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SENATE

Official Committee Hansard

ENVIRONMENT, RECREATION, COMMUNICATIONS AND THE ARTS REFERENCES COMMITTEE

Reference: Hinchinbrook Channel

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SENATE

ENVIRONMENT, RECREATION, COMMUNICATIONS AND THE ARTS REFERENCES COMMITTEE

Monday, 10 August 1998

Members: Senator Allison *(Chair)*, Senator Tierney *(Deputy Chair)*, Senators Hogg, Lundy, O'Chee, Payne, Reynolds and Schacht

Participating members: Senators Abetz, Bartlett, Bolkus, Boswell, Brown, Calvert, George Campbell, Chapman, Colston, Coonan, Cooney, Eggleston, Evans, Faulkner, Ferguson, Margetts, McKiernan, Neal and Patterson

Senators in attendance: Senators Allison, Hogg, Ian Macdonald, Payne, Reynolds, Tierney and Woodley

Terms of reference for the inquiry:

1. The relationships between Federal, state and local governments and developers in the Hinchinbrook Channel.

2. The effect of developments on the environment of the Hinchinbrook Channel and surrounding environs.

3. Whether governments have met their obligations under the various acts and agreements that deal with the Hinchinbrook area.

4. Alternatives to the existing regime.

5. What lessons have been learned and what can be done to prevent problems like this occurring in the future.

WITNESSES

Committee met at 8.53 a.m.

HORSTMAN, Mr Mark, Research Coordinator, Australian Conservation Foundation, 340 Gore Street, Fitzroy, Victoria

YOUNG, Mrs Virginia Kay, National Lobbyist, Wilderness Society, PO Box 188, Civic Square, Australian Capital Territory 2608

CHAIR—I declare open this third public hearing of the Senate Environment, Recreation, Communications and the Arts References Committee's inquiry into the Hinchinbrook Channel and I welcome representatives of the Australian Conservation Foundation and the Wilderness Society. The committee prefers that evidence be given in public, but should you at any stage wish to give your evidence, part of your evidence or answers to specific questions in camera you may ask to do so and the committee will consider your request. However, I point out that evidence taken in camera may subsequently be made public by order of the Senate.

The committee has before it submission No. 91 and submission No. 147 which have been authorised to be published. Before we move to an opening statement or questions, are there any alterations or additions you would care to make at this stage?

Mr Horstman—No, thank you.

Mrs Young—No.

CHAIR—Do you wish to make a brief opening statement? If not, we could proceed straight to questions.

Mrs Young—I thought we would both make a brief opening statement partly because, at least in my case, the submission omits a couple of things that I would like to place formally on the record. I want to emphasise that the primary reason we feel we have all ended up in this mess is that there has been a failure of successive governments to recognise that the Great Barrier Reef is actually a world heritage area and that the management requirements for world heritage areas have never been properly incorporated into any management plans for the region. There are inadequate management plans at every level for the Great Barrier Reef.

The other primary reason we are here is that there was a failure of environmental assessment processes from the very beginning. If we just put aside the issue of the implications of this place sitting on the edge of a world heritage area, the fact that there was never a comprehensive assessment of all the environmental impacts has landed us in this sorry mess.

I also think it is important to place on the record that the only reason we have any studies at all, and any interest by government at all in what happens at this site, is through the efforts of the conservation movement. If it had not been for people standing in front of bulldozers in 1994, if it had not been for the continual protests and the continual drawing to the community's attention of the problems with this site, would we have had anything other

than a tick-the-box approach to Port Hinchinbrook? I very much suspect the answer would be no.

The other issue that is of very deep concern is the way in which the developer appears to our organisation to have been essentially able to bully his way through various government processes. Why is it that every time the developer says that he is going to go bankrupt if he does not get approval A, B or C, governments simply say, 'Okay, you can have approvals A, B and C'? I do not have specific examples with me today, unfortunately. I was looking for some through our FOI records, but I did not manage to get out what I wanted.

The concerns that we have about the ability of this developer to essentially dominate, if you like, the public concern for the place are epitomised by what happened on Sunday, 14 September, when a peaceful protest on the foreshores in the state marine park of Port Hinchinbrook ended in a very violent debacle. As the protestors were leaving that site, Williams employees entered the crowd of people as they were leaving and proceeded to bash up key Hinchinbrook campaigners. That was a deeply shocking experience for me to be part of and it was deeply shocking to watch the police in action. There has been a Criminal Justice Commission inquiry. I found the results of that inquiry deeply disturbing, and it is something that I would like to see the Australian Senate raise and take issue with in the course of its deliberations.

The other issue that has not been raised in my submission concerns the timing of the government's decision, or at least of Senator Hill's announcement. Courtesy of Dr Carmen Lawrence, we have on the public record a letter from the Prime Minister to Mr Williams of July 1996 which indicated that the government was supportive of the proposal, and yet we did not hear the minister's final decision until August that year. There were also public announcements in the press, both by the Prime Minister and the Deputy Prime Minister, well in advance of Senator Hill's decision. How can that be? I think there are serious questions relating to the timing and how the government's decision was made.

The concerns about whether or not the decision was politically motivated are heightened if you consider that part of Senator Hill's responsibility was to determine whether or not there was a prudent or feasible alternative to this project. To do that, he would have had to look at the economic feasibility of the project. There is nothing on the public record that indicates that was done. Indeed, in an affidavit from Dransfield and Co. to the High Court in support of the Friends of Hinchinbrook court case, it is quite clear that steps should have been taken to determine whether or not there was a prudent or feasible alternative. Moreover, based on the analysis of that accountant and financial adviser, the project is clearly not economically viable. These are fairly serious questions that the committee should look at.

I have raised a number of other very specific concerns in the submission and I am happy to talk to those. They relate to the issues of acid sulfate and dugong. There is one piece of information, however, that I would like to read to the committee. It is from Dr Bob Morris, who is a specialist. He is one of the few people who have done any studies on the condition of the Great Barrier Reef. The information relates to the issue of acid sulfate damage and heavy metal transport onto the reef.

This is a faxed note from Bob Morris on Friday. He reveals that he has been doing research in the Hinchinbrook Channel and has taken seagrass samples from the coastal area adjacent to the spoil dump which show raised metal levels compared to values for seagrass samples taken from other coastal areas in Queensland. He goes on to say:

Of particular concern are the levels of arsenic(As) and lead(Pb). Both of these metals appear to have been incorporated into the local seagrass at high levels . . . The levels of mercury(Hg) and cadmium(Cd) in the seagrass are also of concern . . .

The presence of such high levels of potential toxic heavy metals in the local seagrass may pose serious consequences for long-lived herbivores in the area (ie) green turtles, dugongs.

Whilst the problem of acid-sulphate soils and heavy metal mobilisation is a problem which afflicts many coastal areas of Queensland, the present data clearly indicate the effect of a local point source of metal pollution on the immediate coastal environment of Hinchinbrook Channel.

I am happy for the committee to take a copy of that memo. I know Professor White and others who have expertise in this area will be appearing before the committee today.

CHAIR—Will you table that document?

Mrs Young—Yes, but this is my only copy.

CHAIR—Mrs Young, for the purposes of *Hansard*, can you explain who Dr Morris is and where he works?

Mrs Young—Actually I cannot. I would have to look that up for you. I received that late last night. It came through on Friday to Friends of Hinchinbrook and was faxed through to me late last night. I know Professor Morris lives on the Gold Coast and I am not sure which academic institution he works for.

Senator IAN MACDONALD—You are quoting him as an authority and you do not know who he is.

Mrs Young—I have not got the specific information in front of me. I can find that out and I am happy to bring that information back to the committee, Senator Macdonald.

Senator IAN MACDONALD—Did you say he was appearing today?

Mrs Young—No, he is not appearing today. Professor White is. I am sure he will know Dr Morris.

CHAIR—We will ask that question.

Mrs Young—I am perfectly happy to bring back the details on who Dr Morris is and what his expertise is.

Mr Horstman—The ACF believes strongly that the nature of the proposed development at Oyster Point, the way it has been approved and the manner in which the whole affair,

including the development works on the site, has been managed and monitored set a very dangerous precedent for world heritage areas in Australia and the environment generally. The ACF continues to oppose the proposal in its current form that comprises a marina, a canal estate and a tourist resort on Hinchinbrook Channel. Virginia has outlined the concerns of both the Wilderness Society and the ACF with the process in the past and the situation we currently face at the present. It is that which we would like to focus on today and it is what we believe that this inquiry is all about.

I would like to draw your attention to the ACF's submission where we propose a solution for the future. The issue of acid sulfate soils has been highlighted by the development works at Oyster Point. Acid sulfate soils are a major national problem in Australia that demands a national approach and a national solution. This refers to term of reference 5 of this inquiry, what lessons have been learned and what can be done to prevent problems in the future.

While acid sulfate soils are a naturally occurring part of the coastal environment, the way that they are disturbed and the way that they produce acid run-off into the environment is certainly not a natural process. I am not going to go into detail here because you will be hearing submissions from at least two experts later today and I will leave it for them to explain.

With acid sulfate soils causing many millions of dollars of environmental damage in Australia each year and up to 50,000 to 60,000 tonnes worth of acid sulfate run-off along the eastern seaboard from coastal lands, there is a strong need for a national regulatory approach in Australia. If the Commonwealth government cannot find its way clear to bringing in some national legislation, we propose an alternative which would involve a national environment protection measure to look at contaminated lands arising from acid sulfate run-off.

This approach is outlined in our submission and I commend it to the committee. As I said earlier, we would like to focus today on the issues in the past that have led to the approval and the mismanagement of this resort proposal and the situation we find ourselves in at the present.

Senator WOODLEY—In terms of the whole acid sulfate soil issue in the coastal regions of Australia, particularly eastern Australia, would you like to just give the committee a bit of an overview of what you see the problems to be? Certainly the acid sulfate soil is mainly in the wetland areas. If you would describe what you see the problems to be and how extensive they are that would be helpful.

Mr Horstman—I will give a quick thumbnail sketch, but you will be able to get much more detailed information from the people appearing later. Acid sulfate soils refer to soils containing iron sulfides, which are perfectly natural things for soils to contain. When these soils are exposed to air, however, they oxidise. They react with oxygen to produce sulfuric acid. These iron sulfide soil layers are found in low-lying coastal areas. They have been formed up to 10,000 years ago from a natural process of sea water mixing with organic matter contained in sediments. These soils are still being formed in the present day, mainly in environments such as mangrove forests, salt marshes, estuaries and tidal lakes.

The iron sulfides themselves are usually contained in a layer of waterlogged soil, such as clay or sand. However, when these soils are disturbed—which can happen in a number of ways, such as through vegetation clearance or drainage or excavation—so that this layer of iron sulfides is exposed to air and rainwater, they produce sulfuric acid which pollutes and contaminates the surrounding environment.

There are a number of human activities that can produce this kind of disturbance. They are things such as the construction of canal estates, roads, aquaculture ponds, golf courses, sand or gravel extraction and the drainage of coastal lowlands for sugar cane. This is particularly relevant to Hinchinbrook Channel because many of these activities are either proposed or are occurring right now at Hinchinbrook Channel and causing cumulative impacts of acid sulfate run-off into the channel which, as we know, is a world heritage area.

Quite apart from the problem of acidic contamination, the sulfuric acids also mobilise heavy metals which occur in salt water. Virginia referred to some of these previously. They are metals such as iron, aluminium and cadmium. Mobilising these heavy metals out of the water column increases their mobility through biological systems and they can accumulate in organisms that eat plants on which these metals accumulate. So they have major negative impacts on aquatic life in both marine and freshwater systems.

There are six main types of impact from acid soils run-off. They impact plant production through their direct toxicity; they reduce the health and they increase the mortality of gilled organisms such as fish; they mobilise heavy metals such as aluminium, iron, manganese, potassium, sodium and cadmium; they corrode engineering structures such as iron, aluminium and steel and they will damage concrete foundations; and they contaminate coastal aquifers and ground water and create negative impacts on animal and human health.

When we consider a lot of the coastal land—and we have included in our submission a map from the Environment Australia web site which shows that these soils potentially exist right around most of the coastline of Australia—we estimate there is 50,000 to 60,000 tonnes of acid soil run-off from the eastern seaboard. We have tried to estimate the millions of dollars of damage caused to fisheries, to natural systems and to engineering structures such as the foundations of buildings, piping and metal structures. This is a major problem indeed for Australia, both economically and environmentally, hence our suggestion that this is a problem that requires a national approach. Acid sulfate soils and their disturbance and the resulting contamination is a problem that does not respect state borders. It is an issue that requires a standard right across the country to deal with it.

Senator WOODLEY—Are you aware of the impact on the Great Barrier Reef of acid soil pollution? Is there any impact? Have there been any scientific studies done? There are probably other people we can ask as well, but I think that is important to get at.

Mrs Young—Again, Bob Morris is the primary expert. I apologise for not having the details of where to contact him. He is the person who is, as I understand it, the leading scientist who has conducted studies of the impact on the reef of acid sulfate run-off.

Senator WOODLEY—In terms of the legal framework for dealing with acid sulfate soils and the problem in Australia, I know there are studies now being done, with a draft

study available at the moment. Are you concerned about the ability of authorities, in fact, to work within a legal framework in order to deal with the problem of acid sulfate soils? As with most things, we have a mishmash of local government, state government and Commonwealth government legislation which often is contradictory.

Mr Horstman—Yes, we are concerned, through a combination of things. There is an inability to operate within the existing legal framework which is a mishmash between local, state and federal, but the biggest problem with acid sulfate soils probably is the lack of a regulatory framework to deal with this environmental issue, the problem being that it is rarely recognised as pollution. Pollution is often thought of as occurring when someone does something to dump a contaminant, or something that does not naturally occur, into the environment. We need to take a broader view of pollution created when a naturally occurring substance, as in the case of acid sulfate soils, is unnaturally exposed to air and freshwater run-off.

After having a look at the laws in each state of Australia, ACF would suggest, as you would see in our submission, that they generally fail to recognise this as a source of pollution. Some local government by-laws do recognise the issue of acid sulfates but do not actually propose methods to manage them. We do suggest that the best way to approach this is through a national approach that not only brings about the same standards between states but causes those standards to move upwards, rather than spiral downwards towards a lowest common denominator. However, the biggest problem we are facing here with acid sulfate soils on a national basis is the issue of identification. The rate of mapping of these soils is very slow at present. Perhaps Virginia would like to comment further on this.

Mrs Young—Yes. I understand that, at the present rate of survey work in Queensland, it will take some 39 years before all of the hot spot acid sulfate sites have been identified in Queensland. Recently, work was completed in New South Wales using a different technique—aerial photographic interpretation—which was completed in 18 months. One of the things that we have asked the new Queensland government to do is to use the API methodology in Queensland, so that there can be a much faster survey of the problems and identification of all of the sites.

Senator WOODLEY—I presume it is not appropriate to be picked up within this particular legislation, but the committee may want to suggest to the federal government that they should at least take a look at it. That is in the whole Environment Protection and Biodiversity Conservation Bill, which is currently before us and is seeking to work out the responsibilities between states and the Commonwealth for environment protection. Would you suggest that this committee should say to the federal government that acid sulfate soils is one of those issues that really ought to be part of that consideration?

Mr Horstman—The ACF would certainly welcome a recommendation from this committee to the federal government that acid sulfate soils is a matter of national environmental significance and, therefore, should be considered by the new Environment Protection and Biodiversity Conservation Bill. This bill sets out to create direct triggers for Commonwealth involvement in identified environmental issues of national significance. The heads of agreement by the Council of Australian Governments do recognise the protection and management of the marine environment as an issue of national environmental significance

and, therefore, something that can potentially provide a direct trigger for the involvement of the federal environment minister. We would strongly suggest that acid sulfate soils, being of such potentially major impact on coastal and marine waters and being clearly national in their nature and extent right around the coastline, is one of those issues that demands a national approach and should be dealt with under the new national environment legislation.

Senator PAYNE—Mrs Young, you said in your earlier remarks today that there were examples of approvals that the developer had wanted that had just been given to him but that you have none of the specific examples with you today. That is a very serious allegation. When will you be able to provide the committee with specific evidence of that allegation?

Mrs Young—I have been going through the FOI material, looking at the pressure points, and there were some clear examples, back in the Goss era, when there were, on the public record, threats from the developer, saying to the coordinator-general of Queensland, '. . . tomorrow is either going to be real good or real bad.' There are quite aggressive statements from the developer that are on the public record. I can obtain those, but it is time consuming going through the FOI documentation. That was the particular example that I was looking for. There is also the suggestion, in one of the documents that I have provided to the committee, of how difficult it is dealing with the developer. I apologise if I said he has just been given things. He certainly seems to—

Senator PAYNE—You do not say he has just been given things? Do you withdraw that?

Mrs Young—That is an inappropriate way of expressing my concern, so, yes, I will withdraw that form of expression. My concern is that he has put consistent pressure, whether it be through threats of going bankrupt or through bullying or whatever. There has been a high level of pressure on governments by the developer—

Senator PAYNE—Threatening to go bankrupt is an interesting approach. Will you provide the committee with the examples you have just referred to?

Mrs Young—I think there is one before you right now.

Senator PAYNE—And the other one you referred to?

Mrs Young—Yes, I will provide that.

Senator PAYNE—Are you aware, Mrs Young, of the threats to and attacks upon small business in the Cardwell area?

Mrs Young—No.

Senator PAYNE—You are not aware of the evidence given to the committee in Cardwell in relation to attacks on, for example, Leighton Constructions?

Mrs Young—Who by?

Senator PAYNE—I am talking about the evidence that they gave in relation to violent attacks upon their property, their business, and so on, during the period of what you would describe as—I am not sure how you referred to the protest period before. Evidence was given by the Cardwell Chamber of Commerce about attacks on their business and I wondered whether you were aware of those threats?

Mrs Young—No, not at all.

Senator PAYNE—You mentioned in your submission several times—in fact, at length—the Commonwealth's behaviour in relation to the Borbidge government's behaviour and more briefly in relation to the Goss government's behaviour. Could you outline for me what you understand to be the position of the current Beattie government in Queensland in relation to development?

Mrs Young—That is something we are quite concerned about, in fact.

Senator PAYNE—What are you doing in relation to that concern?

Mrs Young—During the course of the recent state election campaign, we wrote a letter to Premier Beattie which was placed on the public record, expressing our concerns about their continued professed support for the project. We also made public statements in the course of the election campaign about that and we are holding discussions with them now. One of the things that I am asking the Beattie government to do is to put in place a proper acid sulfate advisory team to complete the mapping of acid sulfate areas on the coastline as a matter of urgency and to revisit the dugong protection zones and the whole issue so that there is a proper protection plan in place for the dugong. There have been a number of steps like that. We have asked them to have a much more vigilant approach to this project.

Clearly, in regard to our campaign work, we still want this project to end. We make no bones about that. It does not matter what government is there. This project is the wrong project in the wrong place and we will continue our campaign against it. In terms of specific requests to the Beattie government, though, those are the specific requests. We have received in writing, from Premier Beattie, a statement that they will have a higher duty of care. I guess the proof is in the pudding and we are yet to see how that transpires.

Senator PAYNE—In relation to the public comments that you have made, could we please be provided with copies of any media releases or transcripts that would pertain to that?

Mrs Young—Yes.

Senator PAYNE—Thank you.

CHAIR—Senator Hogg, do you have any questions?

Senator HOGG—Yes, thank you, Chair. In your statement to us, Mrs Young, you refer to the depth of community feeling in respect of the development and to anger that this project has been allowed to proceed. One of the things that became patently clear during our

evidence in Cardwell was that there is a community divided on whether the project should proceed. There are supporters of the project and, whilst I do not think they have any pecuniary interest in the project, there seems to be a groundswell of local business, shire council and other interests for the project going ahead. There is an element of dismay expressed by some citizens in Cardwell of the project going ahead and some have a real fear of speaking out against the project. It seems to me that this is an unnecessary by-product of what is happening. How do we avoid the confrontationist approach? I am not talking necessarily about what happened on site. But here we have a community divided over the project: one section sees it as providing jobs, a livelihood and income, and the other sees it in the light of the negative environmental aspects attached to it. What can we do by way of legislative or other processes which might stop this sort of divisiveness happening?

Mrs Young—I think the saddest thing of all is that you could have had a win-win story on that site in Cardwell. It was a degraded site. It would have been possible to have a smaller scale development on the site that brought some additional employment into the area, not that I understand that is a huge problem in Cardwell but all communities like to see things that are of economic benefit to their region without the conflict. Had this been handled differently, had there been a management plan, for argument's sake, in place for the region that said something about the scale of development and the kinds of development that were appropriate to protect the exceptional environmental values of the region, then perhaps this would never have happened.

Senator HOGG—Who has that responsibility, in your view, for some sort of management plan?

Mrs Young—Certainly the federal government, certainly the state government. My view is that that is a joint responsibility. Because the region sits on the edge of the world heritage area, the federal government has a responsibility and so, too, has the local government. The whole community, ideally, should be involved in developing management plans for regions. That would be the ideal situation.

Senator HOGG—One of the criticisms that was levelled up there—and I am not saying I agree with any of this; I am just trying to get your view—was: why should people who live in Sydney, Melbourne, Canberra or Perth have anything to say about what is happening in Cardwell? I must admit that they were fairly parochial about their own home soil. How does one overcome that sort of argument?

Mrs Young—I do not know. What would happen if you said to the people of Cardwell, 'Do you care what happens to Uluru?'

Senator HOGG—I hate to say this but I think they would probably tell you that they do not.

Mrs Young—I doubt that that is true, actually. In my experience—

Senator HOGG—Some of them, I should say.

Mrs Young—Some of them might, but I very much doubt that is true. I think most Australians care about all of Australia. They care passionately about what kind of place we live in. I quite accept that may be a view that is expressed by some people. Any community may take a parochial view from time to time, but the fact is that they live on the edge not only of an area of enormous national significance but also of an area of global significance. We have a responsibility to all of Australia to look after that place, as we have a responsibility to the world. You do not get world heritage listing for something that is not of outstanding importance. We are all responsible for the protection of those special places.

I agree that the way this has been handled—and it is the very tenor of the submission—has been very bad from whoa to go. One of the advantages of involving the community in planning is that communities then become involved in understanding what is special about where they are. I think when you live in a place you do tend to rather take for granted the environment that you live in. The people of Cardwell live in an outstanding area.

Senator HOGG—If I could just interrupt you there, what you are really saying is that there is a need for some sort of educational program to make people aware of what is around them. They do not necessarily accept—and I am saying this in the broadest of terms—all that is being said about acid sulfate soils. They think that is a giant con job that someone in Sydney or Canberra has dreamt up.

Mrs Young—Because you cannot see it—they are more insidious changes that are not immediately visible, I suppose.

Senator HOGG—That is right. What I am trying to find out is: where is there a role for an education program to make people aware of these things and aware of the fact that they are not just something that has been dreamt up as a means of stopping a project? How do you convince people? Who does the education?

Mrs Young—It could be through direct education or a participatory process in planning that actually involves effectively educating people as they go along. I think the Cape York processes through CYRAG were an excellent example of how a community learned about the place that they lived in as the planning process and assessment processes went along for Cape York. It was amazing to watch how people came to value the exceptional natural and cultural values of Cape York as that planning process and assessment process was under way. That process effectively built consensus in the community about why Cape York was special and how to go about making land use decisions and development decisions. That kind of model is very expensive, so it is not necessarily the best model for everywhere in Australia, but it does illustrate the value of participatory democracy. You cannot truly participate in democracy unless people have that opportunity to be educated and to fully understand about the place where they live.

Mr Horstman—I would add briefly that education is a very good idea, but I am not thinking of education in terms of a glossy brochure or a handout. The best education for local people and other interest groups in the whole Hinchinbrook region would be meaningful involvement in the planning. If people are going to find out and learn about acid sulfate soils, the best way they could do that would be as part of a monitoring team that is on site, having a look at that so they can see it for themselves. Virginia mentioned the experience in

Cape York, and I have had experience with that as well. If you can get people to agree on the questions that are going to be asked and to be involved in the collection of the information to answer them, they are much more likely to agree on the answers at the end.

Senator WOODLEY—It might help the committee to know that there is in fact a large body of documentation on both sides of the debate on whether Mr Williams has threatened anybody, and it is in a new report of the privileges committee. It has been canvassed widely so, if the committee wanted to access that, it is available.

Senator IAN MACDONALD—I have a couple of quick questions for Mrs Young and a couple for Mr Horstman. Mrs Young, for the record, would you tell us where the Port Hinchinbrook development is?

Mrs Young—Do you want the latitude and longitude?

Senator IAN MACDONALD—No.

Mrs Young—On the edge of Cardwell.

Senator IAN MACDONALD—South of Cardwell, would you agree, on the mainland?

Mrs Young—Yes, that is right.

Senator IAN MACDONALD—Part of your campaign has been to suggest that it has been on Hinchinbrook Island: is that right?

Mrs Young—No.

Senator IAN MACDONALD—It is not right. You have been there?

Mrs Young—Yes.

Senator IAN MACDONALD—So you understand where exactly the site is?

Mrs Young—Yes.

Senator IAN MACDONALD—You are complaining in your evidence about the timing of the decision by Senator Hill. I understand that Friends of Hinchinbrook took that to the Federal Court and then to the full court of the Federal Court and sought special leave of the High Court. All of those judges determined that he had followed the correct timing and processes, but you still think that it was wrong, do you?

Mrs Young—What I am questioning is how it was that the Prime Minister could, in advance of Senator Hill's decision, write to Mr Williams, outlining that the government was supportive of his project. I have that letter here, if you would like me to read it. There were also reports raised prior to—

Senator IAN MACDONALD—But was that raised in the court case?

Mrs Young—I have no idea. I was not a party to the court case.

Senator IAN MACDONALD—You would think it would have been, wouldn't you? Yet obviously the courts were not concerned about that: they determined on three occasions that the correct processes had been followed.

Mrs Young—As I said, the Wilderness Society was not a party to the court case.

Senator IAN MACDONALD—But you do not accept the court decision?

Mrs Young—I do not even know what was presented to the court.

Senator IAN MACDONALD—That defies logic.

Mrs Young—I am sorry, but I do not.

Senator IAN MACDONALD—It defies logic to suggest that you did not hear Justice Sackville's judgment. Everybody in Australia did, and I am sure you must have. You mentioned—as I recorded you—that Bob Morris was one of the few people who had studied the Great Barrier Reef. Is that what you said?

Mrs Young—No, no: the acid sulfate problem and the impacts on the reef of the acid sulfate problem.

Senator IAN MACDONALD—So you are saying that neither the Great Barrier Reef Marine Park Authority nor the Australian Institute of Marine Science have ever done—

Mrs Young—He may have in fact done the studies on their behalf. I agree with you that I should have found out the full details of Dr Morris' positions and his expertise before I came; but, as I understand it, he is the pre-eminent person on these issues on the reef.

Senator IAN MACDONALD—You have been very vocal in opposing this particular development. Have you done any work on suggestions that the aquaculture, cane farming and a great deal of other activities in the Hinchinbrook Channel region could be a greater problem than this particular development is? Have you done any work on that?

Mrs Young—Certainly, on the prawn farms; there are a number of concerns. We have broader concerns about the health of the reef and of the entire world heritage area. There are a whole lot of land based sources of pollution, whether that is acid sulfate pollution or other forms of pollution, that are a problem for the reef—

Senator IAN MACDONALD—Do you ever raise those publicly?

Mrs Young—In terms of doing specific media releases on them?

Senator IAN MACDONALD—Yes.

Mrs Young—No, I do not think I have. We have certainly put our concerns about those broader problems, whether for the Great Barrier Reef or the Hinchinbrook Channel, to governments on any number of occasions.

Senator IAN MACDONALD—In spite of the fact that two Labor governments initially—state and federal—and two conservative governments subsequently, plus three court cases, have determined that the process is appropriate, you have said in your evidence that only your continuing protests are going to stop the process.

Mrs Young—No. What I said—I think this is what I said—was that the only reason that I can see that we have had any serious attempt by government to address the conservation issues has been because of the concerns expressed by the community and the conservation movement. It was not until people stood in front of the bulldozers that Senator Faulkner acted. Again, as in the document I provided, often inquiries or points of action by government have been precipitated by conservation concerns—

Senator IAN MACDONALD—I would like to go to your document—

Mrs Young—You would have to really question whether you would have had any scientific studies. Not only have you no EIS but you may well have had no scientific studies at all.

