrusion into aquifers. This aquifer is on the floodplain. We are saying that the report which has been done is flawed. Why does the system not listen to what the community is saying and do something about it? Both the False Cape and the Mulgrave aquifer are two current examples of the system backfiring and the community sitting back and saying, 'Hang on, we can read this. We're not experts, but we can read this. It does not make sense. It is illogical. The scientific arguments do not make sense. We're not scientists, but if you can just go through and join the dots, these ones do not join up. Therefore, why isn't someone hitting this? Why isn't there a brake put on the system to say, 'This is wrong. Throw out the report'?

In terms of the things we thought we could put forward to this committee regarding positive actions, we think there should be mandatory protection of wetlands—full stop. We have been advocating that for at least 10 years. I heard you discussing a WA example. We have a case in Cairns called the Bluewater development. The state changed the legislation to allow that development to go ahead. Fundamentally that is what happened. You can go back and check the records, but that is what happened. Now in that Bluewater development there are the inevitable questions about who pays for the dredging. They are all popping up. All of those things were predicted and strongly advocated.

CHAIR—What was the name of the development?

Mr Anderson—Bluewater.

CHAIR—Where is that located?

Mr Anderson—It is in Trinity Park in Cairns.

CHAIR—In Trinity Park?

Mr Anderson—In Cairns, yes. In terms of a positive thing for local government who are under the hammer, we think there should be direct federal assistance to local government authorities to come up with defensible limits on development in terms of sea level. The federal system comes in and helps local government come up with where you put the line on a map that says ‘no more development in that area’; we think that should just happen.

In terms of the sustainability question, we think there should be direct assistance to establish a sustainable taskforce in regional areas. Rather than having an approach based in Canberra or Brisbane, go out to the regions and establish sustainability taskforces in those regions and have it based on a community driven approach. Why we are so passionate about the community is that we have been involved so long we think the community effects change. We do not think the system effects it. The community is at the forefront. The political system responds to the community five or 10 years after the community has identified it and then the regulatory system kicks in later. I will take you back to the example of temperature. We wrote to the system in 2003 and said, ‘By the way, with this protection thing, have you considered temperature in climate change? Have you thought about it?’ The rest is history.

CHAIR—You must be pleased that a lot of your earlier insights are now coming to fruition?

Mr Anderson—It is extremely frustrating because you are at the coalface watching these things evolve and then if you have a Bluewater or you have a False Cape you are sitting back and saying, ‘Hang on; these things are now coming up to being 20-year-old ideas’, and they are fixable. The frustrating thing with erosion sediment control, which has direct impacts to reef water quality and resilience of the environment is that it is fixable. We are not talking rocket science. We are talking practice.

The crux of our submission is that we believe there is a disconnect between poor performance and poor outcomes and accountability with respect to the regulatory system. When something goes wrong there is no accountability, either at executive management level or, may I suggest, at the ministerial level. There is no direct linkage. Therefore, these issues we talk about persist. I do not know how we can pull it off, but we believe that there is a disconnect in accountability and so these problems persist.

I heard the previous speaker’s comments. In our region we have two World Heritage areas. We have also got Cape York on our doorstep. We are at the forefront of natural resource management and the people who live in the area are actually the experts in this field. We are trying to grapple with it. If you look at how wet tropics came about, our community groups predate most state government departments. In Queensland the EPA Act came out in 1994, and the federal act came out in 1999. We were operating in 1990 and that was driven by the community.

CHAIR—Thank you.

Dr WASHER—I am glad to hear your passion. Basically, this Mulgrave aquifer that you talk about is a preventable thing. The rest has happened, but that has not happened yet. Tell me the processes you have been through. What is the mechanism, so we can understand this? You have gone to the EPA. I guess that is where you started.

Mr Anderson—It is currently going through a referral through the EPBC process. Through that process there was a report released for public comment. Our group commented on that report. We wrote back and said, ‘There are all these holes in it.’ There were two groups. LMAC wrote back through GBRMPA, because we are an advisory body to GBRMPA. The Mulgrave Landcare and Catchment Group, which is a catchment management group, wrote directly to the federal Department of Environment. In that they said, ‘There are these problems with it and we recommend the report be withdrawn and fixed up.’ Those problems are still there.

I am from the consulting sector. In terms of the report, there are sections of the report missing. With the report that can be downloaded from the web there are sections missing. The group would write and say, ‘Where are these pages?’ There was silence. There is a lack of scientific rigor in terms of the fieldwork done. What we said to the federal system was, ‘If you have not got tropical hydrological expertise, please go out and engage that.’ You can’t have a situation where a community group is going through a report and saying there are problems and no-one is saying, ‘No, those problems don’t exist.’ The local government authority wants water. They are reliant on the federal and state system to say, ‘Does this make sense in a regional context or a national context?’

CHAIR—Who has the authority to make the decision about tapping into that?

Dr WASHER—The EPBC Act.

CHAIR—Is that the state governments’ authority?

Mr Anderson—My understanding is that it is federal first, because it has threatened species. Firstly, it comes under the EPBC Act. In terms of state legislation, you are extracting water so you will have the state role, and then you will have the local government. It still needs to go through a process. What we are flagging early is that, in our opinion, the federal process is not working. We want to find out who is accountable for not making the process work, rather than in several years time saying, ‘It didn’t work. It is because this person was not held accountable for that decision.’ That is what we are trying to do. We agree with the last witness. There is a system in place, so let us make that one work. We think the reason it does not work is that positions are not made accountable. From the minister down we do not think people are made accountable.

Dr WASHER—I had a horrible feeling when you said that first up, because I was a great critic of the state bureaucracies. Obviously we have some problems federally, too, so we ought to start having a look at ourselves a bit carefully. That sounds terrible. How long has this process been going on?

Mr Anderson—I cannot give you the exact dates.

Dr WASHER—Roughly.

Mr Anderson—It is like a 12- to 18-month process.

CHAIR—The feds have to tick off on it before the project can go ahead?

Mr Anderson—That is correct.

CHAIR—Is it at a stage where it is with the department federally to give advice to the federal minister?

Mr Anderson—That is correct. We advised that department to go and get a tropical hydrologist. I know the department in a professional context. We say, ‘If you haven’t got expertise, go and get it’, because if you dewater an aquifer and you create saltwater intrusion then you are talking about generations. That is why I raised the precautionary principle and the intergenerational equity thing. We are talking about intergenerational equity in a fair dinkum sense. That is why we are saying, ‘Why worry about climate change?’ We can’t even deal with the nuts and bolts today. We would want the nuts and bolts today dealt with in a reliable fashion rather than the whole society goes off on a tangent and spends an awful amount of money trying to come up with the next solution, but we have not fixed up the first problem. Erosion sediment control, in our part of the world, is the other issue. It is a festering sore. That is a bigger issue to fix up than the Mulgrave aquifer.

Dr WASHER—Chair, through you, could we ask for some more details, because we are going to see the department and it would be nice for them to tell us why the communication fell apart here?

CHAIR—Yes, can you write specifically to the secretariat about the problems that you perceive with giving approval to tapping into the Mulgrave aquifer? We have a follow-up discussion with both departments, so we will certainly raise that, if you can forward that on. I am just mindful of the time. We have about five more minutes.

Mr Anderson—Yes.

Mr ZAPPIA—I sense your frustration and I think I understand you to be saying that the framework and the system that is in place is okay, but it is not being administered as well as it could be. Why do you believe that is so? In other words, why do you believe whether it is those who administer the EPBC Act or others are not following through with their obligations under it? Do you have a view about that?

Mr Anderson—Yes, I do. It is a personal view and also one that has come from the committee. Fundamentally, the EPBC is new legislation. When it came out people made comments that it had holes in it. A classic example is in terms of licence conditions. Licence conditions, which come out of the federal system in the EPBC Act, are rudimentary in comparison to something that comes out GBRMPA, for instance, or coming out of the state agency. They are absolutely rudimentary. I can sum it up as being a young department learning how to apply the legislative tools, and I would venture to say ignoring the collective experience in other agencies. GBRMPA has been around for 25 years, or even just state government regulatory agencies. The licence conditions are not very strong. That could be inexperience and possibly resources. In terms of implementing, I think there is a real live disconnect between

being held accountable for making decisions at a high level. False Cape is a classic example. How did False Cape happen? Why did it happen in 2006-07? Why are the people who made those decisions not being held accountable so it does not get repeated?

CHAIR—There was a challenge to that under the EPBC Act, was there not?

Mr Anderson—False Cape, yes. False Cape is a classic example of where the community got it right and the system just let it down. It is a very good example.

The final thing is resourcing. If one looks at the federal agency, how many audits have been done of projects? Since 2000 all of these projects came under the EPBC Act. How many compliance audits have been undertaken versus how many projects have been approved? You will be astounded as to the lack of compliance auditing, that is, when a federal agency gets out of Canberra, goes out to the site and does a routine inspection versus where something has gone wrong and you are obliged to go and do something. For example, someone is going to take prosecution action so you go out and set forth. I think that is a resourcing issue. I think the compliance department within the federal agencies may be two years old or 18 months old. It is a very young agency.