Senator IAN MACDONALD—I would like to go into your document in much greater detail, but obviously time is against us. Can I finish with you by asking you this: did you, or your organisation, ever receive any money from donors who wanted that money to go towards the court case objecting to the Port Hinchinbrook decision by Minister Hill?

Mrs Young—No, I do not think so.

Senator IAN MACDONALD—Can I ask Mr Horstman the same question?

CHAIR—Senator MacDonald, thank you. I think we have—

Senator IAN MACDONALD—I did indicate I wanted to ask both, and I just have a couple of quick questions for Mr Horstman and then I will be finished.

CHAIR—Okay.

Senator IAN MACDONALD—Could I just ask the same question to you, Mr Horstman?

Mr Horstman—If there were donations for the Hinchinbrook campaign, they were put in a special fund that was set up for that purpose.

Senator IAN MACDONALD—Yes. Have you still got money in that fund?

Mr Horstman—I do not believe so.

Senator IAN MACDONALD—Do you feel any responsibility for the Commonwealth's legal costs of $160,000 in defending those three court actions, which were found by the courts to be completely without merit?

Mr Horstman—I am saddened by the waste of taxpayers' and public money that has gone into this whole process, which could have been avoided in the first place if due process had been followed and if there had been consideration about what would be an appropriate kind of development to repair this site in the first place.

Senator IAN MACDONALD—Would you agree that the courts determined that due process was followed?

Mr Horstman—The courts made a determination based on what was proposed to them. There are plenty of cases that the court could consider, and they have certainly never got around to considering the merits of the case.

Senator IAN MACDONALD—Finally—

CHAIR—Senator MacDonald, you have had lots of questions already, and there are still others who have not asked any.

Senator IAN MACDONALD—I have one final question.

CHAIR—Can I ask you to put that in writing perhaps to the witness? Senator Reynolds has questions.

Senator REYNOLDS—I would like to ask Mrs Young a question about the economic feasibility of the project. It seems that all governments from both sides of the political divide have not been persuaded by environmental issues, but one would have expected them to be more likely to be persuaded by economic issues. Could you expand on the comment you made about the economic feasibility of this particular project? It seems that that is an area that has been neglected in this whole debate.

Mrs Young—Yes, I absolutely agree. If you like, again, I could table the Dransfield report, which I said was provided as an affidavit for the Federal Court case by Friends of Hinchinbrook. Mr Dransfield runs an accounting practice and financial and operational consulting service. He has had particular experience in the tourism and hospitality area. He conducted quite a detailed assessment of the feasibility of the project, on behalf of Friends of Hinchinbrook. He concluded, based on that extensive analysis, that this project was not economically feasible. In line with many of the other major resorts up and down the Queensland coast that have failed—

Senator IAN MACDONALD—Could I raise a point of order? Could you possibly indicate to me what possible connection this has with the terms of reference of the inquiry? Obviously, whether the project succeeds or fails in a commercial way is a matter for the person putting in their money, and it is really irrelevant to either the government or this Senate committee whether the developer goes broke or makes a squillion.

Senator REYNOLDS—Madam Chair, on the point of order, I would have thought, Senator Macdonald, that after our experience with Magnetic Quays on Magnetic Island that the issue of economic viability was fundamental.

Senator IAN MACDONALD—Do you mean that you want to make sure that the objectors have enough money to pay the court costs when they lose?

CHAIR—There is no point of order, Senator Macdonald.

Senator REYNOLDS—I do not want to see the environment violated and left—for how many years now?—for five years as an absolute disgrace and eyesore—as happened on Magnetic Island. So, Madam Chair, my question is absolutely fundamental to the terms of reference.

CHAIR—Thank you. Proceed.

Mrs Young—Moreover, Senator Hill was—

Senator IAN MACDONALD—Madam Chairman, would you note that I disagree with your ruling. I do not intend to take it further this time.

Mrs Young—On that point, it was my belief that Senator Hill was required, as part of his deliberations, to determine that there was no prudent or feasible alternative. That is part of his responsibilities under the heritage legislation. That was the whole reason that Friends of Hinchinbrook took the course of seeking advice from Dransfield and Co. as to what the economic feasibility would be.

Senator REYNOLDS—In his report, does he comment on the size of Mr Williams's proposal?

Mrs Young—Yes, he does. He notes that it is an exceptionally large resort. He then draws some analogies between the other very large resorts on the Queensland coast that have failed and changed hands several times—each time at a loss to the vendor. He points to some reports that have been prepared for the tourism industry that indicate that this scale of resort and this kind of resort are simply not economically feasible.

Senator REYNOLDS—It is very much a 1980s model.

Mrs Young—Yes.

Senator REYNOLDS—Whereas the more popular model for the 1990s, and into the new century, is a smaller one.

Mrs Young—Yes. He calls into question whether the developer, in fact, did appropriate economic analysis before deciding to go ahead with it.

Senator REYNOLDS—Does he actually make comment about what would be a suitable size or scale for the site?

Mrs Young—No. My recollection is that, in passing, he notes that a smaller scale development may have been more feasible, but I do not think he makes a firm conclusion on that.

Senator REYNOLDS—Finally, are you aware of the scale of bond that Mr Williams may have been required to set aside in view of his proposed development?

Mrs Young—I cannot remember the exact figure. I understood that there was a review under way. Is that correct? I am not sure of the exact situation with the bond.

Senator REYNOLDS—Mr Horstman, are you aware of that?

Mr Horstman—No, I cannot comment on that.

Senator TIERNEY—If this development did stop, what do you think should happen from that point?

Mrs Young—One of the things I am working on right now is the kind of development that would be appropriate in the event that this particular project fails, which seems highly likely.

Senator TIERNEY—I was not referring so much to what new developments should come; I was referring to what should happen to the development at Port Hinchinbrook that exists up to a certain stage at this point. What should happen with that development?

Mrs Young—I am not sure—

Senator TIERNEY—You have an investor who has put a considerable amount of money in up to this point—

Mrs Young—Yes, and who has taken a huge commercial risk. It is one that I think will prove to be a very big risk indeed. I cannot see that the project is viable. I expect that it will fail.

Senator TIERNEY—I suppose when he invested all that money he did not think he would be stopped.

Mrs Young—No-one has stopped him.

Senator TIERNEY—Yes, but you obviously want him stopped. The essence of what I am asking is: who pays?

Mrs Young—There are several routes by which the project may cease. One is that governments may ultimately decide that the environmental problems of the site are so great, that the level of environmental management is not adequate, and they may increase the standards of that management—all of which will increase the cost to the developer.

I can understand the tension between environmental protection and good environmental management with the cost for the developer. There must come a point, it seems to me, that there are those kinds of trade-offs when you are making the basic assumption that the project will go ahead. I do not assume that it will continue against all odds.

Senator TIERNEY—If the project stopped, you seem to be indicating that the developer should just take the hit on that.

Mrs Young—Absolutely, that is what commercial people do all the time. They make the investment decision; there are certain risks inherent in any investment decision. This is what I find quite extraordinary, that governments should feel any responsibility when people take a commercial risk. Governments have a responsibility to the community to ensure that environmental standards and other standards are met. They are not there to underpin every developer that comes along with what they consider to be a bright idea.

Senator TIERNEY—I do not think that is quite the point. I think the point is: could any developer factor in, when they plan a development like this, the blocks and the frustrations that have occurred in this development?

Mrs Young—They should have been able to with this one.

Senator TIERNEY—Do you think anyone could actually build into their planning all of this delay and cost of delay? Do you think that is actually feasible?

Mrs Young—With this site, absolutely. There has been a history of controversy and protest associated with this site.

Senator TIERNEY—So you think someone else should take over?

Mrs Young—In the 1980s there was a strong conservation and community push to stop the Tekin development. The developer acquired that site in full knowledge of the level of conservation concern and community concern about this site. They are decisions for the developer to make; he can go down whatever path he chooses, that is his business.

Senator TIERNEY—So anyone developing in Queensland, in these sorts of areas, should factor in a huge whack of money to cover the obstruction from groups?

Mrs Young—No, that is not what I am saying; I have said ‘at this site’. How many other developments up and down the Queensland coast are being opposed by anybody?

Senator TIERNEY—Senator Macdonald might want to comment on that.

Mrs Young—This site has had an unprecedented level of attention from the community there. I am not saying that there are not others that are of concern; clearly there are. The prawn farms, as Senator Macdonald has said, are another area of concern. Once again, they were done without appropriate environmental guidelines and assessment procedures. Coastal developments, as you know, are of enormous concern to the community, particularly in relatively unspoiled natural areas and particularly on the edge of world heritage areas.

If you have proper processes in place—this gets to the heart of the process issues—if you have management plans in place that recognise and deliver world heritage management standards to a region, if you have environmental assessment procedures automatically in place, you are unlikely to get this kind of problem. If those things had been in place in the first place, it is unlikely that they would have had approval for this scale of development occurring, because it would not have met the rigours of those assessments and planning procedures. Also, having proper processes in place in the first place radically lessens the likelihood of a community campaign of this scale developing.

Senator TIERNEY—There are many developments around Australia that have this problem.

CHAIR—Senator Tierney, I would ask you to put your question on notice.

Senator TIERNEY—No, I do not want to put it on notice.

CHAIR—We have run out of time.

Senator TIERNEY—The witness carries on and spends minutes taking up the time so I do not have a chance to finish this question.

CHAIR—The witnesses have been answering your questions and we have run out of time.

Senator TIERNEY—Can I just ask finally: the economic outcome of this—

CHAIR—Senator Tierney.

Senator TIERNEY—what do you think it says to foreign investors?

CHAIR—Senator Tierney.

Senator TIERNEY—Look, I have a right to ask questions, Chair, and I will continue to ask questions.

CHAIR—Yes, and I have asked you to put it on notice.

Senator TIERNEY—You may make that request. Could I just ask you: what signal do you think it sends to overseas investors when they see this sort of outcome?

Mrs Young—You are probably aware—

CHAIR—Mrs Young, Mr Horstman, I would invite you to put the answer to that question on notice. I thank you very much for appearing before us today.

Senator TIERNEY—Put this on notice as well—you have invited things on notice: could you also answer on notice what it says to the unemployed in Australia who do not get jobs because investments like this are stopped?

CHAIR—Thank you very much for appearing before the committee today.

Senator IAN MACDONALD—Madam Chairman, could I put my questions to Mr Horstman?

CHAIR—Yes, if you put them on notice, Senator Macdonald, that will be acceptable.

Senator IAN MACDONALD—The ACF made a very detailed submission about acid sulfate soils. Do you believe that the National Environment Protection Council, that is, all state, territory and federal governments—

CHAIR—That can be put on notice, thank you.

Senator IAN MACDONALD—can agree on an acid sulfate soil solution? Secondly, is there a solution and, thirdly, can those solutions be applied to the Port Hinchinbrook development? They are the three questions that I would have liked to have asked you about.

Senator TIERNEY—Madam Chair, are you saying that you have the right to stop members of this committee asking questions?

CHAIR—No. I have invited you to put questions on notice.

Senator TIERNEY—You may invite us—

CHAIR—We have already taken more than 20 minutes beyond the finishing time. If we proceed in this fashion we will not get through all of the witnesses we have before us today.

Senator TIERNEY—That applies to many hearings. Are you saying that we do not have the right to ask the questions we want to ask here?

CHAIR—Yes, if it goes over time, you obviously do not.

Senator TIERNEY—Under what standing order do you make that ruling?

Mrs Young—We are happy to come back.

Mr Horstman—We would be happy to come back to elaborate on the answers and answer any further questions you may have at another time, if you are willing to have us.

CHAIR—Thank you for your offer.

Senator TIERNEY—In these committees, like in estimates, senators have the right to continue to ask questions. You cannot stop senators, Chair.

CHAIR—The committee will adjourn for a couple of minutes for a short private meeting.

Proceedings suspended from 9.50 a.m. to 9.57 a.m.

MELVILLE, Associate Professor Michael Dick, School of Geography, University of New South Wales, Sydney, New South Wales 2052

SAMMUT, Mr Jesmond, Lecturer, School of Geography, University of New South Wales, Sydney, New South Wales 2052

CHAIR—Welcome. The committee has before it submission No. 150, which it has authorised to be published, and a submission from Mr Sammut which it has accepted as confidential. Professor Melville, are there any alterations or additions that you would care to make to your submission before we move to an opening statement?

Prof. Melville—No.

CHAIR—I invite you to make a brief opening statement.

Prof. Melville—I would like to make some very brief comments. The first is that acid sulfate soils are a global environmental issue that are particularly concerned with coastal developments but there are other examples of non-coastal areas. Dent and Pons opened their review paper of 1995 by saying they are the nastiest soils in the world. We know now from geomorphic hydrological criteria that acid sulfate soils can be found in all estuaries of Australia. You might gauge the actual magnitude by the fact that the mapped area of acid sulfate soils in New South Wales is equal to the total areas shown to be under secondary salinisation in all of Australia.

ASSMAC, the Acid Sulfate Soil Management Advisory Committee of the New South Wales government, has nearly finalised sets of guidelines and a methods manual that could provide a national standard for the assessment and management of acid sulfate soils. I hope that, as a result of this committee's inquiries, this may be recognised. There are some examples in Australia and elsewhere of well-managed sites where acid sulfate soils occur. I would be quite happy at another time to discuss what they are with the committee.

I would presume that a bottom line in any acid sulfate soil project development is that it should have a minimal environmental footprint, otherwise we will be left with other examples of acid sulfate soil problems to be overcome, such as Captains Flat, an example of acid sulfate soil problem, or Rum Jungle, which costs the federal government quite a lot of money already.

My final comment would be that there are some important points and lessons to be learned. The first is that the public should be made aware of the existence and the problems of acid sulfate soil. They and other people who might be wanting to develop projects in acid sulfate soils should accept that there are problems and make contingency plans to overcome those problems.

Mr Sammut—I first became involved with the issue of acid sulfate soils in 1993 when I commenced research into the links between acid sulfate soils, fish kills, fish disease and habitat degradation. Since then, our work has confirmed that acid sulfate soils can cause fish kills, trigger a number of fish diseases and cause degradation to estuarine systems and floodgated freshwater systems.

More recently, I have entered research looking at the effects of acid on oysters, water plants and phytoplankton. That research is also confirming that there are strong associations between acid sulfate soils and large-scale ecosystem damage. In terms of Port Hinchinbrook, late last year I was invited to look at some documents associated with the development and particularly to do with acid sulfate soils. I was quite concerned that acid sulfate soils were not being approached in the right manner within those documents. In fact, when I was first shown the acid sulfate soil management plan, I mistook it to be a summary of the main document. I was surprised to find that it was the document.

In the time since then, I have also looked at other documentation. What has concerned me is that scientists who have spoken out on the issue or tried to give good advice on it have either been ignored or marginalised in some way. I am also concerned that acid sulfate soils are being moved around on the property without a very good management plan in place. I think that could lead to environmental impact.

Senator HOGG—Professor Melville, in your submission you refer to a lack of mapping or the fact that mapping of acid sulfate soils seems to have been halted. What has halted the mapping?

Prof. Melville—My understanding is that the CSIRO and AGSO, the Australian Geological Survey Organisation, were undertaking mapping programs to do with acid sulfate soils, but that the funds have not been available to continue that program, so they have been halted. I do not have not any firm evidence of that.

Senator HOGG—Was that a mapping project that was Australia-wide?

Prof. Melville—No. I think it was fairly specifically located in parts of New South Wales and parts of south-eastern Queensland, but there may have been other parts. I am not familiar with the totality of the program that was involved.

Senator HOGG—Do you know of any current mapping projects that are taking place in Queensland or other states of Australia?

Prof. Melville—I believe that the Queensland government's acid sulfate soils mapping program is still continuing, but I am not aware of the rate at which it is continuing and how it is progressing.

Senator HOGG—I read somewhere in the submissions that the rate at which the Queensland mapping of acid sulfate soils will progress is almost snail paced because of the technology that is being used. Do you know anything about that?

Prof. Melville—I would tend to agree with that. The program in New South Wales was completed over a period of about 18 months to two years. The particular approach was done predominantly by air photo interpretation with field checking. That is not the procedure, as I understand it, that is being adopted in Queensland. There may be a difference in the base mapping that is available in Queensland in that it is not as good as the base mapping that was available in New South Wales. I think that there is a difference in the program. I would hope that the New South Wales model might be adopted.

Senator HOGG—Is it fair for me to understand from the literature that I have read that the severity or degree of intensity of acid sulfate soil can vary in strength from place to place on the site?

Prof. Melville—Yes, it can.

Senator HOGG—So, one would think that, if one were developing such a site as Port Hinchinbrook, one would need to know the distribution of acid sulfate soils on that site.

Prof. Melville—I agree.

Senator HOGG—Can one also assume that the soil would be distributed vertically as well as horizontally, on the site? How would that mapping normally be done?

Prof. Melville—Yes. The maps that are done in New South Wales are mapped to a scale of 1:25,000. They are really reconnaissance maps, in that they are not detailed site maps: they cannot be used in that way. It would require a detailed site plan with sampling at perhaps 50-metre intervals, depending upon the degree of disturbance. Whatever mapping method is put in place, it should be able to quite clearly categorise the material to the depth at which disturbance might occur either through excavation or through lowering the watertable and affecting drainage.

Senator HOGG—In your submission, where you refer to there being inadequate baseline data in respect of the Hinchinbrook development, are you saying that no adequate mapping of the positions of the sulfate soils and of the watertable was done in that particular development?

Prof. Melville—As far as I know, the soil mapping was not adequate, nor was the baseline environmental data of, say, discharge or soil and water characteristics.

Senator HOGG—You also say in your submission that there was an inadequate management plan and that it was not adhered to. You then go on to say that there is inadequate monitoring. What leads you to the conclusion that there is inadequate monitoring?

Prof. Melville—I was provided with some parts of a document describing some of the environmental monitoring data. The values and the information in there were not adequate for coming up with an assessment of what had happened, and particularly of how change had occurred.

Senator HOGG—When you talk about the baseline and also the ongoing monitoring, that would seem to me to be essential for any development. Does that include areas offshore as well?

Prof. Melville—Yes, because there is a possible downstream environmental impact: it could be in the channel. The distance will vary, depending upon the magnitude of the discharge event, the tidal exchanges, et cetera. I presume that by 'offshore' you mean the near offshore area.

Senator HOGG—What is the long-term effect of an acid sulfate soil being exposed? Will it all be leached at once, or is it a process that takes a long period of time? If so, what period of time?

Prof. Melville—No. It depends upon the particular circumstance of the environment and, in particular, of the material you are looking at. With the amount of acidity that can be or has been produced and the rates of likely discharge, it could be centuries before all that acidity is removed from the site. It could also be done, in another circumstance, in a matter of some tens of years. It depends upon the particular circumstance.

Senator HOGG—In the case of the Hinchinbrook development, there was the Tekin development, to commence with. I can only assume that acid sulfate soils were exposed then. It seems to me that nothing was done to remediate those soils; they were simply left exposed until the current developer came along. What is the likelihood that those soils did a fair bit of damage to the nearby channel over the period that they lay exposed?

Prof. Melville—This is starting to get to the specifics of the site, and I have tried to stand aside from the absolute direct project. I am not sufficiently aware of the prehistory and the more recent work to give an opinion on that.

Senator HOGG—Part of the real difficulty, as I see it, with this project is establishing proper baseline data to be able to say whether the current processes at Hinchinbrook are exacerbating the problem or whether the problem was already there. How does one go back in time to try to map out what was there before?

Prof. Melville—It is a real problem. I know of other situations where it is similarly difficult to see the baseline information. If you go from that area to ones nearby, which have not been disturbed, you can probably draw that as a baseline.

Senator PAYNE—Professor Melville, in terms of providing best practice for dealing with acid sulfate soils, how successful do you think ASSMAC and QASSIT, for example, are in doing that assessment and management to ensure that in future development the same sorts of problems that you have referred to and identified are not recreated?

Prof. Melville—I believe that they will provide good management information, if they are accepted. The problem is that they need to be accepted by governments, and they need to be accepted by those people who might be needing to use the information. They have had a sufficiently broad and long period of gestation to allow it to be accepted that they will provide a good set of guidelines.

Senator PAYNE—Could you give me some idea of what role, for example, industry and local government play in working with organisations like ASSMAC and QASSIT, to make sure that the most effective methods are put in place? Is there a formal relationship, or are the relationships informal? How is that developed?

Prof. Melville—ASSMAC is a whole of government organisation in New South Wales, and QASSIT is the Queensland equivalent. It includes local government and industry

representatives. They have an input into the decision making and the considerations that the committee makes.

Senator PAYNE—Would it be your view that that is an important aspect of the process?

Prof. Melville—Yes.

Senator PAYNE—When that level of involvement is missed out, would it be your assessment that that is when problems start to occur?

Prof. Melville—Yes. I also believe there is a problem about public awareness and acceptance.

Senator PAYNE—Did you say there is a problem?

Prof. Melville—We need to get around this problem and have the public accept that there is such a thing as acid sulfate soils and accept that there is a potential problem from acid sulfate soils and that in some cases there are real problems. I believe a good example of how things can work well is in the Tweed Shire Council, where the council in fact initiated the drawing up of guidelines—the first in Australia by any government organisation—with a public committee involving private individuals, council officers, government officers and industry representatives. That committee started in 1990. It has been a little quiet since ASSMAC came along, but it is still basically there.

Senator PAYNE—In terms of education—which, in fact, you have referred to—I have several questions. Firstly, across Australia, what is the best approach we could take to educating people about the problems of acid sulfate soils?

My second question is this. Working with, for example, agricultural groups, one of the issues which we have had identified for us during the period of these hearings is in, for example, sugarcane growing, in aquaculture, that problems occur there. We have been concentrating here on a particular development, but it is a very much larger question than that in this part of Queensland. I assume that would be the case in other areas that you have studied and considered?

Prof. Melville—I am not quite sure of the question, and I cannot speak of the aquaculture industry, but I do know something about the sugar industry in New South Wales. I have been working with them now for more than five years. Even within New South Wales, I believe that the industry generally accepts that acid sulfate soils are an issue that they are addressing successfully in many cases—and that is not a ubiquitous decision by all individuals, nor by all within the industry. I think there is a contrast between New South Wales and Queensland in this respect. I do not believe that the Queensland sugar industry does broadly accept that acid sulfate soils are an issue or a problem. That is part of the problem of education, I suppose.

As for the first question, you asked how we should go about education. Could I think about that a little longer? It is not an easy issue.

Senator PAYNE—I understand that. That is fine. Thank you.

Senator WOODLEY—I would like to ask Mr Sammut some questions. In your submission you say that using sea water to neutralise acid is a harmful method because it alters the marine ecosystem, and that these problems have not been considered properly. Would you like to just take us through what you see the problems are and what the problem is with using sea water? I know the usual method is to use vast amounts of lime, but could you give us some—

Mr Sammut—There would be some situations where sea water perhaps could be applied. It depends on the dilution factor; it also depends on how much mixing you have in that zone. The main problem with using sea water is that, during the neutralisation process, you do lose alkalinity from the sea water. In a place that may not mix very well, if you have that situation occurring, then the local biota would have that particular alkalinity reserve depleted.

Another problem is that, in areas where people propose to use sea water, the critical times when acid discharges occur are also the time periods when sea water becomes appreciably diluted by floodwaters. For example, in the Hinchinbrook Channel, if someone proposed—and I think it has been proposed—that sea water be used as a contingency, as a back-up for any acid discharges, then I would expect, during those periods when acid discharges occur, that there would be freshwater conditions or that the sea water there would be appreciably diluted, such that it would lose some of its neutralising capacity, and what it did have would result in quite a lot of alkalinity being taken out of the water. That could be harmful to crustaceans, plankton, oysters, et cetera. The impact depends on duration. And it is not just the duration, but also the frequency of events. If it happens regularly it would be likely to have an impact, and if it happens over a long time period, again, you are likely to have an impact. If it is a one-off, then it is unlikely to cause a major impact.

Then again, plankton is a fairly grey area. We do know from work overseas that plankton is quite sensitive to changes in water chemistry. What appears to be the case with the monitoring is that water chemistry is not being addressed. It is generally a problem in most acid sulfate soil management plans that people tend to focus only on pH. They see pH as a master variable. Yes, it is, but there are other by-products of acid discharges.

I would question the use of sea water in the case of Port Hinchinbrook, but I am not saying that it cannot be used in other situations. It may, for example, have some value in some of our low-lying flood plains where we have acid water being held back by floodgates for three or four years at a time. I would certainly speak against world heritage waters being used as an acid neutralising system.

Senator WOODLEY—One of the criticisms which I have heard—and I really want to check this because I do not necessarily understand it—is that, in dredging the Hinchinbrook Passage in order to give access to the marina, that itself could have disturbed acid sulfate soils. Is that possible, and how would you know?

Mr Sammut—Yes, it is possible, and the only way that you can know is to actually sample those particular sediments and then look at the chemistry again. I think to date the

chemistry has been ignored at that particular location. Certainly, with any environmental impact assessment, to be able to predict impact you must collect a lot of data. The data must be rigorously collected. It must be data that can be quantifiable and it should be data that can be analysed in some way so it can be interpreted properly.

The case with Port Hinchinbrook is that there is not an EIS, so the data was not collected. There is not sufficient baseline information to be able to accurately predict what the environmental impacts of that site would be. That is an unfortunate thing that has happened because there could be a number of impacts that may take place, but we do not know because we do not have that information before us. Certainly, on the evidence that I have seen, I do believe there is a risk to the channel, and I also believe there is a risk to the actual construction of buildings, et cetera, on that site. It is not just an environmental impact; I think there are socioeconomic impacts associated with it as well.

Senator WOODLEY—In your submission you talk about soil ripening in the bund walls. Could you tell us a bit more?

Mr Sammut—Acid sulfate soils start out as what we call potential acid sulfate soils. They are soils that are usually around pH7. They have the potential to produce acid. Once they begin to oxidise they go through a process called ripening. That particular process causes changes in the chemistry and the physical attributes of the soil. If you take a soil sample and you run some basic soil engineering types of tests, you would come up with a result. But if you leave those soils to oxidise, what will happen, if you were to repeat that exercise, will be that the soils would be quite different chemically and also physically. That presents a problem for construction because, if you ignore that particular process, then you can come up with a wrong estimate or you can wrongly use those soils assuming that they are going to be stable.

I did have some reservations about the bund walls on the basis of information that was presented to me. I had mentioned to people that I felt there was some risk of the bund walls collapsing. As far as I know, one of them has. I cannot tell you or confirm with you whether those were built with potential acid sulfate soils, but I believe that there has been correspondence with other people to suggest that PASSs, or potential acid sulfate soils, were used in the construction of those bund walls.

Senator WOODLEY—You say that many of the impacts of acid discharge are not obvious. Can you give us a quick overview of what the impacts are that are likely to—

Mr Sammut—It might help if I use photographs. You might need to pass these around. One of them is red spot disease. This disease occurs in Hinchinbrook Channel. It is an ulcerative condition in fish. It was first reported in Australia in 1972. Working with New South Wales fisheries, we were able to confirm that acid plays a role in the actual induction of this disease. It is caused by fungus. The fungus cannot invade intact, healthy skin of fish but, if there is any acid damage associated, obviously with exposure to acid sulfate soils, the skin damage will let the fungus attack. Here is a photograph of fish exposed to acid. They were exposed to acid for less than 10 minutes. So very short time exposures can cause skin damage in the fish. The fish that unfortunately do not survive end up in a fish kill. A fish kill is not a necessary impact. It does not always happen; there are other conditions which

will cause a fish kill. Some fish survive and the fish that do survive can move on to refuge areas and, within those refuge areas, the fungus can reside, infect the skin and then cause the ulceration.

My colleague from New South Wales fisheries, Dr Dick Callinan, has confirmed histologically that that disease is present within Hinchinbrook Channel. I cannot confirm with you whether that is the result of any acid discharges coming off the Cardwell property, but certainly it is present. There is potential for it to recur and, if acid discharges occur at the Port Hinchinbrook development, there is again a risk of this disease occurring there.

Senator WOODLEY—These photos are from New South Wales?

Mr Sammut—That is right. Something to also bear in mind is that the acid can have other impacts. This is a waterlily introduced from South Africa. It likes acid; it proliferates under acidic conditions. The pHs here are around two to 2.5, extremely acidic. The concentrations of aluminium are about 90 milligrams per litre—dissolved aluminium, highly toxic.

CHAIR—Mr Sammut, where were those photographs taken?

Mr Sammut—This is taken from northern New South Wales. I have experimental sites in Queensland as well, and the problem extends all the way across the top of Australia. Again, I have seen those impacts there, and I have seen these impacts in Asia.

With oysters we have found that, within days of being exposed to acid, oyster shells begin to bleach. They begin to actually dissolve because of the acid. We have also found that other organisms are severely impacted—things like marine worms, et cetera. We have also shown that there is an association between acid and changes in plankton communities. Some plankton do not like acid conditions, others do. Silica is also leached from the clays from acid sulfate soils and this can cause a proliferation of potentially noxious diatoms.

We have also shown through our work that some of these impacts can be short term and some can be long term. Some of the impacts that people perhaps would not be able to see would be impacts on nursery areas. So areas which would normally be quite healthy or suitable as fish or nursery habitat can be severely degraded. Iron which precipitates as a result of sea water and neutralisation of acid can smother seagrasses. We have found in parts of northern New South Wales that the smothering of water plants with iron leads to the mass mortalities. We have also found changes in water plant communities associated with acid.

If you were to show a photograph like this to someone, they would assume that you have a very healthy ecosystem when, in fact, the conditions here are not suitable for any gilled organisms. So, very often, acidic conditions are quite misleading.

Another interesting aspect of acid sulfate soils is that when you do get an acid discharge—you may not be able to see that from there—very often the acid discharges are quite clear. People will claim that they have turbid-free waters being discharged from their properties and very often those turbid-free waters are laden with very high concentrations of aluminium which floc out any of the suspended sediments. Again, having a picture—

CHAIR—Mr Sammut, can I interrupt you there? Are you saying that acid flows from this kind of water would not be apparent, aesthetically? You cannot look at them and say that this indicates—

Mr Sammut—Exactly. For example, if you were to have turbid waters, as is the case in that photograph, the turbid waters in that photograph are in fact quite good. There is very good water quality, there is fish life, there is aquatic life there. But the green or crystal clear water which flows in is often very toxic. That is not to say that all crystal clear waters are toxic or certainly acidic. It is where you would normally have slightly turbid water go clear that you would begin to assume that perhaps there is a source of acid nearby.

To be able to effectively describe these sorts of events you must have very good monitoring programs. As I have said before, very often monitoring programs stop at pH and a few other variables. What we do know from acid sulfate soils is that the neutralisation by sea water, for example, can result in chemical changes which are not necessarily suitable for aquatic life.

For example, I could say to you, 'Give me some sea water and give me some acid and I will neutralise it for you and give you a pH which is not considered toxic.' But the chemical changes in that water as a result of that sea water neutralisation may create conditions which are still not suitable for aquatic life. The only way that you can ascertain that is to monitor for it. I do not believe, from what I have been shown, that the monitoring program at Port Hinchinbrook is addressing the various chemical aspects of water. Without that information it is not possible to rule out any environmental impact. On top of that, a lot of the environmental impacts are quite subtle. You cannot see them, they are not very conspicuous and, again, you need to monitor for them. That can be quite a costly exercise, but it is not impossible and there are certain species that could be selected to actually monitor for.

I have a lot of concerns regarding Port Hinchinbrook. I am not suggesting that there are massive discharges of acid. I cannot tell you because I am not monitoring for them, but certainly there is a risk and the only way that you can try to address that risk is to have a good monitoring program. Some of the information that I have been shown which comes from that monitoring program raises doubts over the quality of the way the data has been collected and also the way the data has been interpreted. There have been values measured in that system which are quite unusual for that time of the year and for the conditions under which they were measured. I have raised those doubts with other people, and other scientists have also shared similar doubts without me speaking to them. They were asked independently by people from the ABC.

Senator WOODLEY—Because it has been suggested to us—and it is in someone's submission, I cannot find it in yours—that one of the effects of acid sulfate soil is the precipitation of heavy metals, can you give us a—

Mr Sammut—Sure. What generally happens with acid conditions is metals become mobilised and then they can be exported off sites. When they are in a mobilised form they are often dissolved and very toxic, but there is increasing evidence that the toxicity can also occur in their solid forms. So as the water is being neutralised and the pH is going up, these toxic species of metals begin to drop out of solution. But while quite a lot of research in the

past said that these were not a problem, more recent research is beginning to indicate that these can be a problem.

One of them is iron, obviously. Iron is dissolved and it is mobilised from the soils, but it will precipitate out into a floc and drop out of solution. That can smother the gills of organisms. It has been shown in prawn farms to be a problem, it has been shown in fish farms to be a problem and it has also been shown in wild situations to be a problem. The iron, essentially, clogs the gills of fish.

The other problem is, as I mentioned earlier, that iron can precipitate and smother different species of water plants and that can stop them from photosynthesising. Iron also makes food resources unpalatable. There has been research overseas to show that fish tend not to want to eat food that has any iron coating on it. The iron is, in fact, almost gel-like so that it can smother quite a variety of food resources. The ingestion of iron has been shown, in some research overseas, to cause lesions on the internal organs of fish. So in some cases where iron is ingested it can be a problem.

Other than that I cannot comment further, except to say that aluminium which in the past has been toxic only in its dissolved form has more recently been shown to be toxic in its solid form as well. It too can smother gills and it too can have an impact on food resources, et cetera.

Senator WOODLEY—I do not know if I have run out of time—

CHAIR—Your time and my time combined, Senator Woodley.

Senator IAN MACDONALD—Dr Sammut—and I assume it is doctor, is it?

Mr Sammut—It is mister, but I am flattered by your use of the term 'doctor'.

Senator IAN MACDONALD—I thought you said you had done your doctorate in—

Mr Sammut—I have done my PhD work and it is about to be submitted. For the record, the work has been published in internationally reviewed documents and journal articles.

Senator IAN MACDONALD—What do you lecture in?

Mr Sammut—I am a lecturer in the School of Geography. I specialise in things like soil science, geomorphology, biology, et cetera.

Senator IAN MACDONALD—Is that what you lecture in?

Mr Sammut—Yes. I also do research in this sort of work.

Senator IAN MACDONALD—Is there a group of specialists in acid sulfate soils? Do you rate yourself up amongst the best of them? That is a hard question, I am sorry.

Mr Sammut—I am a pretty modest person by nature, but I think the best are Professor Ian White, Associate Professor Michael Melville and Dr Greg Bowman. I collaborate with Michael Melville and Ian White.

Senator IAN MACDONALD—You have no regard for the QASSIT people who gave views on—

Mr Sammut—I have high regard for some of the people in QASSIT. I do not know them all, but I certainly have a fairly high opinion of two of them.

Senator IAN MACDONALD—I assume that the photographs that you handed around all came from New South Wales.

Mr Sammut—That is right.

Senator IAN MACDONALD—You are using them as a general example of what an acid sulfate soil is?

Mr Sammut—Yes, that is right.

Senator IAN MACDONALD—Where did you say the worst acid sulfate soils are in Australia?

Mr Sammut—I am beginning to think, from the evidence that has been presented by others, that Queensland has some of the worst. It depends on where you are in Queensland and where you are in New South Wales.

Senator IAN MACDONALD—But all of your research has been in New South Wales?

Mr Sammut—No, it has also been in Queensland.

Senator IAN MACDONALD—Have you been to Port Hinchinbrook?

Mr Sammut—Yes, twice.

Senator IAN MACDONALD—What were you doing there?

Mr Sammut—The first time I went I was with the ABC and I went to provide technical advice for their story. I am not afraid to admit that. The second time I went was only two weeks ago and I walked around the site and again had a look at the site.

Senator IAN MACDONALD—In what capacity was that?

Mr Sammut—As a private person.

Senator IAN MACDONALD—Were you taking samples and having a look around?

Mr Sammut—No, I was just walking around the site and having a look.

Senator IAN MACDONALD—With the owner's permission?

Mr Sammut—We went to the office and the people I was with asked permission for us to walk around and we were granted permission.

Senator IAN MACDONALD—What did you notice there that particularly disturbed you?

Mr Sammut—Probably the removal of mangroves. That concerned me. Also, the location was consistent with the geomorphic characteristics of areas that contain acid sulfate soils.

Senator IAN MACDONALD—Where were the mangroves removed from?

Mr Sammut—From along the foreshore area.

Senator IAN MACDONALD—On that 100-metre area?

Mr Sammut—I cannot remember exactly how long it was but it was the area facing the channel.

Senator IAN MACDONALD—You had seen them before so that you knew when they were removed and how they were removed?

Mr Sammut—I have seen air photos of where there was a very thick stand of mangroves along the front.

Senator IAN MACDONALD—You might also have seen the photograph from the war days when there was nothing there.

Mr Sammut—Yes. You are asking me about mangroves and I cannot see where it is relevant—

Senator IAN MACDONALD—That is nice of you to point that out to us.

Mr Sammut—I am sorry, I was wondering whether you—

Senator IAN MACDONALD—What actual research have you done up there?

Mr Sammut—At Port Hinchinbrook?

Senator IAN MACDONALD—Yes.

Mr Sammut—Nothing.

Senator IAN MACDONALD—Do you know which way the tides run through the channel?

Mr Sammut—No, but I have looked at documents in the past. It has been six months since I looked at those documents and—

Senator IAN MACDONALD—Tell me which way they run.

Mr Sammut—I cannot recall, from six months ago.

Senator IAN MACDONALD—Okay. I notice you have given a justification for your confidentiality. What you are saying is you strongly believe your views but you are frightened that others will ostracise you for those views.

Mr Sammut—No, I have been defamed for expressing my views. I care for my reputation and I do not expect to be defamed further. I am not in a position financially to take legal action.

Senator IAN MACDONALD—But if you are defamed, you will win money. That is what that is all about.

Mr Sammut—I am not interested in making money.

Senator IAN MACDONALD—I am just saying it will not cost you anything because if you have been defamed, quite clearly, as you say—So you are frightened that what you say here would lead your peers to shun you?

Mr Sammut—No, I am not at all afraid of my peers. My peers have been quite supportive and I believe my peers would back me up. There is nothing in there that I think cannot be substantiated and I would be quite willing to substantiate anything there. If you wish to put that to review to my peers, then go ahead and do so.

Senator IAN MACDONALD—Then why do you need the confidentiality? It just seems to me strange that you have these very strong views but you are not prepared to let them be seen by others.

Mr Sammut—As I have said to you before, there have been comments made about me which I believe would harm my reputation because I am not in a position to always be able to defend those claims when they are going on behind my back.

Senator IAN MACDONALD—Who has made those comments?

Mr Sammut—I would prefer to put that in writing, if you do not mind. The whole purpose of my document being confidential is just that I wish to protect my personal life. My personal life has already been severely intruded upon by my being involved in this issue, not just at Port Hinchinbrook. I have a responsibility to my family and I intend to protect my family.

I have also had other attacks from other people for speaking on this issue. It is not easy for scientists to advocate the science because of the attacks that we have to sustain. They are

often personal and professional attacks, often very unfair and very unjust. I am asking you to respect that.

Senator IAN MACDONALD—Fine. I just wondered why you are apparently not prepared to substantiate such strongly held views, but you have explained that.

Mr Sammut—I would be prepared to release some of that information, if you would like me to do so.

Senator IAN MACDONALD—I am just curious as to your approach to things.

Mr Sammut—I think I have already answered your question.

Senator IAN MACDONALD—Yes, you have, and I want to move on. But isn't science all about different views and opinions? Quite often there probably would not be such a thing as science if everybody agreed.

Mr Sammut—Sure. And if you have had a look at the record of scientists speaking out on this issue, I believe they have been victimised, they have been vilified and there have been intimidation tactics carried out upon them.

Senator IAN MACDONALD—Perhaps you could give us some details of that as well. We get a lot of these generalised accusations, but we would be interested as a committee to have a look at some of those who have been vilified.

Mr Sammut—Sure. I was shown a letter written by Keith Williams to the ABC, where people had quite unsavoury comments made about them. I would take offence if those comments were made about me. I certainly do not want to place myself in that sort of situation.

Senator IAN MACDONALD—That is obviously why you are a scientist and not a politician.

Mr Sammut—Exactly.

Senator IAN MACDONALD—That is minutely a part of our lives. You have seen work done by people engaged by QASSIT—have you been through that and publicised your disagreement with those views?

Mr Sammut—I have discussed those disagreements with people. But there have been other people who have already spoken on any disagreements, so I am not going to duplicate the comments of others, I am not going to duplicate the views of others—they have already been expressed by other people.

Senator IAN MACDONALD—While you were on site a couple of weeks ago, did you talk to the site monitor?

Mr Sammut—No. The site monitor was not present there.

Senator IAN MACDONALD—Did you try to see him?

Mr Sammut—No, I have not.

Senator IAN MACDONALD—Did you talk to GBRMPA officials?

Mr Sammut—No, I have not.

Senator IAN MACDONALD—Did you talk to anyone from AIMS, the Australian Institute of Marine Science?

Mr Sammut—No, I have not. Looking at your line of questioning, if I was to preoccupy myself with speaking to the various people on all the different issues that I am involved with, I would not have very much time on my hands—

Senator IAN MACDONALD—So you are not interested in their views on this subject.

Mr Sammut—Sure I am interested in their views but—

Senator IAN MACDONALD—But you did not bother to go and see them?

Mr Sammut—I just do not have time to go chasing people—

Senator IAN MACDONALD—Okay.

Mr Sammut—and I do not have the time to do other people's jobs either.

Senator IAN MACDONALD—But you do have time to go up there and have a look around two weeks before this—

Mr Sammut—I was there for another reason and I went—

Senator IAN MACDONALD—And with the ABC?

Mr Sammut—Can I please finish my answer? I was there for another reason, and I called in there on my lunch time to have a look at the site, to see—

Senator IAN MACDONALD—You have got time to go up with the ABC, and you were up there for other reasons.

Mr Sammut—I was up there in my own time.

Senator IAN MACDONALD—Right—but did not have time to go and talk to the experts who deal with this every day?

Mr Sammut—From my understanding, other experts had already consulted with these people and, again, I am not going to duplicate.

Senator IAN MACDONALD—All right. That is interesting. You say in relation to acid sulfate soil that you have done a lot of research in New South Wales, and you have got a lot of lovely photographs about problems in New South Wales.

Mr Sammut—And Queensland.

Senator IAN MACDONALD—Where are the problems in New South Wales?

Mr Sammut—They extend from the southern border to the northern border of New South Wales and they extend into Queensland as well.

Senator IAN MACDONALD—What about around the southern coast of Australia—are there any there?

Mr Sammut—To the best of my knowledge, there might be some areas around Victoria, but I have not worked in South Australia or elsewhere.

Senator IAN MACDONALD—But you are an expert on this, you would know where the acid sulfate soils are in Australia?

Mr Sammut—Not every location. They occur in Western Australia. They do perhaps occur in small pockets in South Australia.

Senator IAN MACDONALD—Which part of Western Australia?

Mr Sammut—It is a question you could probably ask Mike Melville.

Senator IAN MACDONALD—No, you are putting yourself up as one of the experts in Australia.

Mr Sammut—I am not interested in Western Australia; I do not conduct research there. I conduct the research in New South Wales and Queensland, and will commence in the Northern Territory. I cannot see where your line of questioning is leading.

Senator IAN MACDONALD—No, you do not have to see, Mr Sammut. You are just giving evidence and answering our questions—and I think my time is almost up. What work have you done in Queensland, what areas have you concentrated on?

Mr Sammut—In south-east Queensland, in the Pimpama, and I will soon commence work around the Cairns and Townsville area.

Senator IAN MACDONALD—Doing work for—or is that confidential?

Mr Sammut—It is not confidential. In south-east Queensland we are looking at the environmental impacts of acid sulfate soils in one particular catchment but also, at the same time, looking at some of the adjacent catchments. In Queensland I commence work soon with the shrimp farming industry to look at soil issues and management of soil issues.

Senator IAN MACDONALD—That is up in Cairns, is it?

Mr Sammut—Cairns and Townsville.

Senator IAN MACDONALD—You say you are doing work in the Northern Territory as well?

Mr Sammut—Yes, close to the Darwin area.

Senator IAN MACDONALD—I think you have said in your paper and in evidence that the problem is right around—the coast of New South Wales, Queensland, northern Western Australia—and it is not unique to the Hinchinbrook Channel area?

Mr Sammut—It is certainly not unique.

Senator IAN MACDONALD—Thank you, Mr Sammut.

Senator REYNOLDS—Are you aware of other scientists who feel similarly reluctant to speak out in the areas of their scientific expertise because of certain statements that may have been made, or certain actions in the past?

Mr Sammut—Yes, I certainly do know of people.

Senator REYNOLDS—Could you give some detail?

Mr Sammut—I would prefer not, because of the confidentiality of it. But I do know people are a little bit reluctant to speak because where people have spoken in the past, on hearsay and also with some documents that I have seen, there has been talk of legal action or threat of legal action, et cetera. I think that scares people. I certainly would feel very awkward myself if I was to be threatened with legal action, or similar.

Senator REYNOLDS—If I can just play devil's advocate for a moment, do you think scientists have the authority to give a particular slant to their research that may be detrimental to a particular development?

Mr Sammut—I am not sure exactly what you mean by that. I certainly believe scientists do have opinions, and they are certainly entitled to have opinions. But most scientists will argue with facts: they will use facts to underpin their opinions. Some scientists certainly support things like the precautionary principle, where they think that, even though they may not have the full suite of data, with the data they do have before them they need to act cautiously. I think in the case of Port Hinchinbrook there is a call for caution.

Senator REYNOLDS—Thank you. Professor Melville, you said in your opening statement that you were prepared to provide details of sites where you indicated there had been effective acid sulfate soil management. Could you do that for us?

Prof. Melville—Would you like me to speak to that or put it in writing?

Senator REYNOLDS—No, we will not take the time now, but if you could provide them in writing.

Prof. Melville—Certainly.

Senator REYNOLDS—I gather it would take too long to present the details.

Prof. Melville—I could just quickly say that there is a site on the Shoalhaven River, I think it is the Manildra Starches site, where an acid sulfate soil management plan has effectively been put in place. I believe that there are examples within the sugarcane industry of northern New South Wales. I believe the BHP titanium minerals Beenup mine in the south-west of Western Australia has a successful plan, as I see it, at the moment. They are examples, but I will put that in writing.

Senator REYNOLDS—Yes, if you could detail that further. The problem for this committee, and I guess the problem from the beginning, has been how we sort out the effect of the Port Hinchinbrook development from the impact of aquaculture, sugar cane, natural processes. Can you give us any indication of how we sort out the impact in this regard?

Prof. Melville—I guess with some difficulty. I have not been specifically involved in the Port Hinchinbrook site, but where you do have a number of point sources of pollution into a system it is not necessarily very easy to determine which is the main contributor. However, there are ways that if there is one discharge point from each site you could monitor each of those sites—and on a tidal regime continuously monitor each of the sites, not just spot measurements. Both with the up and down of the tide and also seasonally, depending on wet or dry conditions, it would be possible to estimate the discharge amount of water, the quality of that water and its various chemical characteristics and then do some appropriate hydrological modelling to say yea or nay whether one site is the main contributor or not.

Senator REYNOLDS—Where do you think Australia is at at the moment in terms of mapping its acid sulfate soil areas? You said there has been no Australia-wide mapping. Is this being addressed and what are the long-term plans?

Prof. Melville—The long-term plans I am not familiar with, but I understand that the SCARM committee, the Standing Committee on Agriculture and Resource Management—the agriculture and resource ministers committee—has included acid sulfate soils in their areas of priority. I believe they may be trying to promote national mapping, but more than that I do not know.

Senator REYNOLDS—You also said that funding had ceased. That was funding to the CSIRO? Is this a case of the right hand not knowing what the left hand is doing?

Prof. Melville—There are a whole range of organisations involved. AGSO—the Australian Geological Survey Organisation—is one Commonwealth funded organisation that had some role in trying new techniques for mapping acid sulfate soils. The CSIRO is also involved in mapping acid sulfate soils. I understand both of those Commonwealth organisations, for reasons of, I guess, limited finance, have had to stop those programs.

Senator REYNOLDS—They have both had to stop?

Prof. Melville—I believe both have had to stop.

Senator REYNOLDS—Can you point to what the Commonwealth policy is in relation to mapping?

Prof. Melville—I do not believe the Commonwealth has a policy in relation to mapping.

Senator REYNOLDS—It has no policy?

Prof. Melville—So far as I know, at this stage there is no federal policy.

Senator REYNOLDS—That means what is being done is very much on the basis of what states are prepared to introduce?

Prof. Melville—I believe so. The only national map of soils you might have thought would be useful was based upon CSIRO work from the 1960s and 1970s which shows Australian soil resources. There is a particular group of soils mapped on northern New South Wales and south-east Queensland, a very small area, and the comment on the key to that map is that the agricultural limit to the development of these soils is by needing further drainage. These are exactly the soils that have been drained and exactly the soils that are causing problems, so the current wisdom of mapping of Australia is giving the wrong message, basically.

Senator REYNOLDS—This is my last question, Madam Chair. You mentioned also in your submission the Kakadu National Park flood plain system. What implications are there in relation to acid sulfate soils management in the light of the proposed new uranium mine at Jabiluka?

Prof. Melville—I do not know. I made the comment, I just hoped that people have taken note of that. I started my research in acid sulfate soils on the South Alligator flood plain, and the whole of the South Alligator flood plain is potential or actual acid sulfate soil. I know it is true of the Adelaide River flood plain. It will be true of most of the East Alligator River and the West Alligator River. All of those macro tidal rivers are underlaid by acid sulfate soils. Any potential disturbance of that flood plain material therefore should take note of the fact that these materials exist.

Senator REYNOLDS—You say that you hope it was taken into account. Do you have any evidence that it was?

Prof. Melville—I have not looked at the particular case. I do not know.

Senator REYNOLDS—Thank you very much.

CHAIR—I would like to follow up on that question, Mr Sammut, of monitoring. You say that you are not satisfied with the monitoring on site.

Mr Sammut—That is correct.

CHAIR—Have you looked at the management plan? Have you had a chance to study it and, if so, what monitoring is currently required? What in your view is appropriate for world heritage?

Mr Sammut—I have not seen the most recent version of the acid management plan. The last version I saw would have been towards late last year, and I believe there has been an update since. Just to reiterate, I am a bit concerned that soil has already been moved around, although there have been updates. When I looked at the monitoring plan, as I stated earlier, I thought it was a little bit lightweight, it was not very clear in its protocols, the detail was not there. I believe that management plans should be sufficiently detailed so that anyone can pick them up and duplicate exactly what is being asked for. I do not believe that document could be picked up by anyone and duplicated. That is a concern.

I mentioned before that water chemistry seems to have been ignored by it and certain biological monitoring has been ignored. There is a need to have a very rigorous contingency plan in there. Because we do not have all the solutions for acid sulfate soils and because we do not know all of the potential outcomes of it, it is quite important to be able to have a back-up plan just in case the management plan does not work.

In the guidelines which were written by the EPA in New South Wales, they systematically work through what a good management plan should have. As I mentioned in my particular submission, the document should perhaps be looked at by this inquiry; it does form a very good basis for the actual development of management plans. In there they stress the importance of having a very good contingency plan as well. That could be incorporated into this site.

Again, as I said, unfortunately quite a lot of the soil has already been moved around, so it is very hard to go backwards. What needs to be borne in mind is that once these soils begin to oxidise, it is very hard to stop them. Even putting them under the watertable may not necessarily stop them. It may slow the process. One of the things that happens—again, it is a chemical issue—is that the iron that has been released by the process can keep oxidising the pyrite—you can have a long-term problem. It would be important to have a look at those guidelines written by the New South Wales EPA and perhaps make comparisons between the existing management plan and what those guidelines actually suggest.

CHAIR—When you were at the site recently, did you observe the soil area that had been identified as certainly potentially acid sulfate being buried in deep pits? Was that, in your view, a satisfactory process?

Mr Sammut—It is probably not really appropriate for me to answer that. It might be a question you would like to put to Mike Melville. My expertise is generally in the environmental impacts and also limnological aspects of the problem.

When I was walking around the site it was very difficult to actually place myself with the information that I have seen—I did not have information with me at the time; I was passing through. Certainly, looking at the geomorphology of that location, I believe that acid

sulfate soils would have been present. Again, what has been missing from the whole thing is detailed soil surveys. If there had been a detailed soil survey, it would have been useful for many scientists involved on this issue and also very useful to the person who is developing this location, because that information is quite critical to proper planning processes.

CHAIR—Professor Melville, perhaps you can comment then on the fact that there are very large holding ponds and sludge ponds on site which are slightly drying. One of the bund walls of those failed recently and there was a fairly large spill. Can I ask you what you regard as being satisfactory in terms of the rehabilitation of those areas? I understand that the plan is for there to be a cap over the surface. We observed that these ponds were some metres higher than the watertable. Given that there is expected to be acid sulfate soil within those and that it is exposed currently, what in your view is an appropriate method of rehabilitation of those ponds, and is it adequately covered by the management plan in place?

Prof. Melville—I do not know the specifics of the management plan but, in general, if you were asking me the question about whether acid sulfate soil material should be bunded at elevations above the watertable, it is an area that I am concerned about. I particularly mention the Beenup mine. They have 90 hectares of bunded material at this stage that they are currently developing to create the void for the mine. It is up to 15 metres above the surrounding area. Of all the things about the mine that I would be concerned about, I am particularly concerned about that because of the longevity issue.

So far as I know, these bunding systems are seen as a short-term storage. Unfortunately, the material that might be stored in there contains the concentrated iron pyrite. If those bunds that you are talking about at the site at Hinchinbrook are also from dredging, the fines left over after the dredging process, I do not know the exact nature of them but in the short-term you can keep them saturated and not a problem. But what happens if the bund wall breaks? This material is basically a jelly quite often, 70 or 80 per cent water and a very small percentage of solid that remains, and they will flow. If they flow under water, that is perhaps not a problem—it might smother things but it will not oxidise. But if they flow across the landscape, then, in a thin film, they will oxidise and you will have a very rapid oxidation and an environmental problem, such as at Captains Flat mine, which I mentioned before. There are examples where bunded systems, saturated systems, are an adequate management plan for the moment, but I am not sure about the specifics at Hinchinbrook.

CHAIR—Going back to this question of the spill, it was suggested that, should the material which is spilled become acid sulfate, shell grit might be applied and that would solve the problem. Is that, in your understanding, an adequate response?

Mr Sammut—It depends really. You need to sample that material, do the appropriate analysis for it and then make the right calculations. I think lime would probably be more appropriate because with shell grit the shell will actually begin to react with the acid but will become coated perhaps with iron and aluminium, and it may not fully neutralise any acid produced, so lime would be a better agent. But, again, you have to have the right liming requirement for it. You need to have the right type of lime as well.

CHAIR—You would expect that to be in the contingency plan?

Mr Sammut—Exactly.

CHAIR—Would you also expect that there would be testing and monitoring going on now with that material?

Mr Sammut—Most certainly. It is definitely an ongoing process because of the fact that these soils change over time.

Prof. Melville—Even using agricultural lime as a remedial material, the guidelines that we are working on specify it must be ultra-fine—in other words, not just coarse ground rock limestone or something. Shell grit, I do not think, is a very good agent. In the case of the Netherlands, when they converted their polders they used the marl, the underlying material which is basically very, very fine shell grit material.

CHAIR—Are there any problems posed to buildings which are erected on material which may still have acid sulfate soil beneath them, to your knowledge?

Mr Sammut—There has been evidence in New South Wales and also in Queensland where acid will eat away at the concrete foundations. It can also eat away at pipes. I am not sure of the figures. The Tweed Shire Council had to replace many kilometres of pipeline which was corroded by acid. Hastings Shire Council had to do quite a lot of repairs to their bridge pylons because the acid ate at the concrete. There are quite a lot of floodgates in these areas which get acid rust very quickly, or the concrete footings also break down quite rapidly, so there is a risk to buildings.

CHAIR—So you would expect there to be not just a structural investigation of the fill? I gather many of the building sites have fill beneath them, but is there also a need to examine them for acid sulfate soils?

Mr Sammut—Certainly. As I said before, it is not just in the interests of the actual environment, it is also in the interest of the developer to make sure that this information is collected.

CHAIR—Thank you very much for appearing before the committee today. We did have a lot of questions to put to you which we have not been able to get through, unfortunately. Would you consider coming back to the committee, should we decide to ask you more questions? Receiving our questions in writing might be another way of doing it.

Prof. Melville—Certainly.

CHAIR—Thank you very much for appearing today.

[11.00 a.m.]