In our neck of the woods we are very reliant on EPBC legislation because of the World Heritage areas and you need to have the federal system working and functioning very well because as you move down the local government people have ratepayers and money; they are between a rock and a hard place. You need the federal system to set the benchmark and say, 'This is what we're going to do.' Currently they have just got the benchmark and they are not following through. If it is not monitored it is not done. It is a fundamental premise; if it is not monitored, it is not done. If you do not get out and write decent licensing conditions and go out on the site and see the proponents are actually doing what they said they were going to do—

CHAIR—When you say 'monitoring', that is the conditional approval that has been given for a development?

Mr Anderson—That is correct.

CHAIR—Whether it has been actually enforced and happening?

Mr Anderson—That is correct.

Ms MARINO—And how it is working afterwards.

CHAIR—You have an example of that in your submission?

Mr Anderson—We definitely have. In terms of hard evidence, it would be simple enough going through how many conditions have been issued and what is the monitoring of the compliance effort over the last six to nine years. I guarantee you will be astounded.

CHAIR—We are more than happy to pursue those issues that you have outlined with the department when we meet again. You are suggesting that it is not that the legislation is inadequate, it is the actual giving effect to the powers that are there?

Mr Anderson—Yes.

CHAIR—For example, with False Cape, if you are saying there is no limitation in the legislation, how does that get the tick of approval? It seems a little bit inconsistent.

Mr Anderson—How does it get a tick of approval?

CHAIR—Yes. If the regulatory framework is all okay, and you are saying that False Cape got the tick of approval, then there is nothing wrong with the legislation; it is just the implementation.

Mr Anderson—Yes. I have to be careful because I was contracted by the federal agency to review False Cape and give them expert advice, but some of this information is on the public record. False Cape was approved in terms of the erosion sediment control features, which was a condition of approval, and that is where it fell over. So you approve your development, which is a decision by society, and then you give them conditions. Those conditions were not enforced. If one goes through and examines that, the documentation for the erosion set of control plans, the plans that were actually put in were flawed. Those plans should have been thrown out. It is like the Mulgrave aquifer. The report is in there. If it is not up to scratch, stop it and put it back to the consulting sector. By the way, in terms of the natural resource management, the consulting sector is a sector which does most of the planning and delivery in Australia. If that sector is not brought in by the regulatory system, you basically get bad outcomes.

CHAIR—You would be aware there is currently a review of the EPBC Act being conducted by the Senate. Did your advisory committee make a submission to it?

Mr Anderson—No.

CHAIR—That is a shame.

Mr Anderson—This is our opportunity. We see this as our opportunity to rattle the cage.

Ms MARINO—I well understand some of the frustration at a community level when people put in submissions. There is a perception amongst some in the community that it is just a process, and simply the approval will happen, and you are part of a process. I note in your submission that you referred to the fact that:

The federal government should provide local governments with a legally defensible threshold (metres above sea level) as to where future coastal development can and cannot occur ...

With the various local councils that you deal with, as a result of this do you believe that would give them greater confidence in their approval or non-approval of proposals that are put to them?

Mr Anderson—Without a doubt, because they can then shift the blame to the federal system.

Ms MARINO—Yes.

Mr Anderson—I can foresee compensation to be dealt with, but the local government authority does not have the wherewithal to deal with that. Yes, they would say, ‘The feds have brought in this system’, and they will probably fight the feds in the course of doing it, but without a doubt in my experience when you have a federal requirement it brings about better planning. It does not let the local government off the hook, but it gives them guidance. That is what they require.

Ms MARINO—From your experience, what number of local government councils have these sorts of issues that they have to deal with on a regular basis? Is it the majority?

Mr Anderson—In North Queensland it is all local governments, because the urban development is on the coastline. I would venture to say probably Australia, but certainly in North Queensland it is every local government authority on the coastline. The only ones excluded are the ones in the hinterland. We are talking about a significant number of people.

CHAIR—Thank you for coming along. If you would like to send a note to the secretariat, particularly about the Mulgrave aquifer issue, then we can pursue that.

Mr Anderson—I will be very happy to do that.

CHAIR—The secretariat will send you a copy of the transcript for any corrections. We would be grateful if you could refer the material requested to the secretariat as soon as possible.

Mr Anderson—Thank you very much. On behalf of the committee, we very much appreciate the opportunity to present and the time you have taken to listen to us.

Resolved (on motion by **Dr Washer**, seconded by **Mr Zappia**):

That the committee authorises for publication the transcript of the evidence given before it at public hearing this day.

Committee adjourned at 11.17 am