TALBOT, Professor Frank Hamilton, 48 Kallaroo Road, Lane Cove, New South Wales 2066

WHITE, Professor Ian, Jack Beale Professor of Water Resources, Australian National University, Canberra, Australian Capital Territory 0200

CHAIR—Welcome. In what capacity do you appear today?

Prof. Talbot—I am appearing in a private capacity.

Prof. White—I should add that in addition to being the Jack Beale Professor of Water Resources at the Australian National University, I am also the Research Director of the Water Research Foundation of Australia.

CHAIR—The committee has before it submissions 127 and 128, which it has authorised to be published. Before we move to a brief opening statement, are there any alterations or additions that you would care to make at this stage?

Prof. White—No.

CHAIR—I invite you to make a brief opening statement.

Prof. Talbot—I would just like to say that each year, as an adjunct professor at Macquarie University, I am asked to do a bit of teaching, although I mostly write now. I give a few lectures in the environmental decision making course. I use the Hinchinbrook Oyster Point story as an example of a planning disaster and how not to do it.

One looks at the first reports, including a report going way back by the marine department of Queensland; a senior planner for the district; a preliminary report from the Department of Environment in the preliminary permanent assessment record; a report by Peter Valentine in 1994, and it goes on and on. All of those groups and individuals and the chairman of the Australian Heritage Commission, Wendy McCarthy, and the president of the Australian Academy of Sciences made clear statements that this was an extremely doubtful development and that far more work was needed before it should be given any approval. Peter Valentine, in fact, produced 15 different problems that might arise.

To understand these, one really needs scientific information and particularly perhaps on the dugong population: how they use the area, what is happening to those populations and why, and also information on the seagrass beds, which are in quite a thick fringe in the shallow water below the site. Of course, there is the fact that both are in a world heritage area.

That scientific work was not done. You would have to find out a number of things that you would want to know to have some ability to assess what the impact was going to be.

For reasons that are to me quite obscure, the Queensland government decided not to call for an environmental impact assessment and appropriate research work.

There are lots of questions one would like to ask. They are questions like how long the water in that channel is retained? If nutrients or siltation goes into the channel, how long will that remain there at different periods of the year? That work was not done. What impact would different light values on those seagrasses. Seagrasses do not go deep in that area because the channel is relatively murky and they cannot live in deeper water.

What would happen if you upped the turbidity and how much the turbidity would be increased would give an indication of the impact on those seagrasses. Another question one would have asked before any removal of mangroves, many of which were quite elderly being 50- or 60-years-old, would have been what impact would that have on erosion?

I think the fact that the work was not done and no research work was done beforehand and that no proper environmental impact assessment was made but just a really trivial exercise of pulling material together, which was called an environmental review, is a breakdown of essential environmental process and planning process. That would be anywhere. However, this was impacting world heritage areas. I think that is even more important. It seems there was also no idea of what the planning for the channel was and the Hinchinbrook area. Did one want to retain natural values? Did one want the foreshore, for instance, covered in housing? What were the objectives of planning? There was nothing like that.

So without this work, if one wants to look at the impact, one would say, 'What experience can you get? What scientists have done work in this kind of area?' The only ideas of impact you can get are the assumptions—because there is no way you can prove what will happen—that the best expertise can give. Of course, we know that literally hundreds of scientists, but many of those with special expertise in the area, have said that there would be impact on the world heritage area.

Prof. White—I have a brief opening statement I would like to make. My involvement with the Port Hinchinbrook development stems from a request by the Great Barrier Reef Marine Park Authority on 23 October 1996 to review the acid sulfate soils management plan by 25 October 1996. That review was done by myself and my former colleague Dr Greg Bowman, from the CSIRO, who conducted the preliminary acid sulfate soil assessment of that site.

My review to GBRMPA said that, with the amount of information that was given in the management plan, it was not possible to assess the adequacy of that plan or the impacts that it would have. There was simply insufficient information. In the very brief time that we had to comment, I provided some suggestions on what was needed on an acid sulfate soil management plan. I heard nothing more about it, except that work had already commenced on the site, when it was probably a month old, and the deed agreement had already been signed.

I have worked since 1990 on acid sulfate soils. The thrust of that work has been to improve professional practice in that area. I am pleased to say that Australia has come a long

way since acid sulfate soils were first discovered. We have come to acid sulfate soils very late in Australia. In the Netherlands, they were discovered 276 years ago. The first detailed work in Australia was only done 30 years ago and interest really only started in 1987 when massive fish kills occurred on the Tweed River. Since that time, we have developed research expertise, and professional practice in the consulting industry and farming industry on using and managing acid sulfate soils.

The committee has asked some very penetrating questions on acid sulfate soils. There are some very successful developments that have been done on acid sulfate soils. Professor Melville and I were commissioned by the New South Wales Roads and Traffic Authority to write a report which would underpin their policy on developments in acid sulfate soils for those who use the Pacific Highway. As you go north past Kempsey and south of Tweed Heads, you drive across reclaimed acid sulfate soil road base. It is quite possible to do it. It is an expensive proposition. One lesson that I would give to the committee is that, in order to manage the soils properly—and they can be managed properly—it costs. It is expensive. The RTA recognise that. The cost of treating the road based material that they used in the Chinderah bypass, was $30 per cubic metre as opposed to the normal cost of $10 per cubic metre. So it is an expensive proposition.

Canefarmers in northern New South Wales have taken up the research that we have done there, decreasing the drainage density, laser levelling the land, at a cost to themselves of up to $10,000 per hectare. The outcome of that is increased productivity for them and also decreased acid outflows. Again, it is possible to treat these materials quite successfully. But it costs.

The one thing I was going to add on the whole question of development in world heritage areas is this. As you are well aware, the eyes of the world are on us when we do any development that could potentially impinge on a world heritage area. Australia has developed and is developing a significant industry environmental management. If we do not use best practice in these areas, it sends a signal to the rest of the world that we are not up to scratch. There are significant consultancies and jobs out there for Australian industry in other parts of the world. I believe that, by not using best practice in such areas, we are sending a message out that our environmental management strategies are not up to scratch.

If you go to southern Queensland around Robina, there are urban developments there that have been done quite successfully on acid sulfate soils. The whole Merrimac flood plain is acid sulfate soils. The developments that have been done there are being done in consultation with consultants who have extreme experience in acid sulfate soils. In those developments, the approach has been, ‘Tell us what to do and what costs will occur in this development and we’ll know whether it is economic or not’—a thoroughly professional approach. Thank you.

CHAIR—Thank you.

Senator PAYNE—I will start with a question to Professor White. Have you visited the Hinchinbrook site?

Prof. White—No, I have not.

Senator PAYNE—In your submission, on page 8, under point 8, you state that, in reference to environmental scientists:

Many of those who have raised genuine concerns about the Port Hinchinbrook Development have been subject to personally derogatory press releases by both the offices of the Federal and State Ministers and by the developer.

This is an allegation which has been made on both sides of this issue in the hearings that we have had. I have had a look at the federal minister's web site at least and at his press releases in a fairly comprehensive way. I found many which relate to Hinchinbrook, but I have found none which are personally derogatory press releases issued by the federal minister in relation to environmental scientists. I would be very grateful if you could provide the evidence of your allegation for the committee.

Prof. White—No; I apologise for that. I was thinking of the developer. I was led to believe that Senator Hill had cast some doubt on people who had raised things. That was not correct and I apologise for that.

Senator PAYNE—Thank you, Professor White, I appreciate that apology to the minister. I would be very interested to hear who is, in fact, making those allegations because I think it might be appropriate for the minister to address those issues. He should at least have the opportunity, if they are being made publicly, as you suggest.

Prof. White—Yes.

Senator PAYNE—Can you give me some idea of who those people might be?

Prof. White—No, I cannot. I might give it in writing under consideration.

Senator PAYNE—I would appreciate that; it would be very helpful. In your submission, I also note that you refer to a memorandum issued in September 1996 relating to acid sulfate soils under the title, 'The process of Review and Acceptance of the Acid Sulfate Soil Management Plan'.

You note that the memorandum raises a couple of concerns about the process and you say on page 7:

The above also suggests that all parties to the Deed of Agreement did not or could not treat the management plans seriously.

Professor White, have you seen the press release issued by the minister in November 1996, a brief period after the memorandum to which you refer?

Prof. White—No, I have not. The reason I made that statement was that if, in fact, development occurred on that site one month before we were asked to comment on the draft acid sulfate soils management plan, it would indicate that acid sulfate soils were not a major concern with the development.

Senator PAYNE—In terms of making allegations in relation to the level of seriousness, which the minister has in addressing these issues, you make quite serious allegations there. Is there any particular reason why you have done that?

Prof. White—Yes; I will go on and elaborate, if you like.

Senator PAYNE—Could I finish my question?

Prof. White—Yes.

Senator PAYNE—Is there any particular reason why you ignored the minister's follow-up press release, which was obviously made in plenty of time for you to know about it in relation to your submission, where he says that he was advised by GBRMPA that the deed was not being complied with, in that an independent monitor had not been appointed and certain works were occurring before the turbidity control plan had been approved? Accordingly, the minister had written to Dr McPhail, chairman of the GBRMPA, asking him to take appropriate action to ensure the deed is complied with. Is there any reason you do not acknowledge that action of the minister in your submission?

Prof. White—No, there was not. Let me say that, if they were taking it seriously, then there were corrections required to the acid sulfate soils management plan in terms of surveying the soils properly before any work started. One of the things we have done in New South Wales under the guidelines that we have issued is that, as a prerequisite to any work on any acid sulfate soils, there must be appropriate assessment of the material there. That had not been done at all at that stage.

Senator PAYNE—Could I seek your view of the steps that the minister has taken in relation to these issues? He has asked GBRMPA to take appropriate action to ensure that the deed was complied with, that the independent monitor for acid sulfate soils was appointed and a plan be in place which will minimise risk to the world heritage values.

Prof. White—Who was the independent monitor for acid sulfate soils?

Senator PAYNE—I am asking you for a response to my question.

Prof. White—The reason I ask that is because it is relevant. My understanding was that the QASSIT team were not appointed as an independent monitor for acid sulfate soils. There was an independent monitor appointed but the brief was not particularly acid sulfate soils.

Senator PAYNE—You are still raising concerns in relation to the minister's steps and you are not acknowledging the steps he has taken?

Prof. White—Yes, I am indeed.

Senator PAYNE—So you do not acknowledge the steps the minister has taken?

Prof. White—No; I am saying that there are significant questions about the monitoring of the acid sulfate soils particularly.

Senator PAYNE—Professor White, what I would very much like your response to is whether the steps that the minister has taken, in terms of what he asked GBRMPA to do, in terms of the plan being put in place, were appropriate steps to take? As I understand it, they were steps you thought ought to be taken.

Prof. White—Yes, that is right.

Senator PAYNE—Could I also ask you a question in relation to the work of QASSIT. Do you accept or support the expertise that QASSIT has in this area?

Prof. White—One of the QASSIT team members is actually a member of my acid sulfate soils management advisory committee, which I chair. I invited him to that committee because of his expertise. Yes, I do recognise their expertise.

Senator PAYNE—In your submission, you indicate that QASSIT informed you that the adopted management plan was changed in only minor details.

Prof. White—Yes, that is what they informed me.

Senator PAYNE—As I understand it, in the executive summary that was supplied, in relation to the assessment of the revised plan, what they, in fact, said in April 1997 was that the revised acid sulfate soil management plan submitted by the company is a substantially improved plan and, if complied with, it should result in negligible risk to world heritage areas. Careful monitoring and adjusting for any unforeseen circumstances would be needed. Do you agree with their assessment that the plan is a substantially improved plan?

Prof. White—It is improved.

Senator PAYNE—Thank you.

Senator HOGG—Professor White, you mentioned that there was a preliminary assessment done by Greg Bowman of the site?

Prof. White—Yes.

Senator HOGG—Did that include mapping of the site?

Prof. White—You would have to ask Greg Bowman that. He did some preliminary soil analysis at the site, but not of the detail required for a management plan. That was also his advice.

Senator HOGG—Were there any other mappings done of the site that you know of or are aware of?

Prof. White—Not that I am aware of, no. Certainly not in the detail required to assess the detailed project on management and construction at the site.

Senator HOGG—Do you have any model of a site that has been mapped so this committee could have some idea of what mapping entails? I must admit that I have no concept of what a map of a site where potential acid sulfate soil is found looks like.

Prof. White—There is a very good example in an EIS done on Shell Cove development in New South Wales. That provides cross-sections showing acid sulfate soils. This was what I recommended to GBRMPA was needed on that management plan. It shows a cross-section of where the material is so that you can know where you need to place material. It is absolutely essential if you are digging this material to know at what depth the material occurs, how deep it occurs. It gives you an idea of what you can do. For example, over-excavation of sites and burial beneath the acidic material is quite an accepted way of dealing with these materials.

Senator HOGG—Would that also show you where the watertable is?

Prof. White—Yes. The plan should show where the watertable is as well. That is of paramount importance.

Senator HOGG—In this case it would not only map the site itself but it would map the surrounding environs such as the channel where dredging has taken place?

Prof. White—Yes, that is absolutely correct. In fact, the Shell Cove development has some parallels because their plan is to dredge out a marina there. That had to be all shown on the plan.

Senator HOGG—If you could make that available to us I would be most interested in looking at it.

Prof. White—I will certainly do that.

Senator HOGG—You say that no such plan was evidenced in the Hinchinbrook development?

Prof. White—The preliminary plan that I was asked to comment on provided none of those details.

Senator HOGG—What about the earlier development that took place prior to Cardwell Properties taking the site over? Were you aware of any mapping that took place at that development?

Prof. White—No, I was not. Let me say that in 1993 when we held the first national conference on acid sulfate soils it was considered that acid sulfate soils were a New South Wales problem, that they did not exist in Queensland.

Senator HOGG—The other issue I want to raise is in respect of how long these soils take to oxidise. You have said in your submission the great lesson on acid sulfate soils is that once oxidation has been initiated there is no going back. I want to know what span of time.

Prof. White—I will elaborate that statement in a couple of ways. The reason that there is no going back is because the oxidation process actually changes the soil, changes its chemical nature. You get large amounts of acidity that is actually stored in the soil. One of the critical issues is not just the generation of fresh acidity but the amount that is stored. That is a significant issue in trying to rehabilitate areas that have been drained.

The second thing about the oxidation rate is that it depends on the environment which it is in. It depends on the nature of the material. If it is sandy material with high porosity so that air can get in then it can oxidise very rapidly.

Senator HOGG—Would this occur naturally anyway in sandy material?

Prof. White—Yes, there are areas of natural oxidation that have occurred. For example, on the Magela Creek flood plain in the Northern Territory there have been quite naturally occurring fish kills that have occurred from simple natural oxidation in those areas where there are large watertable fluctuations due to the tidal variations there. That can occur quite naturally.

Senator HOGG—Is there much research available on where this occurs naturally, or is this again—

Prof. White—There is some. Dr Greg Bowman has done some on looking at acid fluxes coming out of mangrove swamps on low tides, so there is a small amount, but not very great. Most of it is concentrated on the increased fluxes that you get once you disturb them.

Senator HOGG—You were saying, though, that the oxidisation depends on the type of soil?

Prof. White—Yes. If they are sandy, they oxidise much more rapidly, particularly if they are above the watertable, of course. They have to be above the watertable so that air can get in them. If they are fine textured, the oxidisation process occurs quite slowly, particularly as some of these materials are very unconsolidated sediments with very, very low porosity in terms of air penetration.

There are areas, for example, that we know that have been drained 100 years ago that are still producing acid and still have a large amount of acid in them. Our estimate from some of the work that we have done in terms of looking at the fluxes and the amount of material that is in them is that these can oxidise up to 1,000 years. You can have a perpetual bleeding out of acidity over a long period. Certainly there is evidence of at least 100 years of oxidation that is still occurring.

Senator HOGG—All right. Let us take a step back prior to the current Cardwell development. There was another developer there who undoubtedly, as I understand it, did an amount of excavation and would have exposed potential acid sulfate soils, one could assume. Now one could also assume that, with the previous developer going bust, or not being able to proceed with the development, that those soils were allowed to lie in substantial heaps. It would be therefore reasonable to assume that those soils would have oxidised?

Prof. White—One would presume so, yes.

Senator HOGG—How long would it take for those soils to oxidise given that they were piled up in a mound? I do not know the size of the mounds, but let us say they were reasonably substantial. How long would it take? And would all of those soils oxidise, or would it only be those near the surface?

Prof. White—If I can draw on experience, where acid sulfate soils have been excavated by farmers along drain banks and things like that, you find that there is a veneer of oxidation that occurs at the surface, but underneath you can still find material that is unoxidised. So it depends on the material and it depends on the circumstances, how they are excavated, how high the pile is. Certainly they would be oxidised, or oxidising. It is difficult to say without testing.

Senator HOGG—Would it be possible to bury those soils to prevent further oxidisation and, in effect, neutralise their potential threat?

Prof. White—There is a number of strategies that you can do with those—capping them with material that is impervious to air, adding lime. Burial is another equally appropriate strategy.

Senator HOGG—Are they buried below the watertable?

Prof. White—Burial below the watertable is by far the best strategy, yes.

Senator HOGG—What about the current site where they are dredging out the marina? We were up there the other day and saw an excavator actually down in the marina area scooping out huge amounts of soil which we saw being buried in large pits. If those soils are being exposed, are they immediately becoming not just potential acid sulfate soils but acid sulfate soils which, when buried, will react with the water and leach anyway?

Prof. White—Again it depends on the nature of the soil. For example, at Shell Cove, our recommendation was that the soils not be stockpiled for more than a day before burial. The assessment there was there would be insignificant oxidisation to cause any problems whatsoever. But it depends on the particular particle size of the material being oxidised.

Senator HOGG—It is quite possible to excavate some soil, rebury it under all the proper conditions, and that soil to no longer pose a threat?

Prof. White—If it is below the watertable so that no air can get at it, yes. That is a good technique; that is probably one of the best techniques.

Senator HOGG—What if there is an actual supply of fresh water where it is being buried and that fluctuates, as it could do, due to the wet season or due to usage—as, I think, is envisaged on the site of the Hinchinbrook development?

Prof. White—The normal recommended procedure is to bury it below the watertable. There are examples of where people have tried to put material above the watertable. The

long-term viability of that is uncertain. That occurs mainly in the mining industry, where there are also sulfatic materials that oxidise. One of the strategies being used is to cap material above the watertable surface, and questions have really been raised about the long-term viability of that as a treatment procedure. The safest procedure is to bury it below the permanent watertable.

CHAIR—Professor White, what does the management plan require in that respect? What determines the method of treatment of both the material that is taken and buried and the material which is stored behind bund walls? What is the actual requirement?

Prof. White—Okay. This is why you need a detailed acid sulfate soils assessment of the site. If the material has a fairly coarse grain size and a large concentration of sulfides in it, it is potentially very risky because you can get very rapid oxidisation and you have got the potential for large amounts of acidity. So you want to get that material out of the way as quickly as possible and, for that purpose, burial beneath the watertable is a very good option. If the material is in a clay matrix, so that the soil itself has a large amount of neutralising capacity, and it is fine material with a small amount of sulfides in it, then placing it above the watertable and capping it is quite a valid proposition, and that is what is being done at the Olympic Games site at Homebush.

CHAIR—But your argument is that we do not have the baseline data on this site in order to even know the answers to those questions.

Prof. White—We do not have that sort of information, and that was why we suggested that the management plan include that information.

CHAIR—You also draw attention to the word 'should' in the management plan and suggest that it is inadequate.

Prof. White—It does not give you much confidence that this is a serious management plan, when it uses the word 'should'.

CHAIR—It seems to me that the management plan is fairly central to this committee's inquiries. You said earlier to Senator Payne that the management plan, the second time around, was improved. I think it is important for you, if you would not mind, to expand on that so that we know the degree to which it was improved and how.

Prof. White—It was improved in that it gave more details. The problem with the original draft was simply that there was insufficient detail. It read more like a summary than a plan. In the EIS that I will produce for the committee on Shell Cove, you will see what a detailed plan requires.

CHAIR—So in what way was it improved?

Prof. White—There were more details on what was going to be done with the acid sulfate soils material: it was expanded.

CHAIR—But it was nonetheless inadequate, in your view?

Prof. White—You needed the baseline data. One of the things that the deed of agreement requires is that there be no change in the receiving water. There was no information on the receiving water, so how would you know whether you were successful or not?

Senator IAN MACDONALD—Professor White, you have done no original research on this yourself, and your involvement has consisted of reviewing the work of others: is that right?

Prof. White—On Hinchinbrook? Yes.

Senator IAN MACDONALD—Just following up the chairman's question, on the draft plan, I think you said the overall management philosophy for acid sulfate soils at the Port Hinchinbrook site is in general accord with accepted practice. Do you remember saying that?

Prof. White—Yes. That says that the right words were there but that, in the details, where you really need a plan, it was lacking.

Senator IAN MACDONALD—This was the draft plan.

Prof. White—That was the draft plan.

Senator IAN MACDONALD—You then told Senator Payne you have high confidence in QASSIT, or some of the people on QASSIT.

Prof. White—Yes. I have high confidence in both their thrust and the technical competence of their people.

Senator IAN MACDONALD—Following up again on the question the Chairman asked and that Senator Payne also referred to, QASSIT says that the revised acid sulfate management plan submitted by the company is a substantially—and I emphasise 'substantially'—improved plan and, if complied with, should result in negligible risk to world heritage areas. That does not seem to accord with your view, yet it is by QASSIT, for whom you say you have some regard.

Prof. White—I presume you have interviewed the QASSIT team?

Senator IAN MACDONALD—I am reading—

Prof. White—Is that—

Senator IAN MACDONALD—No, I have not—

Prof. White—I think it would be instructive for the committee actually to ask the QASSIT team that, rather than ask me.

Senator IAN MACDONALD—Are you suggesting that QASSIT's assessment of the revised management plan is not honest?

Prof. White—I was actually shown some photographs by members of the QASSIT team, about a month ago, and they stated that they were very worried by what was happening.

Senator IAN MACDONALD—So you are saying that this assessment, which seems to be dated 1 April 1997, is not honest, are you?

Prof. White—I think it might need amplification by QASSIT.

Senator IAN MACDONALD—I see. Professor, both you and Professor Talbot have said things in your submissions—which normally the committee would rely upon—and then, when challenged by Senator Payne, you have said, 'Well, it wasn't Senator Hill who said that.' Then you have said that you will consider whether you will tell us who told you that. I wonder how much of the rest of your evidence is based on what other people have told you that has turned out to be inaccurate.

Prof. White—No. That is a good question, but the material I have told you about, the management plan, is open for anybody to look at. For example, you could call Dr Bowman and ask his opinion on it as well. I think you would find there was general agreement that this was inadequate. If you were to look at the amount of work that has gone on, both in Queensland and in New South Wales, in the development industry and in mining and farming, by people who are actually spending their hard-earned dollars producing best practice, you would realise that it was not very—

Senator IAN MACDONALD—But why won't you tell us who has made these allegations? As well, Professor Talbot corrected his own error about this being zoned as industrial. I wonder where you got that from initially, Professor Talbot.

Prof. Talbot—It was just an error on my part. The term 'industrial' was incorrect. 'Commercial' was used in the original deed that I saw. I made an error and corrected it the next day.

Senator IAN MACDONALD—Yes, you did; and I acknowledge that. Professor White, your line in your submission was that nobody has taken this management plan and the deed of arrangement seriously, and you used the fact that no-one was really looking after the acid sulfate plan. In response to Senator Payne, you then said that you did not think an acid sulfate monitor had been appointed. Had you to spoken to Professor Saenger about whether there was an expert on acid sulfate soils?

Prof. White—Professor Saenger does have a member of his staff who has worked on acid sulfate soils. You would have to ask Professor Saenger how closely he was involved.

Senator IAN MACDONALD—No; did you ask Professor Saenger before you made these submissions?

Prof. White—No.

Senator IAN MACDONALD—Did you ask if there were any properly qualified people monitoring the acid sulfate?

Prof. White—Yes; I have asked the QASSIT team that.

Senator IAN MACDONALD—And what did they say?

Prof. White—Their response was they were not the independent monitor on acid sulfate soils.

Senator IAN MACDONALD—I must say that that is news to me and I am sure it would be news to QASSIT, because QASSIT is in fact the acid sulfate monitor.

Prof. White—That is interesting.

Senator IAN MACDONALD—When did they tell you they were not?

Prof. White—That would have been when this first started.

Senator IAN MACDONALD—Put a date on that, would you?

Prof. White—That would be probably in April last year.

Senator IAN MACDONALD—So you have not checked with Professor Saenger, or anyone else since, whether Senator Hill is considering this matter seriously by making sure there is an acid sulfate monitor there.

Prof. White—My statement rests with the whole procedure. If the committee's thrust is not to repeat the mistakes that have been made, then my statement was about the procedures that occurred. The deed of agreement was signed before there was a management plan.

Senator IAN MACDONALD—You can understand that I have some doubt about your evidence because it seems to be contradictory in so many ways. I am just trying to work out which is the correct part and which is the incorrect part.

Prof. White—What are the facts? Was the deed of agreement signed before the management plan was produced? Yes, it was. Was work commenced before the management plan was produced? Yes, it was. In most circumstances this simply never happens. You understand then that we were asked for a response in two days by GBRMPA on a plan that was already being acted on. I do not even understand why a review was called for.

Senator IAN MACDONALD—I accept that, but some of the comments you have made in your paper—

Prof. White—Would you believe that was taking an acid sulfate soils management plan seriously? In my view, it was certainly not. I know of no development—

Senator IAN MACDONALD—There is a monitor appointed, Professor White. Is that not taking it seriously? A respected monitor, one whom you yourself indicate you respect.

Prof. White—No, I am talking about the process. I know of no development that takes the matter seriously that has called for a management plan after development has occurred. I do not believe that shows seriousness on anybody's part.

Senator IAN MACDONALD—Professor, you have been fairly public in your opposition to this site. Have you raised your voice publicly in other areas of concern that you see up and down the Australian coastline?

Prof. White—Yes, I have. I am also chairman of the Oyster Research Advisory Committee.

Senator IAN MACDONALD—Just give me some details of that.

Prof. White—I have made public my concern about the decline of oyster production in estuaries up and down the New South Wales coast. It is an export industry and an industry that generates employment. The water quality in our estuaries is decreasing and so is production. We are losing export dollars because of that.

Senator IAN MACDONALD—I do not want all the details. Just name them.

Prof. White—That was on ABC radio and in the press.

Senator IAN MACDONALD—Okay, we have got that one, what else is there?

Prof. White—Other things that I have raised issues on?

Senator IAN MACDONALD—Publicly. Perhaps that is a bit hard. Could you drop us a note and list the ones that you have done?

Prof. White—Yes.

Senator IAN MACDONALD—Finally, I put this scenario to you: if there were a lot of barramundi caught in that original Tekin hole and in the channel, would you expect them to be affected by acid sulfate run-off from the original Tekin thing?

Prof. White—Because I do not have any detailed information on that original, I could not predict that at all.

Senator IAN MACDONALD—I thought you said in reply to Senator Hogg that you thought, just from using your general knowledge, that there would have been some acid sulfate run-off from the original Tekin—

Prof. White—But that did not say that there was necessarily going to be an impact, just that acid would be generated.

Senator IAN MACDONALD—So it is possible to have acid generated and not impact on the environment.

Prof. White—Absolutely. In mangrove swamps, at every low tide, there is normally an efflux of acid. That is accommodated for by the natural buffering capacity of the ocean.

Senator IAN MACDONALD—Have you looked at what has been done in this area in recent times? Have you read work on the acid sulfate impact amelioration process?

Prof. White—Generally?

Senator IAN MACDONALD—At the Port Hinchinbrook site.

Prof. White—No.

Senator IAN MACDONALD—I think your evidence is that you can manage these things. In fact, your comment to the draft plan was that you can manage these things provided you do it properly.

Prof. White—Absolutely. That has been our thrust all along. The SCARM working party on acid sulfate soils has produced a draft national strategy. They can be managed. That has a general map of acid sulfate soils throughout Australia, so it gives you an indication of where they are.

Senator IAN MACDONALD—I put to you a hypothetical: if QASSIT, for whom you have some respect, are doing the acid sulfate monitoring, would that relieve some of your fears on that aspect of the project?

Prof. White—Yes.

Senator WOODLEY—Perhaps I will ask Professor Talbot some questions first and let Professor White get his breath back. You raised some issues about waterfront houses lining the Hinchinbrook Passage along the front passage. I think one of the questions—and this would be useful information for the developer—is do you believe that the stability of structures along that area needs particular attention?

Prof. Talbot—Did you say stability?

Senator WOODLEY—Yes.

Prof. Talbot—I have not been so much interested in the stability. What interests me greatly is the aesthetics of the area. The original plan was one which I and many others felt was too large in scale for that area and had a marina which should be elsewhere. At least that had a boulevard which separated the foreshore from the housing. I gather the housing is something like two storeys high.

Since that time, of course, the plan has fundamentally changed. It is a resort plus a housing development. The housing has something like 100-plus houses and 55 of those are directly on the waterfront. The marina behind has been increased in size considerably and additional houses line that marina. It is a canal development as well as a waterfront housing development. The normal setback requested by the Queensland beach authority is 110

metres. I am now told that these houses will be 20 metres from the high tide mark. I have seen two figures of 20 metres and 40 metres.

The channel has been used for 50 years as a beautiful area. One of the statements made by people earlier on was that the early ships that used to go up there carrying passengers would actually switch off engines if the current and winds were correct and drift through the channel to allow their passengers to enjoy the area. In other words, the aesthetics of the area are extremely important.

To my mind, no-one has addressed aesthetics. If you look at all the environmental impact information, there is nothing on the aesthetics, and yet it is the beauty of the area that hits most people and that is most important. To put 55 houses along the waterfront and flog them to wealthy people above an area, which was a marine park that protected the development from the waterfront, is environmental insanity. It just is totally wrong. Now as you go down that channel, you will have housing and, if this is done in this area, what will be done in areas further south where an additional area has been leased to the developer?

I am deeply concerned about what overall plan there is for the area. Is it to remain an attractive area that visitors from both Australia and overseas go to enjoy? I think Neville Shute wrote in *A Town Like Alice* that this must be one of the most beautiful areas in the world. He was saying that about the Hinchinbrook area.

What are the plans for the area? It seems to me that this developer has changed his views and has been given, basically, open slather. I find that quite uncomfortable; I am very unhappy about that. In a planning process, there does not seem to be any overall plan as to how you want to look after that area, or what its future is going to be. It is first come, first served.

I am afraid the developer has had a track record on Hamilton Island which I find uncomfortable, too. Here, high-rise buildings have been placed in an area of islands which is our premier area in Australia for yacht charters. Again, I think that is a very poor planning record, setting an airport on an island where peace, quiet and beauty is paid for by visitors from overseas and elsewhere. Are we doing the same here is my concern.

Senator IAN MACDONALD—When was Hamilton Island done?

Prof. Talbot—That has been there a long time, of course.

Senator IAN MACDONALD—We have moved slightly since then, haven't we—we as a community?

Prof. Talbot—I am doubtful when I see what is happening here.

Senator IAN MACDONALD—Are you suggesting there is going to be high-rise and airports?

Prof. Talbot—I am not suggesting that—

Senator WOODLEY—Senator Macdonald has had his time.

Senator IAN MACDONALD—I am sorry.

Senator WOODLEY—I wonder if Professor White has any advice he would give the developer about construction of buildings on that site—if it is too hypothetical, just pass.

Prof. White—I would like to make one observation and that is that when you have areas that are disturbed acid sulfate soils, you have two options: either the community picks up the tab for it, and of course that is what has happened in the case of acid mine drainage at places like Rum Jungle and Captains Flat, or else you encourage higher return developments to work on them, but they have to be high return and they have to be profitable. That is certainly a technique that we have used with the farming industry. Some developments on acid sulfate soils are simply not cost effective because the return is too low; there are others that are, and we encourage those. With this site, because it is a disturbed site, a good, successful, high return development might be a cost-effective way of treating the site.

Senator WOODLEY—I have one more question to Professor Talbot. Could you make some comment on the impact on world heritage obligations?

Prof. Talbot—My own involvement in looking at seagrass beds and tropical marine areas, coral reefs, has been in pulling together the information world wide to write a book for UNESCO about what is happening, the changes that are occurring, and pulling other scientists' work together. There is no doubt in my mind that the impact will be quite severe on the dugongs, through both activity and possible boat strike. This is a shy animal and I am sure you know from others that its numbers have dropped very radically. It is considered to be a species in danger of extinction, it is a very, very unusual animal and I believe there will be an impact on the dugong populations.

I also believe that, in that shallow water area and with seagrass beds which are light limited, increased suspension of materials will be impossible to stop. In other words, the boats that will be using the channel must include large vessels to get people to destinations on the reef and if we have a population of just under 2,000 people—I think it is 1,800—plus the houses, the boat traffic will be considerable and some of those large boats will be resuspending solids from the bottom. In addition, we know that the areas from which the mangroves have been removed are eroding—we have information on that from a GBRMPA site inspection. Some of that silt, a group of scientists who were there unanimously agreed, will in fact move towards and settle on the seagrass beds.

There will have to be dredging on a regular basis to keep the channel open, not just inside the site but out into the deeper water in order to get vessels there. It is a very silted area so you get a lot of silt coming in. It will need continual dredging. With the beach that has been placed there, which has been stated to be to protect the upper end of the shore from erosion but basically forms a beach which was refused earlier on and I gather is now acceptable, that beach sand is also going to move—the first storms that come will move that beach sand—and that will need continual replenishment. There are costs that have been stated, which are quite high ones, for continuing to keep that as a beach. Some of that material is also likely to go on those seagrass beds. I think it is very reasonable to say, as

best one can as a scientist involved in this kind of area, that in the long term those seagrasses are going to be damaged. I am not sure whether that answers your question fully.

Senator WOODLEY—I do not know if I have any time left.

CHAIR—You have not really, Senator Woodley. Senator Reynolds.

Senator REYNOLDS—I wanted to ask Professor Talbot a question about the way in which the scientific community has responded to certain counterclaims about the evidence. I would like to ask you the same question I asked an earlier witness. In opposing this development on the basis of scientific evidence, have you felt personally intimidated in any way?

Prof. Talbot—I might answer that in two ways. One is that I personally have not felt in any way intimidated. People have said scurrilous things in the newspaper about my 'debasing my scientific knowledge', or something to that effect, but this has not worried me a tittle. I have, however, been very distressed, and have actually written to a vice-chancellor, about pressure put on one individual who has worked in this area and who has been twice called before vice-chancellors on the basis that making public statements has not been liked by the university, or by the university's friends, let us say.

People have written to the university, I am told, objecting to claims made. That is very uncomfortable. It made me, for the first time, realise why tenure was important early on and that one should, as a scientist, be able to speak on any issue, on one's own scientific issue or on other issues, and not be subject to harassment within the university.

Senator IAN MACDONALD—I do not think he is scientist, though.

Prof. Talbot—Well, a specialist or expert, one might say, with certain expertise which would include the expertise involved in decision making in this particular area.

Senator REYNOLDS—Presumably you would have similar feelings about the way in which other experts have been similarly devalued and dismissed by both government and others in this debate. I am thinking, for instance, of Mr Haigh.

Prof. Talbot—If one looks at the dismissal of scientific opinion, it has not been so much dismissed as totally ignored. Perhaps the prime example of this is that our premier scientific body, the Australian Academy of Sciences, which has, in essence, the top scientists in our country—or many of them—looked into this and looked at the data.

The president of that society wrote to the then minister and said that he was concerned on two counts. One concern was that scientific evidence to go ahead with the development was not there—in other words, there was no scientific basis to make decisions—and asked whether the academy could help. The other concern was that it was clear from the documentation that the world heritage values had not been considered sufficiently. That offer of help was ignored. That has been so with all of us who have made comment.

At the time of first environmental review in early 1994 I happened to be on a sabbatical in Townsville at James Cook University writing up work on coral reefs, mangroves and seagrasses. The environmental review was put on display in the local post office and I spent some hours working carefully through it.

I liked the area. I had been through the area and I knew it. I had been to the area twice before. Quite incidentally, I did not even know that a development was going ahead. However, I thought I would have a look. When I read it I realised that it was not an environmental assessment of any value at all, it was a trivial exercise. I wrote to the then minister and said that if it had been one of my students who produced that, that student would have failed. In other words, it was not a genuine attempt, in my view, to make an assessment of the environmental impact of this project.

Then, of course, one realised that this was a very large project and other scientists wrote in. Between 100 and 200 scientists signed a letter, and I was one signatory. When I saw the letter I agreed with it. It basically said that there was not enough scientific evidence and there was serious concern. That was ignored as well.

Science has just been pushed aside. No-one has really tried to do this. The idea has been that this is going ahead whatever any scientist or anyone says. I believe firmly that the thought of development in the north has overwhelmed the good judgment and good sense of two governments.

Senator REYNOLDS—You said that you were particularly concerned about the aesthetics of the development on the channel and you gave details of the differential of the Queensland standard. I think you said that the Queensland standard is 110 metres from the high-water mark but the proposal is for 20 metres. Could you clarify that?

Prof. Talbot—Certainly. I gather that in that area a Queensland beach authority recommends 110 metres setback.

Senator REYNOLDS—But it is only a recommendation, it is not a requirement.

Prof. Talbot—I do not think they have legal powers to enforce it, but I have no knowledge about that. I gather now that the setback will be 20 metres, but you might ask the developer that.

Senator REYNOLDS—Given that this is an area of cyclone activity, what would be the impact of cyclonic storm surge over the coming years?

Prof. Talbot—You are asking me about a matter that is outside my area of expertise, which is very much as a biological scientist. But there is no question that both tsunamis—which I gather are possible, in fact, even likely—and cyclonic storms often raise water many metres because of the low pressures and the huge wave action. The best I can say as a lay person is that I certainly would not buy a house on that waterfront. It would seem to me disastrous to do so.

Senator TIERNEY—Professor Talbot, you said GBRMPA told you there was erosion where the mangroves had been removed. When did GBRMPA tell you this?

Prof. Talbot—I did not quite catch the question.

Senator TIERNEY—You said that GBRMPA had told you that there is erosion where the mangroves have been removed.

Prof. Talbot—Yes, that's right.

Senator TIERNEY—I am just asking for the circumstances of that.

Prof. Talbot—For that detail?

Senator TIERNEY—Yes.

Prof. Talbot—It was at a meeting of a number of scientists. I shall find the document here, if you will give me a moment, and that might be better than my trying to guess.

It was a Great Barrier Reef Marine Park Authority site inspection and the date of the inspection was Saturday, 30 September 1995. The people present were Jamie Oliver from GBRMPA; Steve Bolson from the Queensland Department of Environment and Heritage; Clive Cook from GBRMPA; Felicity Chapman, again from the department; Warren Nicholls from WHU; Eric Bird, who is a very distinguished coastal geomorphologist; and Barry Clough and Joanna Ellison from AIMS.

The document states that there was unanimous agreement that the site exhibited signs of erosion inshore from the remaining mangrove fringe which were not typical of undisturbed mangrove coastlines. Furthermore, there was unanimous agreement that the observed erosion would become worse if the seaward mangrove fringe was removed. Also, there was unanimous agreement that the sediment eroding from the inshore area might travel in the direction of the seagrass beds and would at least in part end up on the beds.

Senator IAN MACDONALD—Have you had an update on that? Has it actually occurred, apart from the assessment that it would?

Prof. Talbot—I have no idea. I really am very interested in the approval process and, with that kind of information, one would want to know much more. What I do know, of course, as I am sure you do, senators, is that those mangroves have been replanted, at my cost.

Senator IAN MACDONALD—We were there two weeks ago and I could not see any sign of erosion on that area. The committee as a whole was there.

Prof. Talbot—I have to say, of course, that a geomorphologist made that statement.

Senator TIERNEY—He made that statement but you did say that there was unanimous agreement by these scientists. So on what scientific evidence did the scientists base this unanimous agreement?

Prof. Talbot—My guess would be—because that is not my area—that in looking at the grooving they would have made an assessment that there was erosion. Perhaps Professor White might be better placed—

Senator TIERNEY—Was this just a process of casual observation?

Prof. Talbot—Most of the work throughout the whole of this process, because the original proper work was not taken, has been on the basis of going to the site, having a look and seeing what has happened, and there is no question there has been erosion. You can see the grooving on the upper beaches yourself.

Senator TIERNEY—You seem to be trying to give us the impression that a group of learned people had come to this conclusion based on some hard evidence, but that does not seem to be the case.

Prof. Talbot—It is hard evidence for a geomorphologist, I am afraid.

Senator TIERNEY—You said 200 scientists signed the letter. We are at a bit of a disadvantage, we do not have the letter. Could you indicate to us what the 200 scientists were signing?

Prof. Talbot—It is a very simple letter, a one-pager, and I was sent a copy. I will seek it, if it will help you.

Senator TIERNEY—In essence, what did it say?

Prof. Talbot—Here it is. It was an open letter and it stated:

We, the undersigned scientists, express our deep concern with the process of evaluation of the Port Hinchinbrook development at Oyster Point. We are concerned about the lack of scientific input and the virtual absence of baseline data for impact evaluation.

The letter also lists six potential threats. These include:

1. Impacts of sedimentation and increased water turbidity on the seagrass meadows resulting from the commencement of earthworks at the start of the tropical wet season.

2. Increased erosion and subsequent increased water turbidity resulting from the removal (for aesthetic reasons only) of the old-growth mangroves that protect the northern foreshore.

3. Impacts on water turbidity of the initial and maintenance dredging of the marina canal.

4. Influence on the canal's rock training walls on the hydrodynamics of the area.

5. Impacts on the important fauna of the Hinchinbrook Channel that will result from the increased boat traffic flowing from the large marina development.

6. The cumulative threat to the World Heritage values of Hinchinbrook area posed by the above impacts.

The letter further states:

We urgently request you to use all your powers, persuasive, constitutional and legislative, to ensure that this special area and its scientific, wilderness and World Heritage values are adequately protected for current and future generations.

It is a very simple letter.

Senator TIERNEY—How many of the 200 scientists have visited the site?

Prof. Talbot—I have no idea. All I can say is that I, as a signatory, have visited it many times.

CHAIR—Professor Talbot, would you mind tabling that letter.

Prof. Talbot—Not at all.

Senator TIERNEY—With the seagrasses and the turbidity problems that have been referred to, would it be correct to say that the seagrasses are quite robust and that turbidity is a fairly normal problem for them given the rainfalls in that area and the movement of material from catchments offshore?

Prof. Talbot—Yes, that is a good statement. They are very robust in that they can often recover quite quickly. But unfortunately there have been areas, throughout the tropical Pacific, where they just do not come back. The same is true in the Caribbean and in Florida where grooves—for instance, from vessels—have remained for years. In some removals, the seagrasses have not grown over areas for 40 years or more. It is quite complicated. In this particular case, the seagrasses are at the limit of their light ability. In other words, they need lots of light to grow and, because of the murky water, they are at their limit so they cannot go deeper. If there is a tremendous storm, as occurs often in that area, you get a or input of silt. It is a very mobile area because of the rivers that enter the Herbert and so on.

Senator TIERNEY—With a lot of turbidity as a result of the cyclonic activity.

Prof. Talbot—Yes, and silt pours in.

Senator TIERNEY—If that is the case—

Prof. Talbot—Can I just finish? That silt would not stay for long. In other words, you would get siltation and perhaps just smothering or covering and the things would regrow. I think the fear that one would have from this development is that, firstly, you would have more continuous siltation and turbidity because of the vessels and because of the recurrent dredging. You would also have nutrient output from the area. The nutrients become extremely important with seagrasses. You get algae growing on the seagrass fronds and they cut out light so you can have a synergistic effect of both nutrient input and silt. I think there is no question that the increased silt and increased nutrients will do damage to those seagrasses.

Senator TIERNEY—But, at the same time, you have also got the cyclonic activity going on and, given the lack of baseline data that you have indicated, isn't all this just total speculation? If there are no scientific studies on it, if there is no baseline data, you are just speculating that maybe this might happen and maybe that might happen. It is not particularly scientific, is it?

Prof. Talbot—Unfortunately, if you do not have scientific data as a baseline, you have to rely on scientific experience elsewhere. Scientific experience elsewhere suggests that seagrasses are under extreme threat in many areas, particularly due to siltation and nutrient addition.

We have lost, for instance, all the seagrasses in Albany, huge areas have disappeared. It was found that that was due to land run-off of nutrients. But this is typical in many areas of the tropics, deeply concerning the Philippines and Indonesia and other areas, for instance.

Senator TIERNEY—But you do not know in this instance what that effect would be. You do not know how much nutrient there would be and what effect that would have. Surely, it is speculation?

Prof. Talbot—It is not speculation, the only thing you can say—

Senator TIERNEY—You have not got the scientific evidence for this area.

Prof. Talbot—Does one then say, 'Because we do not know, we put in the development anyway. If the seagrasses are gone, it is just too bad.' I think the opposite is the case. We are talking about a world heritage area. We have international responsibility for that area and we are saying that we are going to do something that scientific opinion, which is all you have, says is going to screw up part of that world heritage. I think that is wrong.

Senator TIERNEY—Some of us also think it is wrong that, on the basis of evidence that is not very clear, a development might be stopped that would prevent a whole lot of jobs being created in an area of high unemployment, which regional Queensland has. Are those sorts of concerns ever weighed up on the other side?

Prof. Talbot—They deeply concern me. In fact, I believe development is possible on the reef. I would encourage it. I am not a wild greenie. The reef yields us $1 billion a year and could probably yield us $2 billion a year. There is no question in my mind that development is needed, but this development is not needed and is damaging, in my view, the very things that people are going to the reef to see.

Let us take the numbers of people who will be wanting to use the island from the site. Most people stay three days on the reef. People will be coming to the resort at 3,000 to 5,000 a week, if the developer is lucky, at something like to 2,000 to 3,000, if there is a 60 per cent, or so, turnover in occupancy. These people want to go to the island and to the reefs. They want to get through the channel, because the channel is not what they are there for in part. It is like taking something which is nice to go to and then putting your base there and spoiling the base so that people do not want to go there.

To my mind it may result in the loss of jobs in the long-term. I have not seen any effective economic data published that suggests that it is even a viable concern. I have talked to one person in the industry, who is a leader in the industry, who said, it is not viable and has said so publicly. I have heard from the Environmental Defenders Office that the only survey that has been done suggests that it is not viable economically. Clearly, in my view, it will damage the area visually and there will be damage to the dugongs and seagrasses in the area. These are the likely results. It seems to me that from a job point of view—

Senator TIERNEY—We are short on time. The overwhelming logic of what you are saying is that surely the person who is doing the development, and is relying on the beauty and the attributes of the area to sell his product, would do his best to protect the environment as much as possible; would he not? Surely he would not create the despoliation that you seem to be indicating.

Prof. Talbot—I do not see it, I am afraid.

CHAIR—Professor White, I think you suggest in your submission that the CSIRO would be the best equipped agency to be handling the monitoring of the site. Does that suggest that you lack confidence in the independent monitor? Why do you think the CSIRO should play this role?

Prof. White—A few reasons. I do not lack confidence in the independent monitor, but I do not believe that he has available the full range of skills that the CSIRO does. The CSIRO has the marine science background. It has the hydrology background. It has the soil background and it has the water background. It has a wide range of expertise in that area. It also has the confidence of the Australian people as an independent authority. I think that is of paramount importance. It also has the confidence of people overseas. I believe that the role of the CSIRO in these sorts of cases, where there are developments around national heritage areas, would be of extreme value to the government.

CHAIR—Do you see it as appropriate that this is a Commonwealth body and that the Commonwealth should play that kind of role?

Prof. White—I realise that there are probably some doubts about that, particularly when you consider pulp mills in Tasmania, but I believe that the CSIRO will give the government very good advice. After all, the government has put a lot of money into the CSIRO and its appropriate use of CSIRO.

CHAIR—I apologise to you, and to others who are here waiting, for the way in which we have run over time. They were very important questions that we wished to put to you. I thank you very much for appearing today. Senator Hogg has a couple of short questions that he would like to put, with the permission of the rest of the panel.

Senator HOGG—I do not care if they are taken on notice. This is a question that I put to a group in North Queensland, and maybe Professor Talbot will answer this for me. How does one satisfy the competing interests in this area? On one side, one has the developers and local councils, who have very much in mind the need for jobs, and so on, in their areas. Then there are the other interests, being the interests of those who want to preserve the

environment. Where does the ultimate conclusion of the competing interests lie? Should it lie with the Federal Court or is there a need for some other statutory body to be established which will be the eventual arbiter? In many of these things, one is never going to satisfy either ends of the argument. If you could take that on notice and give me some sort of idea.

The other question relates to a question that my colleague asked earlier on my behalf. How does one sort out the effect of the Port Hinchinbrook development on the Hinchinbrook Channel, as opposed to, say, the aquaculture which is down the road, where there could be worse effects than from Port Hinchinbrook—and I am not arguing one way or the other—say, from the sugarcane or from other natural processes? The aquaculture was the prawn hatchery that I had in mind. How does one sort these things out when we have no baseline data? Is there some way, given that you just cannot do it on an incremental basis and say that we are going to look at the Port Hinchinbrook development per se? One needs to have a greater view. Can you give me some idea, again on notice, as to how we sort that out?

Prof. Talbot—I will send it to the secretariat.

CHAIR—Thank you, very much.

[12.23 p.m.]

ROGERS, Dr Stephen Lloyd, Executive Assistant to the Chief of Division, CSIRO Land and Water, PMB No. 2, Glen Osmond, South Australia 5064

CHAIR—Welcome. The committee has before it submission No. 111, which it has authorised to be published. Before we move to an opening statement, are there any alterations or additions you wish to make?

Dr Rogers—No, there are not.

CHAIR—I invite you to make a brief opening statement, or if you wish, we could go straight to questions.

Dr Rogers—I would just like to make a very brief opening statement. Essentially, the CSIRO involvement in the Hinchinbrook development dates back to 1995 when Dr Greg Bowman, who is in the audience here today, was commissioned to produce an initial report on the potential and actual acid sulfate soil conditions at the site.

This was a very brief report. This was not a full site survey; this was not a full soil survey of the site. Dr Bowman was also asked by GBRMPA in 1996 to comment on the Sinclair Knight Merz management plan. This was the first draft of the management plan. The CSIRO has had no further involvement. Certainly, the division of land and water has had no further involvement in the Hinchinbrook development since 1996. I would just like to say for the record that I have not been involved in acid sulfate soils research and I have not been to the Hinchinbrook development. I am here representing the divisional management and not the science. If you would like to ask any technical questions, Dr Greg Bowman is here today.

CHAIR—Perhaps we will deal with that as we go. Do you have any questions, Senator Woodley?

Senator WOODLEY—The original CSIRO peer review of the Sinclair Knight plan viewed it as being unacceptable as a management plan and not comprehensive enough. You have said in your submission that the identified deficiencies could be overcome with appropriate revision. Could you just give us a brief outline of why it was not acceptable and whether or not subsequent plans have overcome those deficiencies?

Dr Rogers—To answer your last comment first, we have not been involved and have not sighted any subsequent plans. I can only comment on the first part of your question. The main issues from Dr Bowman's report that consider the Sinclair Knight Merz development were first of all the use of sea water as dilution or neutralisation for potential acid from the site. Dr Bowman stated that the use of sea water to neutralise acid leachate from acid sulfate soils is not accepted by regulatory authorities in some jurisdictions and the dilution of significant acidity is unlikely to be an adequate remediation treatment. That was one comment.

One of the comments in the Sinclair Knight Merz plan was referring to using areas of known potential acid sulfate soils in the Tekin spoil dump and in the recently excavated material to line underwater sections of the canal and treating surplus in accordance with procedures as described in the management plan.

Dr Bowman commented that, as actual acid sulfate soil activity had been discovered in his 1995 report in the Tekin spoil heaps, its use as a subaqueous canal lining would not be advisable because it is already producing acid. One of the other main comments that Dr Bowman made was that the acid sulfate soil management plan lacked any defined water quality standards and that has been addressed by one of the previous witnesses today. The management plan was really looking to measure turbidity and pH in the run-off from the development. As we are aware, the acid waters can actually be very clear because of the precipitation due to aluminium hydroxides—precipitation of sediments et cetera.

Dr Bowman recommended that a set of parameters for water quality monitoring should include in situ pH, titratable acidity, acid neutralising capacity, turbidity, dissolved aluminium and dissolved iron. Suggestions were made by the CSIRO on how we thought they should improve the plan. As it says in our submission, once Dr Bowman had submitted his comments to GBRMPA, we were not involved in any further discussions or deliberations with regard to the plan.

Senator WOODLEY—One of the issues that has been raised with us is the issue of the dredging of the Hinchinbrook Passage, which is a channel that has been dredged from the marina out through the mouth of Stoney Creek into the Hinchinbrook Passage. Obviously, the material that was removed was what was put in the spoil ponds. Do you have some comment about that as an adequate way of dealing with that material?

The other question which has now been raised, which had not occurred to me before, is whether it is possible for there to have been acid sulfate soil material in that channel that was dredged. Now that that has been disturbed, does that then constitute a problem for the channel itself?

Dr Rogers—We are talking very hypothetically here, because obviously we have not been involved with any of the actual developments. If it is marine sediment material, there is the potential for that material to be acid sulfate or it could be pyrite or it could be iron sulfide. If that material is then exposed to air, it could oxidise and produce acid. So there is the potential there but, without knowing the actual chemistry of that material, or the way it was handled, it is not possible for me to say one way or the other. There is the potential there for that to occur.

Senator WOODLEY—I understand that the CSIRO has been involved in various projects associated with research into the effects of acid sulfate soil. Is that work continuing?

Dr Rogers—The work of the previous CSIRO divisions of soil and the Centre for Environmental Mechanics, was not so much on the impacts, it was on the actual chemistry of acid production and the ways of controlling acid through various management techniques. To my knowledge—certainly not the divisions that I represent—we have not been involved in things like toxicity to fish or to seagrass et cetera.

Senator WOODLEY—So that work is not continuing?

Dr Rogers—The division of land and water, which was an amalgamation of the three previous divisions of soils, environmental mechanics and water resources, which were the main environmental divisions in CSIRO, reviewed its research at the end of last year and we have seen acid sulfate soil research as a fairly low priority in terms of our divisional priority and strategic planning. That is not because it is not a significant issue and potentially a significant problem in coastal development, but because it is very difficult or was historically very difficult for us to receive any funding to do the research work.

Senator WOODLEY—Would you have any advice for the developer in terms of the way that building on that site should be handled,?

Dr Rogers—That is outside my field. I could pass that question to Dr Bowman if you wish to ask him that question.

Senator WOODLEY—Chair, I would like to ask it.

CHAIR—Yes, we will invite Dr Bowman to the table to join Dr Rogers.

[12.33 p.m.]

BOWMAN, Dr Gregory Mark, CSIRO Land and Water, GPO Box 1666, Canberra, Australian Capital Territory 2601

CHAIR—Welcome. Do you have any comments to make on the capacity in which you appear?

Dr Bowman—My comments here would be as a soil scientist, rather than reflecting the views of CSIRO.

Senator WOODLEY—Would you have any advice for the developer in terms of construction on that whole site now that there is a whole issue about acid sulfate soils?

Dr Bowman—I guess the advice would be that in my original report, which was that the site had an acid sulfate soil problem that was significant and in some cases severe, and that it had to be handled correctly, if environmental problems were to be avoided, but that it could be done if done properly. As Steve has indicated, we have not been in any way connected with the subsequent developments in terms of the revised management plan. I have not seen it.

I have no idea of the sort of monitoring that has been going on or of the techniques that have been employed. But that is the very area where, for the last seven or eight years, I have been undertaking research and development and consultancy work. I think it is a pity that they did not get back to us about it; they could have got some valuable information.

Senator WOODLEY—I have another question for you which I asked Dr Rogers but he said that, because of his lack of involvement, he could not answer it. We had an extensive look at the dredge ponds which the spoil from the canal and from the marina is being put into. The question that will be debated is whether that will be adequate or not so any comment that you have on that would be useful. The more important question is whether there is a possibility of acid sulfate soil being disturbed in the canal itself, which was dredged from the marina out into the Hinchinbrook Passage? Is there any concern about leachate from that particular work?

Dr Bowman—When I did my original site assessment I borrowed a small boat and went out into that area and took samples. I think the committee has a copy of that report. Samples 34 and 33 and, I think, 20, were in that area just offshore where the canal was to go through, and that was the reason I took them. They were taken by pushing down through the seawater into the seafloor. From memory, those samples did not show a particularly high acid sulfate soil potential. To that particular depth, I would say the answer would have to be no that there was no acid sulfate potential for those samples, but that does not indicate what underlies that depth. I presume that the excavation of the canal would have been a lot deeper than I was managing to take samples from. Of course, acid sulfate material can be highly variable so you would need to do a comprehensive assessment to be sure.

Senator PAYNE—In your submission under the heading ‘Acid sulfate soil research requirements’, you refer to the state level management of developments such as this and

other similar projects. I was wondering whether you had a view as to how effective QASSIT, ASSMAC and similar bodies are in their management of the issues?

Dr Rogers—I have not had involvement with either of those organisations.

Dr Bowman—This is a personal view, and not a CSIRO view. I know the QASSIT team fairly well. I have had dealings with them; they came to see me before they set up QASSIT to find out a bit more about acid sulfate soils so I do know the people and their backgrounds. As individuals, I would say that some of them have very good credentials in acid sulfate soils, in terms of their research backgrounds and management. I would be less confident in QASSIT's ability to give independent advice, given the political situation in Queensland or what it was—whether it is the same now, I am not sure.

Senator PAYNE—Do you have a view on the role of ASSMAC in New South Wales?

Dr Bowman—ASSMAC has been established a lot longer and, I feel, is probably a little more independent. I know the people involved in that very well as well.

Senator HOGG—My questions would probably go to Dr Bowman, arising out of the submission under the heading 'Acid sulfate soil conditions of the Port Hinchinbrook development site'. I presume it comes out of the Bowman report of 1995 where the second paragraph says that the 'environmental hazard posed by acid sulfate soil materials at the Port Hinchinbrook site vary markedly.' Does that indicate that there was actually mapping done or was it random sampling?

Dr Bowman—No, it was not random sampling. I should explain how this investigation came about. The World Heritage Unit of the Department of the Environment commissioned us to undertake it, but were not prepared to pay for a comprehensive assessment. That is why it is called a preliminary assessment. That limited severely the number of samples that we could process and do the chemistry on. It is fairly expensive and there was a budget very much set for this.

The best way I thought of undertaking it was to look at the various geomorphic units. My background is coastal geomorphology and soils, and I am quite familiar with this sort of terrain. I stratified the sampling to look within the various geomorphic units, or morphostratigraphic units, to use the correct term. More samples were taken in those areas where there was a much higher likelihood of acid sulfate soil materials being encountered than were taken from others where there was not much likelihood. It is not random but, within areas, it tends to be random.

Senator HOGG—So it would give a reasonable profile of the current site as to the likelihood of, say, excavating in an area where there is a high potential of acid sulfate soil as opposed to a low potential; would that be correct?

Dr Bowman—To a certain extent, yes. The southern part of the site was not very comprehensively looked at because I was under the—

Senator HOGG—When you say, 'the southern part of the site', do you mean on the other side of Stoney Creek?

Dr Bowman—A bit further south than that. The area that it was going to be at that time—and I am not sure whether it still intends to be—was covered with bunded evaporation pans, if you like.

Senator HOGG—That is on the southern side?

Dr Bowman—Yes. There I did not do a subsurface investigation because there did not seem much point, given that it was not going to be excavated. There I confined my sampling to the walls that had been constructed in place from material that was obviously acid sulfate or potentially acid sulfate material.

Senator HOGG—What was the finding?

Dr Bowman—With those particular bundwalls?

Senator HOGG—Yes.

Dr Bowman—They were potentially acid sulfate but variable, as is most of the acid sulfate from the site. The area that showed the greatest potential for acid sulfate was what we call the back barrier area. That is the area centred on the marina that was excavated at that time, the existing marina, and particularly the eastern side of that, which showed the most pronounced acid sulfate conditions on-site.

The area that is the frontal dune that had been covered with fill had very little acid sulfate potential. The stockpiled topsoil had none. The landward ridge, which was probably an old Pleistocene beach ridge, had no acid sulfate potential, so it was effectively the area between these two that extends more north-west and south-east down through the site, extending north and south of Stoney Creek, that had the highest potential. The zone that was acid sulfate was fairly clear.

Senator HOGG—Has this been made known to the current developer or would it be known to the current developer?

Dr Bowman—To the extent that my report was available to the developer from the government, I believe it was passed on. With each of those areas, I categorised and discussed the results area by area, as I also did with the material that had been disturbed by Tekin previously and by the current development, the various stockpiles.

Senator HOGG—On that very issue, the material disturbed by Tekin, as I read the submission it says that the site investigation showed that both exposed and stockpiled acid sulfate soil materials attributable to the Tekin development activities were substantially oxidised and severely acidified, and producing acid leachate. Do you know the fate of those stockpiles and exposed soils?

Dr Bowman—I am not aware of what has happened to them since I did my investigation. I have not been back onto the site. I have been past it but not onto it.

Senator HOGG—Did you have a recommendation as to how those exposed and stockpiled materials should be dealt with?

Dr Bowman—First of all, I think you addressed questions earlier to Professor White about the depth to which these stockpiles had oxidised and acidified, and was it near surface or was it to depth.

Senator HOGG—Yes.

Dr Bowman—My original report, plate 7, shows a cross-section—it had been excavated with a backhoe—of one of those piles. It was oxidised right through the pile. It was not just superficial oxidisation. There is quite a lot of evidence of oxidation in the samples that we analysed from those piles. So, yes, it was severely oxidised and the whole pile had oxidised in the 10 years or whatever the time was that they had been sitting there. My recommendation would be that you would have to treat that sort of material with some care. You could not just bury it because it has already acidified. You would need to neutralise it before you could bury it, in which case you would have to use fairly large quantities of alkaline materials.

Senator HOGG—You would not be aware if that had been neutralised or how it had been treated in any way?

Dr Bowman—No.

Senator HOGG—In the brief time that is left to me, at page 3 of the submission, there is a reference there to the degraded site of East Trinity, adjacent to Cairns.

Dr Bowman—Yes.

Senator HOGG—Could you expand on that, and the implications of not only that site but other potential sites for development throughout the coastal area of Queensland? It seems to me that, if what is being said there is correct, it is not tourism and development, it is sugar cane, and it is producing four million litres of concentrated sulfuric acid each year. It seems to be an enormous amount of sulfuric acid.

Dr Bowman—Yes, it is a very worrying situation. That particular site has been drained. It is directly opposite Cairns within a few hundred metres of the city centre. It was drained for about 20 years. We have comparison sites inside and outside the bunded area so we can see what has happened over 20 years. Just by comparing the chemistry of the two soil profiles, inside and outside, we can calculate how much acid has formed and how much has then left the site, including iron, aluminium and, more recently since this was actually written, we are now finding that there is also production of heavy metals as well in much higher levels than would be healthy for the environment.

This is fairly typical, although extreme, of what happens when acid sulfate soils are drained. My personal opinion is that excavations and developments such as the Port Hinchinbrook site are fairly minor in terms of their impact on acid sulfate soils and the consequent environmental effects compared with the more extensive impacts that result from industries such as drainage for sugar cane. We have a site at the southern end of the Hinchinbrook Channel that we monitored for about nine months—the project is now finished—showing production of very large quantities of acid. It is not of the order of this, but there it is being produced by lowering of the watertable due to drainage for sugar cane production, and it is also producing acid, iron, aluminium and other metals that are going straight into Hinchinbrook Channel.

Senator HOGG—Thank you.

CHAIR—Can you just tell us the quantities so we can compare with—

Dr Bowman—No. We are still doing the work on that. I am writing it up at the moment. Not that I cannot tell you; I just do not know off the top of my head. They are not as high as at East Trinity but they are very substantial still.

CHAIR—Thank you. Senator Tierney.

Senator TIERNEY—Dr Bowman, you mentioned you have carried out a preliminary assessment of the soils in this area. Can you just give us the dimensions of that preliminary assessment?

Dr Bowman—You are referring to the 1995 report for the government?

Senator TIERNEY—I am referring to what you said earlier about your study of the soils in the Hinchinbrook areas.

Dr Bowman—The work was carried out for the World Heritage Unit of the Department of the Environment. We negotiated what it involved. It involved a site visit, I think it was for about five days, using a backhoe and an assistant. I was shown around the site by the manager for the developer at the time. I think the Department of the Environment people attended as well for part of the time I was there. It involved inspecting the various morpho-stratigraphic units, selecting sampling locations, excavating pits, taking samples and looking for field evidence of acid sulfate soils. As you might be aware, potential acid sulfate soil is not readily evident in the field. It is just like innocuous mud but, once it is oxidised and acidified, you get an indicator mineral called jarosite which is very clearly evident. Also, discharge can be evident in the field by measuring pH or by looking for the minerals that are associated with that. It was soil inspection plus sampling. Samples were taken back, analysed in the laboratory and a report, which was this one, was prepared.

Senator TIERNEY—How many days did you spend doing that?

Dr Bowman—I think it was about five. It might have been three. It was at least three. I think it was more like five.

Senator TIERNEY—How many cores did you take?

Dr Bowman—We were not taking cores. We were excavating pits with a backhoe. We hired one locally. I was taking one-kilogram samples. We took, I think, something like 61 samples, but we only actually analysed about a third of that number.

Senator TIERNEY—Is that a normal procedure? I would have thought you would take a systematic core rather than lift the stuff out with a backhoe?

Dr Bowman—No. It is better, in fact, for acid sulfate if you can get the profile exposed with a backhoe, particularly in a disturbed site like this, than to rely on a narrow cross-section through the core.

Senator TIERNEY—How deep did you go?

Dr Bowman—It depends on where we were. You see, also we took samples from around the wall of the marina which was already excavated to considerable depth. In those cases we just cleared back the wall of the marina. That went down to, I guess, two to three metres at least below mean sea level. At the time there was some water in it but it was not full.

Senator TIERNEY—I think you indicated earlier that you did not find much evidence of the potential acid sulfate.

Dr Bowman—In some areas, no; in other areas, there was a lot of evidence of it.

Senator TIERNEY—I thought at one point you were speculating that it might be down lower, just in the verbal—

Dr Bowman—Are you talking about where the canal was going to be excavated?

Senator TIERNEY—Yes.

Dr Bowman—The surface material, which is all I could get to in a small boat with about a metre to two metres of seawater beneath me—and I was just taking bottom samples there—did not show a potential.

Senator TIERNEY—You mentioned, towards the end of your evidence, the effects in the cane lands. Of course, we have been growing cane in northern Queensland for a very long period of time. There do not seem to be any catastrophic environmental outcomes from doing that.

Dr Bowman—No, that is the cane industry's standard response actually, that there is no evidence of it so it cannot be happening. We know it is happening in terms of the outputs from these areas. It is not all cane land, it is only on acid sulfate, and we do not really know how extensive that is, but we think it is fairly extensive. Where areas are being drained and we have looked at it, it is definitely producing toxic leachate.

Senator TIERNEY—I thought there had been a reasonable amount of mapping to indicate the extent of potential acid sulfate soils on the east coast of Australia.

Dr Rogers—I think in New South Wales there has. I am not so sure whether it is to the same extent in Queensland.

Senator TIERNEY—Given that they have actually farmed cane for 150 years, probably, we are speculating about what is going to happen to what in a sense is a tiny development in terms of the extent of the Queensland coastline compared with the extent of the Queensland coastline that is taken up with sugar cane growing. If there was going to be some major problem, surely that would have shown up in the disturbance to the land from cane growing, wouldn't it?

Dr Bowman—I am not quite sure what the question is there. There is a measurable discharge of large quantities of acid and associated toxic elements from cane land where it is acid sulfate soil and it is being drained. In a worst case scenario, as at Trinity where it has been left to discharge for 20 years, there must be environmental impacts that are quite serious. I think there is evidence to show that is the case, although the impact of this particular change is not my area of expertise.

On the balance of things, my opinion would be that Port Hinchinbrook, if it were managed adequately, would not have a very substantial impact off site—if it were managed properly. I am not confident, in fact I am fairly sure, that it has not been managed properly. I think it is unfortunate that that is the case.

Senator TIERNEY—I would have thought after this much scrutiny it probably will be managed pretty carefully.

Senator IAN MACDONALD—I want to thank Dr Rogers and Dr Bowman for coming along. I appreciate, from your submission, that you have not been involved in this really since 1995.

Dr Rogers—The last involvement was actually in 1996, the first draft of the management plan.

Senator IAN MACDONALD—Your involvement, I think you have made clear, was looking at the draft plan. I think you have both said you have not seen the final plan.

Dr Rogers—Absolutely.

Senator IAN MACDONALD—It has not been relevant to you. I appreciate that you cannot really help us with this specific issue before us, but obviously the committee deemed it wise to get your general expertise. I notice from your submission that you are now, by kind favour of the Sugar Research and Development Corporation, the SRDC, for sustainable sugar production, entering into some joint arrangement with a group from the Queensland Department of Natural Resources to look at acid sulfate soil matters generally.

Dr Rogers—That is correct. I think that is more in cane lands than coastal. Is that correct?

Dr Bowman—It does not involve me.

Dr Rogers—It does not involve Greg. That is more in sugar cane lands with QDNR and QDPI. As we said in our submission, we found it very difficult to get funding for this sort of work. The best way we think we can continue the CSIRO's involvement is to go into joint agreements and joint ventures with the state governments.

At the end of the day, it is actually state governments who are going to be managing these problems, through their various planning and environmental management processes. So we see that developing our relationship with state governments is an important way of transferring our expertise with problems such as this.

Senator IAN MACDONALD—Are the people you are working with at the Queensland Department of Natural Resources what is referred to as the QASSIT team?

Dr Rogers—No, they are not. It is funded by the Sugar Research and Development Corporation, so the work is actually to do with sugarcane production, the environmental aspects of cane.

Senator IAN MACDONALD—But it is related to acid sulfate soils?

Dr Rogers—It is related to acid sulfate soils, but specific to sugarcane: things like the potential for acid sulfate soils to cause production losses in sugarcane and also off-site impacts. It is not to do with coastal soils like this.

Senator IAN MACDONALD—As one who lives up there, I can assure you that the problems they are looking at are the very coastal ones that obviously do have an impact on the coastal areas. I think you said in evidence you gave previously that the impact of this Port Hinchinbrook development is quite small in comparison to the impact of sugarcane, aquaculture and general development on the Australian coastline: is that right?

Dr Bowman—I do not really know about a comparison with aquaculture, and I would not be too sure about general development on the coastline. But, in relation to agriculture—sugar, specifically, in northern Australia—it could be a relatively minor impact, if it were managed properly: I believe that is what I said.

Senator IAN MACDONALD—Again, I am only clarifying this in my own mind, but you are saying that the perceived problems in the Hinchinbrook Channel area can be managed, providing it is done correctly?

Dr Bowman—I am not sure that all the problems in the Hinchinbrook Channel area can be managed; no. I am saying only that, if the acid sulfate soil aspects of that particular site development were done properly, it would probably be manageable; yes.

Senator IAN MACDONALD—Your actual research was done when?

Dr Bowman—Are you talking about the investigation?

Senator IAN MACDONALD—Yes.

Dr Bowman—It was February 1995.

Senator IAN MACDONALD—It was only very preliminary?

Dr Bowman—Everybody keeps saying that.

Senator IAN MACDONALD—I thought you said that.

Dr Bowman—I said it was a preliminary investigation, in order to designate that it was not a comprehensive one. I put a proposal forward to do a comprehensive study and to write an acid sulfate soil management plan based on that, but the Commonwealth did not want to know about it.

Senator IAN MACDONALD—This was the Commonwealth government in 1995?

Dr Bowman—Yes.

Dr Rogers—This goes back to our issue about getting adequate funding for this sort of work.

Dr Bowman—It was not regarded as really a significant problem by anybody at that stage.

Senator IAN MACDONALD—In 1995?

Dr Bowman—That is right.

Senator IAN MACDONALD—Do you compete with QASSIT for consultancy work?

Dr Bowman—No; I really was one of the first to do consultancy work, starting in the early 1990s. In fact, I wrote the first acid sulfate soil management plan for any development and I have done quite a few since then. But over the past few years we have moved out of that because we had brought the commercial consulting field up to speed. They had not done it before that. As far as I am aware, this one by Sinclair Knight Merz was their first; and that applied to quite a few of the other big consulting firms as well. We have worked with them cooperatively on quite a few of these sorts of management plans and we have moved more or less out of the field now, as we regard them as having the expertise to do it.

QASSIT do not really do—as far as I am aware—consulting as such; they are more a regulator. They have probably got a bit of a mixed role, but it is largely as a regulator. They provide advice and they set standards for these sorts of developments and the management plans.

Dr Rogers—The point to make here is that CSIRO, whilst it does do consulting, is actually a fundamental research organisation. We are in the game of strategic scientific research, so we are not doing consultancies and competing with people like that.

Senator IAN MACDONALD—Dr Bowman, are you the expert within CSIRO on acid sulfate soils?

Dr Bowman—In all modesty, I would have to say yes.

Senator IAN MACDONALD—And it certainly appears so from what we have read about you. You say that you really have not done any for some time? Do you keep your expertise up to date?

Dr Bowman—I have been undertaking research on acid sulfate soils, but we have moved out of the consulting area. We are actually discouraged from doing commercial consultancies that are of small value.

Senator IAN MACDONALD—With the work that you are doing with the Queensland sugar industry—and again I acknowledge that neither of you is directly involved—do you know in what part of Queensland that research is being done?

Dr Bowman—Yes. I set up that original research proposal, but somebody else has been given the job of carrying it forward. There are two answers to that. Firstly, there was an initial investigation that I carried out, which was preliminary to the current proposal. The initial one involved comparing the site on the Herbert at the southern end of Hinchinbrook with a site called Pimpama, which has been alluded to earlier by Mr Sammut, which is on the hinterland of the Gold Coast. We started monitoring both those sites. The ongoing work is concentrating on the Pimpama area, as far as I am aware.

Senator IAN MACDONALD—Thank you very much.

Senator HOGG—In your submission, on page 2 in the second paragraph, you say that it was 'not possible to specify the precise environmental consequences for the immediate surrounds of the site, including the Hinchinbrook Channel.' What would you normally look at as the area that would be affected by the leachate? Does the area cover a great wide expanse, or is it reasonably confined—without being too precise at this stage?

Dr Rogers—I think it would really depend on the volume of the leachate, the strength of the leachate, the size of the body that it is being discharged into, and the potential for seawater to neutralise the acid, et cetera. It is a bit of a 'how long is a piece of string?' question.

Senator HOGG—Yes, I understand that. That is why I am asking it at this stage, because I want to get to the next stage.

Dr Bowman—At the Port Hinchinbrook site, I was concerned that the original site discharge that was coming from the bunded area was going to go through a small creek through the mangroves—a distributary channel—and flow across the intertidal flat. At low

tide, when there is no water there to neutralise it, it would have gone across quite a significant area. From memory, 50 metres to 100 metres of foreshore was exposed. Under those conditions, that area would have been subject to leachate, and possibly concentrated leachate, at that site. I understand that the plans have been changed since then, but I am not sure of that: I only understand that to be so.

In terms of discharge from exposed acid sulfate, or stockpiled acid sulfate, into the canal, it would be harder to say. That depends on conditions at the time: whether it is fresh water in there after a storm, whether it is high tide or low tide, and what water is coming down that channel. You really could not say.

The other thing would be that, if it were a site where there was a very large discharge of acid water—and I do not think that would apply so much to this site; that would be an extreme case—then you can get a plume of this material moving out either at depth or near the surface. It can be density stratified, and so it does not necessarily mix. It can go along the bottom of a channel or near the surface, depending on whether it is going through fresher or saltier water.

Senator HOGG—There has been no research done in that area to track what is happening?

Dr Rogers—No; we certainly have not done any.

Dr Bowman—We have looked at what is coming out of these sites and what is being discharged. We have not really looked at where it goes, how it disperses or what its impact is.

CHAIR—We will continue with questions and then hear evidence from Mr Malcolm after lunch. It seems to me that a fairly fundamental question that the committee has to come to grips with is whether, now or in the future, there is acid sulfate coming from this development as a point source. How do we know that?

The developer has in the past said that there is no evidence of any leachate or any acid sulfate material. I note that previous witnesses have said that there is inadequate monitoring. What steps ought to be taken to settle this question once and for all?

Also, is there a need for monitoring in the very long term? We have heard that this material can leach acid sulfate for a thousand years. Should there be an onus on the developer to collect that material or, if not, who should do it? How do we deal with this whole question of whether or not the material is actually being produced now?

Dr Rogers—In terms of whether there is acid sulfate material being developed, the initial survey that was carried out showed there was potential for acid sulfate there. That involved monitoring pHs at creeks and whatever channels there are there. One of the other witnesses this morning talked about monitoring for iron and aluminium compounds in the run-off from the site as a means of giving you some indication of whether acid is being produced. The key issue was that there needs to be a decent survey done of the site, a proper

soil survey, that really indicates and identifies what areas are either acidic or potentially acidic.

CHAIR—You would argue that the committee should not accept the view that is being put that there is no acid sulfate material coming out into the Hinchinbrook Channel. Is that the bottom line, that because we do not have the baseline material and we do not have adequate monitoring, we cannot accept those claims?

Dr Rogers—As both of us are not aware of what sort of monitoring is going on at the moment and has been going on for the last three years, we do not know what is coming out of there, we have not been involved in that site. My understanding is that the Queensland government is monitoring the site. If that is the case and those people are saying that there is no acid sulfate, the independent assessors, then maybe we would have to accept that.

Dr Bowman—I would be less accepting of that. From what I have heard, and it is only through the network of people associated with acid sulfate soils, monitoring has not been adequate. As I understand it, there was a single monitoring point, a remote data logger. That is not the way to monitor acid sulfate soils, and anyone who had anything to do with acid sulfate soils could tell you that it is not the way to do it. Shoving something out in the channel might say that the water out in the channel is okay but it does not address the issue of whether there is anything coming out. By the time it gets out there it is neutralised, mixed, and the measure that is taken, which is usually just pH, is fairly inappropriate in that situation any way.

As I said, material could be going under it or above it. It could have a toxic content. I am saying 'could' in these cases. It is not a definitive way of monitoring the situation. You have to specially design a monitoring exercise to take samples and to analyse those samples. It would have to be done in an appropriate manner and that, from what I understand, was not done.

Dr Rogers—From my earlier comments regarding Dr Bowman's comments on the Sinclair Knight initial draft management plan, it was stated there—and I think the committee has a copy of that—the sorts of monitoring that should be done and the sorts of elements and tests that should carried out.

Dr Bowman—To get back to your original question, you need to do proper monitoring over an extended period of time before you could be confident that there was no discharge from that site, given that the acid sulfate soil management has not been best practice up till now.

CHAIR—What about the long-term situation? If from the next however many years there is some evidence that sulfates are going into the channel, what should be done? Whose responsibility is it?

Dr Bowman—I do not think it is our job to answer that.

CHAIR—Is there any obligation to monitor and test material beyond the life of this development, beyond its construction?

Dr Bowman—In general terms, having written the original acid sulfate soil management plan and seeing it accepted by Tweed Shire, and it has been picked up by the New South Wales EPA, ASSMAC and QASSIT, they have all got a variation on it, all those management plans require ongoing monitoring to verify that the plan is being successfully implemented. So, in general terms, someone should be doing it, yes.

CHAIR—So that is ongoing after the completion of the project?

Dr Bowman—Most definitely, yes.

CHAIR—For what period of time?

Dr Bowman—That is the question. I would have seen that period as being for some years. There has been debate in particular instances as to whether that should be a few years or more.

CHAIR—So your understanding of the deed of agreement and the management plan—

Dr Bowman—I do not know anything about the deed of agreement or the management plan as it ultimately—

CHAIR—We will ask those questions of those who do, perhaps.

A difficult question and the subject of a lot of submissions and a lot of the evidence the committee has heard is the evidence put up by scientists which has either been ignored or challenged directly, and the intimidation of people to the point where we are told that scientists have been reluctant to speak out. Has this been the case with CSIRO? Have there been any incidents where the work of some scientists has not been properly reflected in reports by CSIRO? Can you tell the committee your views about those matters?

Senator IAN MACDONALD—It is almost an insulting question for CSIRO, Madam Chair, to suggest that these people would have ignored reports.

CHAIR—Nonetheless, I have put the question.

Dr Bowman—I will defer to management for that.

Dr Rogers—CSIRO has certainly not been ignoring its scientists. I can categorically state that. CSIRO prides itself on the fact that it is a strategic research organisation that relies on the scientific expertise of its staff. However, it is our understanding that individuals from CSIRO have been subject to some harassment in the press and by other individuals. However, I do not know any specifics about this. I do not know any specific names, it is just generally known within the organisation that people involved in the Hinchinbrook work have been harassed, shall we say. I will not say anything stronger than that.

CHAIR—Is that your experience too, Dr Bowman?

Dr Bowman—I would rather not comment.

CHAIR—Okay. Thank you.

Senator IAN MACDONALD—Dr Rogers, you said you could not be specific about names of—

Dr Rogers—I could not be specific. I do not know specific instances but people have said to me there have been press reports or something on the TV or whatever. But I do not have specifics, I make that very clear.

Senator IAN MACDONALD—You have not been harassed?

Dr Rogers—Myself?

Senator IAN MACDONALD—Yes.

Dr Rogers—Absolutely not, no. Remember that CSIRO has not been involved in this specific development for two and a half years, three years nearly.

Senator IAN MACDONALD—Yes, I acknowledge that and I tried to reinforce that for your benefit and for the committee. Dr Bowman, have you ever been harassed in relation to any views you have had on this matter?

Dr Bowman—I think under my present circumstances I would rather not comment on that, if I may.

Dr Rogers—I will support Dr Bowman in that. He does not need to comment.

CHAIR—Thank you for appearing before us today. Again, I am sorry to have kept you so long before you came to the table.

[1.15 p.m.]

JOHNSON, Mr James, Director, Environmental Defender's Office, Level 9, 89 York Street, Sydney, New South Wales 2000

CHAIR—Welcome. The committee has before it submission No. 144 which it has authorised to be published. Are there any alterations or additions that you would care to make at this stage?

Mr Johnson—Yes, I would like to make a correction to that statement. If I could correct page 5 of my written evidence. There is a mistake there. The application for consent under the World Heritage Properties Conservation Act is not a trigger for assessment under the EP(IP) Act. Originally it was meant to say that, curiously, that is not a trigger. Unfortunately, that is not the way—

Senator PAYNE—What paragraph is that in, Mr Johnson?

I have got the page.

Mr Johnson—At about point 5 on the page.

Senator PAYNE—The paragraph beginning, 'In the case of the Port Hinchinbrook development . . . '?

Mr Johnson—That is correct.

Senator PAYNE—Thank you.

CHAIR—I am sorry, Mr Johnson, what page was it again?

Mr Johnson—On page 5, in the paragraph beginning 'In the case of the Port Hinchinbrook development . . . ', I have said that there were two triggers. In fact, the application for consent is expressly not a trigger under the World Heritage Properties Conservation act.

CHAIR—Thank you very much. Do you wish to make a brief opening statement or, if you wish, we could go straight to questions?

Mr Johnson—I would like to make a brief opening statement and supplement my evidence. The main point I would like to make is that we need clear rules to ensure environmental protection and reduce the potential for dispute in the future. Since my submission, the Commonwealth government has tabled the Environment Protection and Biodiversity Conservation Bill. It proposes a new regime and I would like briefly to reflect on the proposed regime, looking at the main points of my submission.

The first thing is that it is important that there be a clear way of recognising when there should be Commonwealth involvement in a proposal. Under the current system, the act depends on there being a threat of damage to world heritage before the Commonwealth can act. Once that threat is established, then the Commonwealth can proclaim an area and

provide protection for it. In the absence of a management plan, this can lead to a difference of opinion as to whether there is in fact a threat to an area.

When Cardwell Properties commenced work at Oyster Point, the company required no approvals from the Commonwealth. However, there was an obvious risk that at some stage in the future there would be a proclamation and a subsequent requirement for an approval. In my opinion, it would be far preferable for it to be up-front, transparent, so that people would know exactly where they stood as to whether Commonwealth approval was or was not required.

This leads to the second point in my submission, the main point about plans of management, because plans of management are one tool in helping to provide greater certainty as to what, if any, action is required by the Commonwealth at any stage. Talking about the requirement for approval, before I move on to plans of management, the Commonwealth bill does have recommendations or proposals there. The aim is so that the proponent and the community know up-front whether Commonwealth involvement is required, and the test is whether there is a significant effect on world heritage values. While the aim is laudable, I think the bill needs to be improved to provide greater certainty still. There is still going to be difficulty in ascertaining exactly what those values are, because often for areas that have already been nominated the nomination documents do not clearly define what the values are and it will be up to individuals to comb through and pick from that document what exactly the Commonwealth is concerned with.

Secondly, there is no guidance as to significance, so there will obviously be a difference of opinion as to whether a proposal and its impacts again trigger that threshold. The bill does propose a referral mechanism that will enable a proponent, or a Commonwealth agency with responsibility, or a state agency with responsibility in the area, to refer a proposal to the minister for environment for a determination about whether it does in fact cross that threshold. That is often known as the screening stage of environmental impact assessment.

I am concerned that it ought to be possible for any person to refer such a proposal to the Commonwealth environment minister in order to cut off the possibility the proposal is not referred which subsequently is acknowledged as going to have a significant effect. I am concerned that the minister ought to have sufficient information in order to be able to make a proper determination. Some jurisdictions use a format known as a notice of intention. It contains information about the existing environment, the location of the proposal, the precise nature of the proposal, the potential impacts—those sorts of things.

I am also concerned that public participation comes far too late in this process in that the minister determines whether the screening process involves the Commonwealth or not only on information provided by the proponent, and the broader public does not have a chance to supplement that information and provide input. I say all of this in the context of reducing the capacity for environmental dispute.

I mention next the issue of plan of management. The bill does provide for plans of management for world heritage areas but, unfortunately for world heritage areas which are completely within Commonwealth land, it binds only Commonwealth agencies. For those which involve state land as well, the Commonwealth must use its best endeavours only. In

my submission, when an area is nominated for world heritage, that nomination ought to be accompanied by a plan of management so that it is clear, ahead of time, what the nomination and acceptance of an area of land of world heritage will mean.

Senator IAN MACDONALD—Madam Chairman, can I just interrupt the witness for one second to ask you a question? As you know, I am not part of this committee for the Commonwealth legislation's inquiry, so I am not aware if the EDO has made a submission to that and whether they have been called as witnesses to that inquiry. If they have, it would seem to me that this evidence is simply relevant to that inquiry. While it is relevant to this inquiry also, it is more specifically relevant to the other inquiry. Perhaps you could assist me. Have these people been called as witnesses?

CHAIR—We do not have a schedule yet, but I would expect the EDO to do that. Are you speaking about the bill or the Commonwealth environment powers inquiry?

Senator IAN MACDONALD—The Commonwealth environment powers inquiry.

CHAIR—I think Mr Johnson is talking about the bill itself.

Mr Johnson—I am conscious of the time and I will try to be brief.

Senator IAN MACDONALD—The point I am making is that, if this evidence is more relevant to another inquiry, perhaps the committee should use the time to look at the submission made and ask questions rather than spend the next seven minutes hearing a submission that is really more relevant to the legislation committee inquiry on the bill.

CHAIR—Mr Johnson, maybe you will take that on board. We are tight for time, and I am sorry to squeeze you.

Mr Johnson—That is fine.

CHAIR—That is a valid comment.

Mr Johnson—I am concerned that this committee ensure that we learn as much as we can from what has happened in the past. I think we are presented with an ideal opportunity with Commonwealth environmental laws, which have been passed with this as a background, to make sure that we get the best value out of what has happened.

Senator IAN MACDONALD—Mr Johnson, as you know the legislation committee will be calling evidence on that, if it has not already done so.

Mr Johnson—Yes. I think that is all I want to say by way of opening statement.

Senator HOGG—There is just one issue that I am interested in. You speak about a public participation process and looking at reducing the capacity for dispute.

Mr Johnson—Yes.

Senator HOGG—If there is a consultation process, how long should that consultation process proceed, given that a developer will have a fair amount of money at stake in developing whatever the site is? I am not particularly now referring to this site. I am trying to look to the future.

Mr Johnson—No.

Senator HOGG—Should there be some guidelines laid down as to the time that could be reasonably expected to resolve any consultative process? If there is no resolution, where should the final arbitration of that reside?

Mr Johnson—When we are talking about public participation, consultation is only one part of it. A public assessment process often goes a long way towards reducing the level of dispute, because at least you have a more agreed foundation of scientific fact upon which to base debate and to move on from. That foundation is missing in this case. In terms of the time, once an adequate environmental assessment has been prepared and placed on exhibition, as little as six weeks is often given—with the current legislation it is as little as four weeks—for the public to comment on that. If it is a public inquiry process, a longer time will be required. In major developments, a public inquiry process is appropriate.

Senator PAYNE—In your brief summary, you indicated that you believed that any person should be able to refer a proposal about which they have concerns.

Mr Johnson—Yes.

Senator PAYNE—In some ways, my question leads on from Senator Hogg's question. Do you think there should be a threshold level established of some particular status of the proposals, and some particular proximity, if you like, of the person concerned to the proposal? Should there also be a time frame involved so that it must be done before developments proceed, and if it is not done before developments proceed then time expires? Do you have any views on those conditions?

Mr Johnson—If I could take the first part of your statement, no, I think there is no need for proximity. What I think there is a need for is much clearer guidelines than were proposed so that it ought to be obvious up-front to people. It would be much easier to make a determination about whether a development crosses that threshold.

It works quite well in Western Australia with the capacity for any person to refer a project for determination. It has meant that proposals which would have slipped through the net, and which ought to require assessment, have received the assessment they need. I do not think there is need for a proximity test or anything for the person providing that requirement.

As for the time requirement, I do not think there should be a time limit. If any person has the right to refer a proposal, it is more likely that the referral will happen at an earlier stage. I think, as a matter of discretion, if there are late referrals, that the Minister for the Environment—which I think is where the ultimate discretion for a decision should reside—

may well decide that no assessment ought to be carried out on a discretionary basis because of the lateness of the referral.

Senator PAYNE—How do you then stop a mechanism such as that being used simply as a time waster, or a continual deferring process, by people who will never agree with a particular proposal or development?

Mr Johnson—I think that once a minister has made a determination on a matter, on the submission of an adequate notice of intention, if you like, by a person, then there is probably no need to revisit it.

Senator PAYNE—You would incorporate that aspect of your views in the process, and that once a determination had been made it would not be revisited?

Mr Johnson—Yes. That is what is proposed in the bill. The minister can make a determination, once it is referred to him or her, as to whether the proposal crosses that threshold because of the significance of that determination. That is why I am concerned that, firstly, there should be public involvement in that so that the minister obtains information from a wide range of sources. It is obviously in the proponent's interests not to emphasise perhaps the negative impacts of the development, and that is only natural. And, secondly, to provide a minimum information requirement. I have mentioned a 'Notice of Intent' as being one way to specify that information requirement.

Senator PAYNE—Thank you.

Senator IAN MACDONALD—I think we would concede that there must be some criteria to be met before action can be taken to delay proposals.

Mr Johnson—Do you mean in the nomination process?

Senator IAN MACDONALD—Yes.

Mr Johnson—I do not see it as being a delay. It would not delay a proposal. If a proponent has formed the opinion that a project is not a matter of national environmental significance and ought not to involve the Commonwealth, the proponent is at liberty to continue with that project. A determination by the minister is proposed to be made within 20 working days, so it will be quite a prompt response.

Senator IAN MACDONALD—I was really getting to perhaps competitors or others who might want to stop a proposal. Would you agree there have to be some minimum grounds for taking legal action to pursue the matter further and to challenge whether the processes have been followed?

Mr Johnson—This is not then referring a matter; we are now looking at legal proceedings.

Senator IAN MACDONALD—Yes.

Mr Johnson—No, I would not. I think, even with commercial competitors, that it is important that there be a level playing field. If the legal processes have not been followed, then it is important that commercial competitors have the capacity to—

Senator IAN MACDONALD—Yes, I agree with that, but is there some threshold test that must be followed so that commercial competitors cannot stop a project simply so they can get theirs going, even though they have no grounds for stopping it?

Mr Johnson—Certainly. If a case has no grounds, then the courts have quite strong powers to strike them out at an early stage. I suppose, yes, to that extent, there is and ought to be that threshold.

Senator IAN MACDONALD—Yes. Did the EDO advise the Friends of Hinchinbrook that they had good grounds for challenging the decisions of the minister previously?

Mr Johnson—Yes. And, because of the significance, I suppose, of the issue, we did not do that on our own. We actually obtained advice from ultimately three sets of junior and senior counsel.

Senator IAN MACDONALD—And that was at every stage in the rather protracted court cases?

Mr Johnson—It was at every stage of the proceedings, but I would not say they were protracted. In fact, in my experience, they were extraordinarily quick decisions.

Senator IAN MACDONALD—When did they start?

Mr Johnson—The proceedings commenced in October 1996, and the Federal Court original proceedings were determined by December 1996. I am sure that many commercial litigants would look at that time period quite jealously because it is remarkably quick.

Senator IAN MACDONALD—When did Justice Sackville give his decision? That was this year, wasn't it, or has time run away from me?

Mr Johnson—No. He gave his decision on 14 February 1997.

Senator IAN MACDONALD—When was the final decision of the High Court in this matter?

Mr Johnson—I do not recall, I am afraid.

Senator IAN MACDONALD—That was only this year, wasn't it?

Mr Johnson—Yes. There was no injunction pending while these proceedings were pending. The proceedings in no way caused that—

Senator IAN MACDONALD—But had the action been successful, it would have meant quite dramatic results to the developer who was then two years down the track?

Mr Johnson—Yes.

Senator IAN MACDONALD—Do you think it is a responsible use of the court process, though, to take these actions when it appears quite obvious now that the applicants had no prospect of paying any legal costs awarded against them by a court, unusual though it is for a court to award costs in instances such as this unless the court is of the opinion that there has been a gross misuse of the court's procedures? Do you think that is a responsible action for any lawyer to be involved in?

Mr Johnson—Can I take that in two stages?

Senator IAN MACDONALD—Sure.

Mr Johnson—Firstly, I think you were implying that ordinarily the courts would not make orders for costs unless there had been gross abuse of procedure.

Senator IAN MACDONALD—In these sorts of matters.

Mr Johnson—No, I do not think so. The usual rule is that each losing party must pay the costs of the winning parties. That is in fact the usual rule.

Senator IAN MACDONALD—Does that apply in all these types of proceedings, does it?

Mr Johnson—In most proceedings, yes, it does. There are specific jurisdictions—for example, in the Land and Environment Court in New South Wales—where the scheme of the act makes it clear that public participation forms a fundamental hallmark of the act, and there are open standing provisions given there. A line of authority has developed which was confirmed in the High Court—I think that was again earlier this year—which set that particular piece of legislation apart.

Senator IAN MACDONALD—The question of payment of costs in this last round of things was subject to quite detailed argument, so obviously there was a suggestion that costs should not be awarded?

Mr Johnson—Yes, there was.

Senator IAN MACDONALD—The court determined, in this case, that there should be.

Mr Johnson—Yes. There was no suggestion there was a gross abuse of process or anything like that, though.

Senator IAN MACDONALD—I thought that was what came through from the Appeal Court and the High Court.

Mr Johnson—No.

Senator IAN MACDONALD—Both courts dismissed the action summarily without saying they had little merit in a legal sense.

Mr Johnson—No, different considerations applied in different matters. In the High Court, if you look at the numbers of applications for special leave and the numbers that are granted, this is a process where you get 20 minutes essentially to put your case and a decision is made on the spot. It really is sudden death. Approximately one in four applications for special leave are granted. It is not unusual in those sorts of cases not to be granted leave. The court in fact said that—

Senator IAN MACDONALD—I read the judgment. The Commonwealth is left with a bill now of $160,000. The Commonwealth can pay that because it is taxpayer's money, it belongs to someone else. But do you think that is a responsible attitude, though, to be involved in those sorts of claims? I thought Justice Sackville's judgment made it quite clear that there was no merit in the application before it. It was not whether the project was environmentally sound or not. That was never really the case. It was simply a question of process. I understood most involved in the law quite clearly thought that the process had been followed. Whether the result was right environmentally was another question.

Mr Johnson—Firstly, as for a figure of cost, my understanding is that, while orders for costs have been made, the quantum of costs has not been determined, and that is part of a taxing process.

Senator IAN MACDONALD—I understood you have been asked for some money by the Commonwealth. I do not think the Commonwealth has got a reply as of the present time.

Mr Johnson—An offer has been made to my clients to settle the question of costs.

Senator IAN MACDONALD—Has there been any response?

Mr Johnson—I am still obtaining instructions on that.

Senator IAN MACDONALD—How long ago was that suggestion put?

Mr Johnson—I think there was a letter recently from the solicitors for the minister about two or three weeks ago.

Senator IAN MACDONALD—This has happened in another development in Townsville where Senator Reynolds was well aware of people taking court costs. In that case a city council has gone to huge expense to defend it and has had an order of costs made against it. Then, of course, there is no prospect of getting it. But can you appreciate that this debases the whole system where people are forced to spend a lot of money to enter into legal actions which really, in the end, are shown to be quite meritless?

Mr Johnson—It is easy to be wise with hindsight. There are mechanisms in place that the courts have to ensure that actions which have no base do not proceed and there are mechanisms effectively for bonds to be placed in appropriate cases. It is called security for costs. An application for security for costs was made in both sets of proceedings in the

Federal Court. The court considered it carefully and decided it was not appropriate to seek that order for security in these cases. Our office, the Environmental Defender's Office, always regards litigation as a last resort. Litigation is very expensive and generally the public finds it to prohibitive to have access to the courts. Now this case raised matters of great importance to the interpretation of the world heritage legislation and the operation of Commonwealth environmental protection laws.

So much has been acknowledged by Mr Flemming, the adviser to the Minister for the Environment. In fact he has published in volume 14 of the *Environmental and planning law journal* an article detailing the importance of the case and its importance for the Commonwealth laws which were foreshadowed even then. It does happen that cases are run and won or lost and one or the other parties is not able to pay the costs of the other parties.

Senator IAN MACDONALD—But do you understand that this brings the whole process into disrepute with the people who pay the bill, who ultimately are voters and taxpayers?

Mr Johnson—With respect, it happens daily. It happens in legal cases. I understand that evidence was given before this committee about the costs to GBRMPA, for example, in supervising this development and monitoring it and those sorts of things. I would much prefer to see an avoidance of litigation. Major public litigation like this happens quite rarely. At the Commonwealth level our office has only been involved in two sets of proceedings and the earlier set involved a series of woodchip licences in Tasmania.

Senator IAN MACDONALD—I suppose you have answered the questions. The process seemed to be very carefully followed by the minister all the way through and followed on the best legal advice available to him, and yet the Commonwealth taxpayers are still up for a bill of $160,000, which they are pretty unlikely to—

Senator WOODLEY—Take it out of the $10 million from the tax package.

Senator IAN MACDONALD—Or, Senator Woodley, take it out of the money that this inquiry will cost the taxpayer, for a result about which I am not quite sure.

Mr Johnson—I am sure that the minister acted on the best legal advice and there was no intention to be in breach of the law. There was a difference of opinion about several things. I will just raise one and that is whether the Commonwealth minister has the power to impose conditions on a development and—

Senator IAN MACDONALD—Those matters have been well canvassed in a court over a lengthy proceeding which really—

Mr Johnson—They have. But every environment minister leading up to this minister has considered that they had the power. If you look, for example, at the Daintree road, there are approximately 70 pages of environmental conditions attached to that.

Senator IAN MACDONALD—It turned out that this minister obviously had the better legal advice, didn't he?

Mr Johnson—That is right. But there are serious issues that it was important to resolve and which will result, I am sure, in better environmental legislation coming from the Commonwealth.

Senator IAN MACDONALD—Better environmental legislation, but the processes in the past one were followed to the letter according to three courts. I had better not enter into the new legislation, which I raised with the chairman earlier, which should not be a matter for this committee. A lot of the problems you foresaw with the legislation that has been in place for a number of years will be addressed in the newer legislation. Do you agree with that? It perhaps may not be addressed in the way you would want it to be, but it would certainly be addressed.

Mr Johnson—I think an answer to that probably requires a longer explanation than the committee is prepared to accept. There is a give and take involved. Some of the things are addressed and, with that particular one about conditions, it is important that it expressly says the minister has the power to impose conditions.

Senator IAN MACDONALD—The new legislation does say that.

Mr Johnson—That is right.

Senator IAN MACDONALD—It also says about up-front approvals before anyone gets started and so it removes a lot of the problems that there have been under the old legislation with this issue.

Mr Johnson—It certainly goes part way. Providing some relatively minor amendments could be made, I think that it would correct that.

Senator IAN MACDONALD—It also requires the precautionary principle to be adopted as a matter of Commonwealth legislation.

Mr Johnson—Yes. If we are talking about the bill, I have a few other points that I could make.

Senator IAN MACDONALD—But you do agree that it covers that, do you?

Mr Johnson—Sorry?

Senator IAN MACDONALD—It does require the precautionary principle to be taken legislatively.

Mr Johnson—The bill does require the precautionary principle to be taken into account in a number of decisions made by the minister—not all the decisions and not in a comprehensive way. I would much prefer to see an overriding obligation on all decision makers and all decisions made under the bill and, in fact, for all government agencies to pursue ecologically sustainable development as an object.

CHAIR—Senator Macdonald, can I perhaps give Senator Reynolds an opportunity to ask questions? We will come back to you if you wish to proceed.

Senator IAN MACDONALD—Sure

Senator REYNOLDS—I guess that, whichever side of the debate you are on in regard to Port Hinchinbrook, we all agree that we must learn lessons from the debacle of the past years of dispute and counterclaim. In your submission you make it clear that one of the requirements is a proper EIS. If it is world heritage, the Commonwealth must be the responsible authority. That was the initial breakdown in relation to Port Hinchinbrook. You say that there are some matters where the EIS ought to be mandatory and ought to be conducted by the Commonwealth. What type of action would this cover?

Mr Johnson—Because of the very great significance of world heritage areas and Australia's international obligations, I think that would be one category, for example. In terms of which other of those categories cross the threshold, it is probably a matter for public debate and not really environmental law expertise.

I would probably prefer not to express an opinion about which categories of development proposal ought to remain with the Commonwealth. There are major national environmental issues which the Commonwealth is best able to deal with. Some of the matters have been selected in the bill—uranium and nuclear waste disposal facilities—and there are some which have not been covered in the bill such as greenhouse emissions, land degradation, water allocation issues and native vegetation clearance. I think they need to be tackled in a coherent, Commonwealth, comprehensive way.

Senator REYNOLDS—You would have to have some scale of development to set as a benchmark because if you look at the wet tropics, for example, if every development in the wet tropics were to be subject to Commonwealth EIS and scrutiny, presumably there would be no role at all for local government, it would be out of scale with what was required, whether it is a proposal for a development of up to 2,000, although it is now 1,500, I understand. What are your views about this?

Mr Johnson—There would be two ways you could do that. One is to have what is proposed in the bill, which is a significant effect on the environment as a threshold.

Senator REYNOLDS—But that is debatable.

Mr Johnson—Yes. That would require there to be guidance about significance. An alternative, but also more difficult, is to prepare a list of developments and if it is one of those on the list there is no discretion.

Another way would be, particularly with world heritage areas, ahead of time designating a plan of management and perhaps doing a strategic impact assessment of that plan of management and actions which are allowed under that plan. Another way might be that any development not covered by that plan of management must have environmental assessment.

Senator REYNOLDS—I might leave it there.

CHAIR—Mr Johnson, thank you very much for appearing before the committee today. The committee will resume after a very short lunch break.

Sitting suspended from 1.48 p.m. to 2.21 p.m.

MALCOLM, Mr Hamish, Conservation Officer, Queensland Department of Environment and Heritage, PO Box 5391, Townsville, Queensland 4810

CHAIR—Welcome. Do you wish to make a brief opening statement. If not, we will proceed straight to questions.

Mr Malcolm—I wish to say at the outset that I am here as a departmental officer but not representing the Department of Environment and Heritage.

Senator WOODLEY—Mr Malcolm, could you outline your experience in terms of the fact that you were the first environmental site supervisor and then you were removed from that position. Could you explain the circumstances of that removal and detail some of the work which you did in the early days in terms of the turbidity control plan, et cetera.

Mr Malcolm—That is not right about my being removed from that position. When I took it on I only agreed to do it on an interim basis for the first month. I was always going to finish at the start of October, which I did. I performed the role from 2 September 1996 to 2 October 1996. I was really only ever working in an acting capacity, I was never appointed as the environmental site supervisor.

My involvement in the turbidity control plan, which included the acid sulfate management plan, was mainly related to providing comment and, as the environmental site supervisor, just making sure that plan was adhered to.

Senator WOODLEY—Were you happy with the management of the site?

Mr Malcolm—All I had to be happy with was that it was managed according to the control plan under the deed of agreement and the variation of the deed of agreement. My personal opinion was not relevant there.

Senator WOODLEY—Were there any breaches of the deed of agreement while you were there?

Mr Malcolm—No.

CHAIR—Mr Malcolm, perhaps you can describe a bit more your role when you were the environmental site supervisor and, in particular, talk about monitoring. What were your duties as the site supervisor?

Mr Malcolm—My duty was not the actual monitoring. Under that deed of agreement that was the role of an independent monitor. That was actually covered under various things by different people. The DPI seagrass ecology group were monitoring seagrass. Sinclair Knight were monitoring water quality in the channel. There was no specific monitoring of outflow at that time. At the time that I was working there, there was no dredging going on; it was all works within the channel—dry works, dry excavation. A fair bit of acid sulfate soil was excavated. I used a fairly simply method for looking at whether material was potential acid sulfate or not, a hydrogen peroxide test. It oxidises the soil and tells you whether or not

a material is potential acid sulfate or not, but it does not tell you what levels of acidity there are or what sort of treatment is required for it. It is just purely an indicator.

It was easy quite early in the works to determine that the main material within the southern canal where they were excavating, the potential acid sulfate, was a grey clay layer of mud. So it was fairly visually obvious and the excavators could put it into trucks and separate it. That is what they were doing when I was there; basically separating out the acid sulfate material and stockpiling it. They had drains around it and they had a pond where, if there was a rain event and there was leachate coming off, they could treat that water if it was acidic by adding lime or something else, the neutraliser.

CHAIR—Did that happen during your work time?

Mr Malcolm—No, that was September, which is a fairly dry time of the year up there, so there were not any rain events while I was environment site supervisor up there.

CHAIR—A number of witnesses have come to the committee and said that there was an absence of base line data, that a thorough comprehensive study of where the acid sulfate soils were on the site would have been preferable and that environment management had been hampered by the absence of that material. Is that your view as well? How did you manage without knowing precisely where acid sulfate soils or potential acid sulfate soils were?

Mr Malcolm—I think it was pretty well known that there were potential acid sulfate soils on that site so, when it was given the okay to proceed, it was known that those soils were going to be disturbed. There are a number of ways you can manage that. But in all cases you are probably going to get some oxidisation and some generation of acidity.

One of the ways that was proposed in the management plan that was signed off on as part of the turbidity control plan was to isolate those clays or soils and treat them for acid. It is one option; it is probably not the best. Probably the best option is to stop oxidisation occurring, which is to deep bury it back down below the watertable if you have got that ability, but you are talking about a lot of material. I think by the time I finished as environment site supervisor there, there were about 15,000 to 20,000 cubic metres of potential acid sulfate soils sitting on the dump where they were being stored.

CHAIR—So during your time, which was just one month, this quantity of material was dug up and—

Mr Malcolm—Yes, while I was there they were doing the main excavation on the southern channel, and that is where a lot of that acid sulfate material was actually—

CHAIR—Was that a matter of concern to you at the time?

Mr Malcolm—Yes, I suppose as environment site supervisor I was concerned whether that technique would be appropriate, but that is what had been agreed to under that turbidity control plan.

CHAIR—The turbidity control plan as opposed to the acid sulfate soil management plan.

Mr Malcolm—This is the one that was actually signed off on before the development started.

CHAIR—I see.

Mr Malcolm—But at the same time Cardwell Properties were getting their consultant, Sinclair Knight, to develop another management plan to deal with acid sulfates.

CHAIR—Did that plan subsequently not allow that kind of—

Mr Malcolm—No, it actually included that as one of their methods.

CHAIR—So this practice continued, of stockpiling or mounding up material that was excavated?

Mr Malcolm—While I was there.

CHAIR—Didn't you say that the management plan allows that to continue to happen?

Mr Malcolm—I am not sure what the state of the management plan is now. I have had no involvement since I looked at the second draft in October 1996. I do not know where it went from there.

CHAIR—Did you offer a view at the time about this practice?

Mr Malcolm—Yes, I commented on the draft management plan.

CHAIR—To whom did you make a comment?

Mr Malcolm—To the Department of Environment and Heritage.

CHAIR—To the effect that this practice of dredging up and stockpiling material was in your view—

Mr Malcolm—Probably a less preferential method of dealing with it than somehow putting it back beneath the water so it would not oxidise.

CHAIR—What response did you get from the department to your concerns?

Mr Malcolm—I do not know what response there was. It was not a matter of their responding to me it was more whether they passed it on. I am not sure. You would have to talk to the Department of Environment and Heritage.

CHAIR—Was it impossible at the time for the development to deal with it in a more environmentally satisfactory way? In your view should holes have been dug in order to put this material into them or was that impractical?

Mr Malcolm—I think that is what they ended up doing—burying quite a bit of it.

CHAIR—At the point of excavation?

Mr Malcolm—Preferably I would say you would have a management plan signed off and agreed to with the final way you were going to deal with it rather than just pulling it out as an interim sort of measure.

CHAIR—I understand your criticism of the work being carried out before the management plan was in place, but what I am asking you is how reasonable would it have been to expect that, rather than stockpiling this material at all, holes be prepared and ready to accept it on site.

Mr Malcolm—I think you would have to really talk to acid sulfate soil experts to get advice on that one. I am certainly not an acid sulfate expert. It would depend on how quickly it oxidised and how quickly the acid was generated.

CHAIR—Was it your role to determine the rate of oxidation? Perhaps you could let the committee know what your credentials are, what qualifications you have in this field?

Mr Malcolm—I am a marine scientist also with a background in earth sciences and geology. I have a postgraduate diploma in marine ecology. I have done soil science at university and I have worked as a water analyst for the Fresh Water Research Centre for about three years.

CHAIR—Have you been involved in other projects that have involved acid sulfate soils?

Mr Malcolm—No. Since that time I have but not prior to that time.

CHAIR—Thank you. When you notified the department of your concerns about this practice, did you also notify Mr Williams?

Mr Malcolm—That was not an actual notification. It was just comments I provided on the management plan. Just in the normal course of duties you often comment on things like impact statements or management plans, so I just commented on the plan they came up with suggesting other ideas and I passed that onto the regional director.

CHAIR—In your day to day operations you did not see this material and say to somebody, 'I think there is a better way of dealing with it?'

Mr Malcolm—I directed it to my regional director.

CHAIR—Your regional director?

Mr Malcolm—Yes.

CHAIR—That is within the department?

Mr Malcolm—Yes, which is a procedure you would follow within a department.

CHAIR—Was there any discussion between you and Mr Williams about that aspect of the work?

Mr Malcolm—No.

Senator WOODLEY—Did you have any conversations with Mr Williams? What was your relationship with him?

Mr Malcolm—I saw Mr Williams on site a couple of times.

Senator WOODLEY—What was your relationship like with him—cordial?

Mr Malcolm—Yes.

CHAIR—Is there something else you want to add, Mr Malcolm, that we have not explored as thoroughly as we ought?

Mr Malcolm—I was invited here by the Senate committee. I did not have a submission.

Senator IAN MACDONALD—You said that you have not been involved with this since October 1996?

Mr Malcolm—That is correct.

Senator IAN MACDONALD—When you talked about making submissions to the Department of Environment you meant the Queensland Department of Environment and Heritage, did you?

Mr Malcolm—Yes.

Senator IAN MACDONALD—Thank you for coming, Mr Malcolm. I am not sure why you are here without a written submission, but thank you for coming anyway.

[2.36 p.m.]

WILLIAMS, Mr Keith, Principal Executive, Cardwell Properties Pty Ltd, PO Box 444, Main Beach, Queensland 4217

CHAIR—The committee has before it submission No. 83, which it has accepted as confidential. I note, Mr Williams, that you have provided the committee with your opening statement. I invite you to add to that, or to summarise it, and then we will proceed to question.

Mr Williams—I am a little confused as to what to say first because the information that was given this morning alone would take me about a week to answer. I must say that not all of it was very honest.

Having sat through some of the sessions, regrettably it appears to me that the attitude of the Port Hinchinbrook development's opponents seems to be based on crucifying the project and me personally. They do not, under any circumstances, let the truth stand in the way.

Let me say that I have not, on any occasion, breached the deed. I do not think anybody has disagreed with that yet in the hearing. My construction work at Port Hinchinbrook has never caused one drop of acid contaminated water to enter the Hinchinbrook Passage or the world heritage area. There is no evidence of any significant impact on world heritage values as a result of my development. That was an extract from what Environment Australia were going to give to you today.

In view of the above, and in view of the fact that real environmental problems are being unveiled every day, I would like the committee to explain in their published findings the reasons why I have been subjected to constant political and bureaucratic victimisation. Regrettably, I cannot find a nicer word for it. Whatever the findings of this inquiry may be I respectfully suggest that no blame for anything can be attributed to me because the responsible government departments, state and federal, will attest to the fact that I have complied in every respect with my obligations, and I have worked only in accordance with the relevant permits issued.

I will now go to some notes because, as I said, I will have to start thinking about what was said today. I notice that some of you have been very concerned with the process and I agree that you should be concerned with the process, but I would like to say that the process was quite in order and quite sufficient to control any development before the federal government intervened. Through the federal government's intervention, nothing other than delays has been achieved. I suggest that at every step their moves were political and with no benefit to the environment.

I do not expect 100 per cent support for Port Hinchinbrook, but I do expect the truth. The truth cannot be revealed without cross-examination by the accused and I am the accused. I suggest that this inquiry has not got the truth at all, it has never even looked like getting the truth and it will never get the truth until you allow cross-examination of these people who stand up and just tell lie after lie, making all sorts of accusations and all sorts of derogatory comments. Cross-examination is the only way it can be handled. If this is the

way all Senate inquiries are being handled, I can assure you I would have no faith in any Senate inquiry from here on in.

In uncovering the truth, an inquiry will fail, as I have said. Let us look at the deliberately misleading statements made to this inquiry. Also let me correct the misleading information fed to you committee members with the intention of giving you the wrong impression. I suggest a lot of information has been fed to you with that intention. I know by some of the questions that have been asked. You did not dream them up. I know who would have fed them to you.

Some incorrect statements have been made inadvertently and that is only reasonable because this thing has been dragging on for five years and a lot of the people do not really remember what happened in the first stages. They do not know what the sequence of events was. Therefore they are making statements that are not correct.

Let us look at some of the claims. I am building a subdivision, not a resort. There is a good reason why at the present time I am concentrating on a subdivision. Nobody in their right mind would build a resort under the present conditions because, in case you are not aware of it, the state government and the federal government put a moratorium on all tourist permits. Who would build a resort not knowing whether or not you are going to be able to send your tourists anywhere? That is what the situation is at the present time. To say I am building a subdivision and not a resort is ridiculous. I have tendered my plans. They are for an integrated resort. An integrated resort is, in case you do not know—and I must say I think with due respect, Chairman, you asked some questions about an integrated resort—it is a combination of precincts: a hotel precinct; residential precinct; shopping precincts and one major project such as a marina, a chair lift if you are in the snow country or a golf course if you are elsewhere.

It was also said there was—I think this was one of Professor Talbot's statements—no esplanade as there was in the Tekin plan. He also said that my plan is different from the original plan. That is not correct and I suggest that he might be a good professor but he cannot read and he cannot see—or he cannot see what he does not want to see.

There has been no change. The Tekin plan did not have an esplanade: it had a row of trees, various plantations of trees and some houses. These are sketches: nothing to do with what is really going to happen. I have not changed the plan and I have not changed from the Tekin plan.

I have not applied for integrated resort registration and I think, Chairman, you said 'as is required' in one of your addresses. There is no requirement to apply for an integrated resort registration. I think I know something about it because I introduced it to the federal government in the days of the Hawke government to put integrated resorts into their FIRB requirements. I was thanked by the Prime Minister for giving them a project for which they got all bouquets and no brickbats.

You are only required to apply for an integrated resort recognition or registration if you want to sell land to a foreign buyer. I have not attempted to sell land to a foreign buyer nor do I intend to, temporarily. There may come a day but I then know to apply for integrated

resort registration. There is an integrated resort act in Queensland or rather there was, but it has just been abandoned and a new act has taken its place. But there was no requirement to comply with that act. It is only a suggested way of handling an integrated resort.

To give you some idea of some of the things that have been said, the newspapers reported—and I do not know where they got it from—that 'the resort chief is like a bull': I pushed ahead without considering the consequences. Because of no EIS, I obtained permits by stealth. Historically, Hinchinbrook Channel was in the Great Barrier Reef Marine Park. That is an incorrect statement made by Mr Cook, probably with good intentions and probably because his memory does not go back that far. Traditionally, the Hinchinbrook Channel was never in the Great Barrier Reef Marine Park. Senator Richardson made a mistake in demanding the Tekin people take out an EIS. He had no authority in that area at all and the court eventually told him that.

Let us look at obtaining an EIS or rather obtaining permits by stealth. How can you possibly obtain anything by stealth when you have never been asked by anybody to provide an EIS? Never asked. How can I push ahead without considering the circumstances when nobody will attest to the fact that I have ever done anything without the proper permits in hand? So, if there were some consequences, it is the people who issued those permits who were supposed to have taken the consequences into consideration and not me.

Everybody wants to have a whack at Port Hinchinbrook by airing their own grievances. We saw some good examples of that in Cardwell on Thursday of the week before last. A Mr Vern Veitch of Sunfish displayed fish and dirty water as having come from the Hinchinbrook Channel. Because there was no cross-examination, because there was no questioning and there is no way of getting at the truth in this inquiry, the fact is those fish were not caught in the Hinchinbrook Channel and the water did not come from the Hinchinbrook Channel. It came from creeks well upstream; in fact, on the western side of the Bruce Highway. This is by Mr Veitch's own admission. The location where they were caught is 50 kilometres from Port Hinchinbrook, but that is the sort of rubbish that is being thrown at us.

I thought Mr Paul Sutton's attitude was very responsible. However, he spoke of things that are not appropriate and he got his figures all mixed up. He spoke about the Thorsborne Trail. I support the Thorsborne Trail 100 per cent. I never want to see any of my guests over there because it is going to take them out of my resort for four or five days and that is not the idea of building a resort. So I am not really encouraging my guests to go and walk on the Thorsborne Trail.

He said that maintenance dredging was going to take 60,000 to 150,000 cubic metres annually. He has got his facts wrong because there were very good figures done on what the maintenance dredging is likely to be and they were done by specialist coastal engineers. It is 20,000 to 40,000 cubic metres and not 60,000 to 150,000 cubic metres.

He also said two million tonnes come out of the Herbert and Seymour Rivers. He got his figures really mixed up: he left the nought off. Dr Brunskill of AIMS has reported on several occasions that it was 20 to 30 million tonnes. So 20 to 30 million tonnes comes out of the Herbert and Seymour Rivers system every year and here we have been wasting millions of

dollars on the fact that I might cause some turbidity when in fact I have caused no turbidity whatsoever.

I think it was the same Paul Sutton who said, 'Locals' opinion should not have precedent over those from faraway places.' Perhaps you should ask the locals about that. I think Senator O'Chee disagreed with him.

I am pointing out that these people who are making all these comments do not know anything about Port Hinchinbrook, which was the case with most of the scientists who stood up here this morning and raved on for a long time about an issue that they know nothing about. They have never been there; they have never taken any checks.

I cannot understand why this inquiry does not go right to the seat of the problem and look at what has really happened, look at the real monitoring and look at the people who have done the monitoring on site. Get down to the facts. The facts are that there has been no environmental damage. Surely it is not your prerogative to look at the cause. Look at the end result. The end result is what counts and we have produced the best possible end result.

Look at Felicity Wade. There was a representative here from the Wilderness Society. They probably were not prepared to put Felicity Wade up because she went and broke into the Prime Minister's office, went on television that night and told the viewing audience that Port Hinchinbrook was on Hinchinbrook Island. And not once but twice she told them that. When I phoned her the next morning, she was surprised that I had phoned her. She said, 'Why are you phoning me?' I said, 'To find out what you really know about Port Hinchinbrook.' She said, 'I know everything about Port Hinchinbrook—everything.' I said, 'Do you? Why did you tell the TV audience last night it is on Hinchinbrook Island?' She said, 'Well, isn't it?' I said, 'No, it's four kilometres away on the mainland, part of the township of Cardwell.' She said, 'That's close enough.'

These are the sorts of people who have been pestering me for years, and I am heartily sick of it. All this has done is turn developers off doing anything in Australia, not just Queensland. If necessary, I will nominate for you, psalm and verse, $2 billion worth of projects that have been lost solely because of what happened at Port Hinchinbrook. Not only have I spoken to developers, I have spoken to the investors who are prepared to put money in. We have lost $2 billion, all because of this ridiculous debacle that has gone on over Port Hinchinbrook.

As to mangroves, nobody has said to you—and you have not asked—that they were a non-negotiable prerequisite of my first application to the Queensland government. If they did not want the project to go ahead, all they had to do was say 'No', and I would have been very happy to walk away—and I am bloody sorry that I did not.

Clive Cook said—and I think he said this with good meaning—that GBRMPA always supported a hedge. That is not true, because GBRMPA wrote to Senator Faulkner on the day before he made the proclamation and said they could not see any environmental damage through clearing the mangroves, dredging the channel, or building the breakwaters. So there they did.

Also, in that same letter, let me say, they cautioned the then minister, Senator Faulkner, against taking too much notice of Dr Peter Valentine and too much notice of David Haigh. If that letter had been written tomorrow, they may have warned the minister about some of the scientists who stood up here this morning and raved on about things that were not correct.

There is good reason why he told him not to take too much notice of Dr Peter Valentine. He should have been looking after his butterflies and stayed there. But, let us face the facts: he wrote a report. Now that report was so packed with lies and distortions of the truth and matters that are not factual that, when it came time for Senator Faulkner's department to supply me with all the evidence upon which they had made the proclamations, the Valentine report did not turn up. So I phoned the man in charge of the World Heritage Unit, Mr David Kay, and I asked him why it was that the Valentine report was not included. He said, 'I didn't think it was an appropriate document to include.' I said, 'Be factual. Do you think it contained a lot of lies and mistruths?' He said, 'Yes.'

You might also, while you are investigating that, investigate why David Kay suddenly got demoted and moved sideways from his position in the World Heritage Unit. I suggest you investigate that. You will find it happened the day after Faulkner made the proclamations.

As to the hedge idea, nobody mentioned where the hedge idea came from, but it came from the Queensland and federal government departments of the environment. That again was when Senator Faulkner was the minister in the federal government. They did not mention my offer. They did not mention the fact that, because I am a responsible developer, I realised the value of mangroves to the fisheries industry, and I said, 'I will replant an equal area of mangroves to those to be cleared'—which is only about 2½ hectares, anyhow—'and I'll put them under the best possible growing conditions and then give that land to the government.' The state government said, 'No, we don't want that. We'd like a $100,000 contribution to mangrove and fisheries research in the Hinchinbrook Channel.' I agreed to that. It was written into the deed, and I paid the first $20,000 on the signing of the deed.

Somebody also said—and I think it was yourself, Chairman—that I had said to you the mangroves closest to the sea would best be removed. I respect that this could possibly have been a misunderstanding. I have never said that at all. I am in favour of the hedge, and I have favoured it since the day it was put to me. What I said is that the mangroves between the hedge and my property boundary should be removed because it would clear up a lot of misunderstandings and clear up a lot of problems which cause trouble.

I did make an offer—and this has been talked about, too, in submissions—to the current Minister for the Environment. Actually, I have the permission to crop off the hedge now. I suggested advancing the clearing of the mangroves between the hedge and the foreshore. It was not a one-sided offer; it was very much an advantage to the federal government. My offer, which was put in writing, was supported by the Queensland government, the Cardwell Shire Council, and myself, of course—so that is three out of four signatories to the deed—plus the independent monitor, Professor Peter Saenger. Professor Peter Saenger's main interest was in getting the most robust hedge offshore as quickly as possible. My suggestion would have brought that about.

I offered to relieve the Commonwealth of its responsibility to keep planting mangroves in the outer hedge. You will probably recall that their first attempt was useless. They talked about 10 per cent up. I do not think they got any percentage up at all. As you saw, they left all the PVC stakes, which are supposed to be dangerous to the environment, all there in the foreshore—and they are still there today.

I offered to do that. I also offered, instead of coppicing the outer hedge—as I am able to do in accordance with the deed—to leave a selection of large, strong trees in the outer hedge as that would enhance the outer hedge and make it more robust. Surely that is what we are trying to do. Why do we try to hang on to a few mangroves between the hedge and the foreshore for another two years when we already know from actual surveys on site that there is no beach erosion?

Professor Talbot dished you up a four-year-old committee meeting when a bunch of people went along to the site, spent about one hour looking around the site and saw obvious signs of erosion. They acted on a letter that came from the Marine Conservation Society. The letter was jacked up by Mr David Haigh; there is no risk about that. Obviously their sight was faulty because there was no erosion. There never has been any erosion. The beach has been accreting for the last million years, and that has been stated by the Queensland government on every occasion. There is no erosion.

Since that committee meeting that Professor Talbot spoke about, there have been four surveys, 15 cross-sections of the beach. The cross-sections were set up by AUSLIG under GBRMPA's direction. Surveys have carried on since then checking those cross-sections. There has been no erosion on the beach. There has been accretion. There have been two cyclones in the meantime.

You were speaking about the beach protection authority's erosion prone zone. The erosion prone zone on the Queensland coast is just a fictitious figure taken at 120 metres, and it is taken on beaches that are eroding and accreting alike. When the situation at Port Hinchinbrook was investigated thoroughly, they agreed to 20 metres. Even then I am responsible for retaining that foreshore at my own expense. I am not too sure why I was asked for a $100,000 bond as well as everything else. Somebody was questioning the bonds, too, at one stage. I think the figure that I put up in bonds is $1.2 million.

People skirt around things when they do not understand them, instead of asking the questions. On seagrass, GBRMPA skirted around the hard facts. When Senator Hogg asked questions—I think it might have been of Clive Cook, it might have been of someone else—about the seagrass, they could have been answered in simple, factual terms by just saying that there have been four seagrass surveys undertaken by the seagrass expert in Queensland, Dr Coles—a recognised expert—and that they have stated, after the most recent survey, that the area of the seagrass beds and the abundance of the seagrass beds have not changed since before baseline readings were taken. Baselines were taken before any work was done, and baselines were taken before QASSIT came on the job in regard to acid sulfate soils. I am pointing out what people forget after five years, instead of coming out with the blunt answers. I think, Lady Chairman, I wrote you some blunt answers to some questions you asked in the Senate estimates committee—is that correct? You were obviously having trouble

getting those answers, weren't you? That is pretty obvious, if *Hansard* quoted you correctly. Anyhow, I have attached those to my summary today.

I was interested to hear the comments by Virginia Young of the Wilderness Society. I guess they sent her because they were not game to send Felicity Wade. She spoke about bonds. Listening to her talk about the size of the resort, and whether it was going to be viable or not, made me realise that people who have achieved nothing but accumulating letters after their names can usually seem to tell others how to run their businesses. No government can set the viability of a project. That is up to the person who puts their money there, and that is what they are there for.

They spoke about failed resorts. Let us look at those failed resorts. Hamilton Island: is that a failed resort? It is now owned by one of the wealthiest companies in Australia, and going quite well. I think it was Professor Talbot who, in his submission, said that Hamilton Island went broke. Well go and look at the facts: Hamilton Island never went broke and neither did I, and I have never been a bankrupt. Let us face facts. Hamilton Island did not fail. There was a set of circumstances involved, which I do not wish to repeat here; I would be very happy to repeat them, but there are good reasons why I am not permitted to.

Let us look at the others. Laguna Quays: you may say it failed—has it done us any harm; has it done any taxpayer of Queensland any harm? It is now owned by a very profitable and large company—I think it is owned by Village Roadshow—and it will only go on from strength to strength. Twin Waters is another one. All these things have had hiccups, but it has not cost the taxpayers a cent. They have gone on from strength to strength. The Sheraton Mirage hotels—both of them, Gold Coast and Port Douglas: yes, Qintex went broke, but did it hurt them? Not at all. Qintex was a 51 per cent shareholder there, and perhaps it should have.

There can be some excuse for some of the misunderstandings and evasive comments that I have answered, but there is no excuse for deliberate lies and attempts at character assassination which have become the trademark of those who oppose Port Hinchinbrook. I have also spoken about Dr Valentine, but he should hang his head in shame for bastardising his credentials. Professor Talbot, Professor White and a variety of other academics who are vehemently opposing the development do not appear to have any conscience about bastardising their credentials and practising character assassination. They even speak as experts in regard to commercial viability.

There are other opponents of Port Hinchinbrook, such as David Haigh, Margaret Moorhouse, Jeremy Tager, Margaret Thorsborne and 'Compo' Ken—I cannot even think of his name—who fall into the category of being fanatical obstructionists. I will not even belittle myself by answering their irresponsible and spurious diatribe. I think the court showed how ridiculous they are by throwing them out on three separate occasions.

I will come back to a few of today's happenings. Professor Melville and Jess Sammut—well, Jess Sammut did a great job of talking about nothing. He talked about neutralising acid with salt water can be harmful. That is not the professional advice that I have had. I do not even know if Mr Sammut is in the association that they speak about so much, but I do know that the independent monitors at Port Hinchinbrook are—that is, the independent monitor for

acid sulfate soils and QASSIT are the independent monitors for acid sulfate soils. Professor Peter Saenger is not an expert in acid sulfate soils himself—he is very knowledgeable on the subject—but under his control at the Southern Cross University he has probably the most competent group of people, the most competent in Australia, on acid sulfate soils. In a private capacity I had their senior man on the site only a week ago and he could see no problem at all with what we are doing and how we are treating it.

You asked some questions about the treatment of acid sulfate soils. You question whether we should be disposing of it below the watertable. There are several ways of treating acid sulfate soils. You had a great education in it this morning, I must say, at the taxpayers' expense. I have several options to treat acid sulfate soils at Port Hinchinbrook. One of them is to put them in behind bund walls and then cap them, which is an option under our management program. There is the option to bury them. You can bury below the watertable or can bury above the watertable. What nobody has said to you is that, when you bury, you can neutralise the acid sulfate to a great degree by covering the material to be buried with lime. We have done that to excess: we have put more than twice the quantity of lime on top of the acid sulfate soils that we buried than was necessary.

It was also said somewhere that we were going to use acid sulfate soils for lining the canal. We did not use any sulfate soils for lining the canal. Hamish Malcolm spoke about the fact that we stockpiled, and cut leachate drains around there and directed the leachate, if there was any, to our main drainage system. It is quite noticeable we never exceeded the parameters, never at any time—and they were tough parameters. In fact, we are supposed to turn out water with a lesser acid content than God turns out, because when it rains the water comes down our creeks at pHs of four and five, and six is absolutely normal, yet we are only allowed the discharge to be between six and nine. But the water flowing into our property is coming in at from four to six. That is a pretty strange thing to have us worry about.

I also should say that the deed does not hold me responsible for other than water which flows off my property as a result of my company's construction works. Rain water does not flow off my property as a result of my company's construction works. So the sooner they get that straight the better. I hope you have all understood that: I am only responsible for the water that flows off my property as a result of my company's construction works. When the deed was formed, that was intended to mean only one thing: the water from our dredge spoil ponds. When the water from our dredge spoil ponds has been measured for pH and turbidity, it comes up smelling like roses compared to what is flowing down the Hinchinbrook Channel every day. In fact, one day when the Mayor of Cardwell was there with us he said, 'The water in your ponds is like crystal.' I said, 'We will measure it right now and we will measure the water outside.' The water outside was 130 times dirtier than the water that came out of our settlement ponds—130 times—and our pH was better than the water flowing down the Hinchinbrook Channel.

I did not even think that Jess Sammut's comments were worth talking about. He said, by his own admission, that he has never worked in an estuary mouth situation, and Professor Peter Saenger has said that there has never been an incident of damage from acid sulfate leachate in an estuary mouth situation. Sammut said that he has been working on catchment areas. He quoted Pimpama; Pimpama is miles upriver. That is why I told you all, at one

time, that acid sulfate is a natural phenomenon. It starts off in melaleuca swamps upriver, and if fresh water comes down through those swamps after they have dried out and carries that water down creeks with a small capacity, you will do damage. But in an estuary situation you will not do damage.

Also, Senator Reynolds asked Sammut about this scientist who is frightened to speak. This is a subject that has amused me. There have been so many questions on this. The only people or scientists who have cause to be concerned about legal action are those who use their supposed scientific credentials to make defamatory or damaging statements and then cannot back up those statements. That is normal commercial practice. If people—no matter whether they are professors or anything else—want to go out and make damaging statements and cannot back up their statements, if I do not sue them one day, somebody else will. So let that be a fact; I have never hidden that. If people want to make defamatory statements, yes, I will consider taking legal action against them. That is not a threat; that is just a fact of commercial life.

Also, I suggest that Mr Sammut did not get permission to walk around my property—no possible way. He might have got permission, by walking into the sales office at the front gate, to walk around the subdivided area which is completed, but there is no way on earth that he could have got permission to walk around where the settlement ponds are or where the work is going on because we would not be allowed to let him go there under the Workplace Health and Safety Act.

Senator Allison, you asked about shell grit. Again, I think you took that in the wrong context. The only time shell grit has been mentioned was when Professor Peter Saenger was talking about how to deal with the spill. You certainly would not use shell grit in a major situation such as capping those settlement ponds.

CHAIR—My question was in relation to the spill, Mr Williams.

Mr Williams—I think it came up in a different context. In relation to the spill, yes, Professor Peter Saenger did mention shell grit, and, yes, that would be a fairly logical way to do it because you will not get the burning that you get with lime. If you use lime to excess and it gets washed off by a quick flush of water, you could get damage from that, whereas with shell grit you will not get that damage. When you were at the site the other day and we walked around the top of pond B, you might have noticed that it was almost entirely sand and shell grit. Only about 25 per cent maximum of the materials in our settlement ponds would be PASS material.

Also, a question was asked by Senator Woodley—you seemed very interested, Senator—as to whether there is any acid sulfate soil. I think it was the gentleman from CSIRO—the one with the first-hand, hands-on information on Port Hinchinbrook; his name just escapes me for the moment—who said that he had probed down to a good depth. We have probed to the full depth that we are required to dredge and there is no PASS material—none. I think Hamish Malcolm described how, in the area where we dug the canal, there was a layer of a grey topsoil type thing, then there was a layer of about one metre of PASS material. Under that, underlying the whole area, there was exceptionally hard material which was clear of

PASS, and when you get 100 yards south of the main canal, there was no PASS material at all. It is a very hard material entirely, something like a compacted, decomposed granite.

CHAIR—Mr Williams, can I interrupt you for a moment to point out that the committee needs to adjourn by 4 o'clock because there are—

Mr Williams—If this were fair and reasonable, Senator, I would have been given about one week to answer all the 10, 12 or 15 hours of objections to Port Hinchinbrook.

CHAIR—Mr Williams, it is up to you. If you feel that you have not had a reasonable hearing after we reach 4 o'clock, then we are quite happy to talk with you at some other point, but there are seven—

Mr Williams—I noticed that a lot of other people raved on about a lot of twaddle this morning. They were allowed to keep going and, consequently, we are running late.

CHAIR—It is in your hands. I am just pointing out to you that we must finish at 4. As I say, we are happy to speak with you at some other stage, but there are seven people around this table—

Mr Williams—I am being as quick as I can and I will continue to work that way. If we go back to Professor Talbot, he is living in the past. He mentioned the seagrass, the dugong and the retention of water in the Hinchinbrook Passage. All of those things have been done with and are proven. On the subject of dugong—I think you have all seen this chart—you will see that what I have been saying since day one is correct. I will tender that as evidence. Have a look at the dugong population in Missionary Bay and the total lack of dugong in the Hinchinbrook Passage. I recommend you to the more reasonable comments of Professor Helene Marsh.

As I said, Talbot is talking about damage to seagrass. He does not even like to admit that there have been four seagrass surveys done and no change to abundance or anything else. Seagrass is no different from grass in your backyard. If you have a good season, it grows well: if you do not, it dies off. With flooding coming down the river, this is likely to happen.

The dugong story has already been overdone and I believe there is no likely damage to dugong in the Hinchinbrook Channel as a result of Port Hinchinbrook. In Moreton Bay, as an example, the dugong were wiped out by being hunted for their oil in pre-war days. There were virtually none there after the war. The dugong population has recovered and they live in harmony with heavier boat traffic than we are ever going to see in the Hinchinbrook Passage.

He carries on about the movement of water in the Hinchinbrook Passage. That is an old psalm that the opponents have dug up that says that there is no movement of water in the Hinchinbrook Passage. That is ridiculous. We had tide checks done by the scientists long before we started monitoring. There is only one part of the Hinchinbrook Passage where there is no movement of water and that is where the tide comes in from the south and meets the tide coming in from the north. Obviously there is an area there where there is very little

movement. But, at Port Hinchinbrook, the tide runs at several knots and it has been a problem for the scientists in keeping their nephelometers in place.

He said that the foreshore should not be covered with houses. He did not tell you that he made the most ridiculous statement some time ago, which was printed in the newspaper, when he said, 'How terrible is it going to look with 50 houses along the foreshore each with their own jetty?' The jetties would all have to be 350 metres long so that they could float a dinghy. Senator Faulkner made the same statement to me one day. He said, 'Why have a marina? Why not just put a jetty out?' I said, 'I am sure the environmentalists would love a jetty protruding 500 metres out into the Hinchinbrook Passage. I am sure they would love that.' So he decided to change his mind about that. He also continued to talk about us being a world heritage area. We are not in a world heritage area.

CHAIR—Mr Williams, I am sorry to interrupt you one more time. We have just been advised that the flight that Senator Hogg, Senator Reynolds and Senator Macdonald was on has been cancelled and they need to leave at quarter to 4.

Mr Williams—I am surprised that you have only just been advised. I knew earlier.

CHAIR—What we will do is invite you to come back. At present, we are looking at resuming the hearing during the first week of the parliamentary sitting, which will be perhaps a Tuesday or a Wednesday night—that is the first or second week in September.

Mr Williams—Unfortunately, I am going overseas.

CHAIR—Are you? Okay. We will find a date that suits. If you let us know when—

Mr Williams—All right. Do you want to ask questions?

CHAIR—We do, yes.

Mr Williams—Let me just say a couple more things there. Most of the problems that I am trying to get across to you are caused by not cross-examining the people—all of these things could have been cleared up in minutes if you had been able to cross-examine the people, and then you would have found the facts and not the fiction.

We had plenty of scientists here this morning all raving about acid sulfate soils, but it was noticeable that none or few of them had ever been there, and those that had been there had never done any tests, except Dr Bowman from the CSIRO. I hope you noted his comments that the impacts were likely to be very minor. The Tekin stockpiles in the marina basin caused no damage.

The hot spots, the worst spots of acid sulfate, were in the marina. I think Dr Bowman said that himself. That is the marina in which barramundi and crabs are prolific. On the day of the opening of stage 1, there was an Aboriginal boy sitting right on top of the discharge pipes from our settlement ponds fishing, and what do you think he caught? He caught a crab, this big, right there while the cameras were on him. But that is the water that is supposed to

be doing damage. I wonder why it is not doing any damage either to the fish life or to the growth, because trees are growing prolifically in those areas.

Of course somebody, I think it must have been Talbot again, said, 'Development is not needed.' It is obvious he does not live in North Queensland. Next he said, '2,000 to 3,000 people a week will be visiting Hinchinbrook Island.' I would doubt that two per cent of my guests will want to set foot on Hinchinbrook Island. They will just want to cruise down the passage. And remember this: I put a speed limit on my sightseeing boats, nobody else put it on. I said, 'My boats will go down there at 12 knots maximum', when the departments' boats, GBRMPA's boats, go up and down at 30 knots. It is all very well for people like Professor Talbot to sit in Sydney in their big homes and say, 'We don't want development in Cardwell.' Well, bad luck about him!

There was a lot of comment about information being collected on the sites. I cannot believe that not one of the senators here asked a question about the real readings that are coming out of the nephelometers that are there. With due respect to Dr Bowman, he did not seem to know what was there at all and yet there were attempts to lead him into saying it was not satisfactory. How could he possibly give you a statement on whether the monitoring is satisfactory or unsatisfactory when he does not even know what it is?

All the rest that I have said, and I have said plenty, you can read in what I have provided you in writing. If you want to fire away with questions, that is fine.

CHAIR—Thank you.

Senator HOGG—Mr Williams, I asked one of the witnesses earlier today about the fate of the Tekin piles of soil that were there when you inherited the project. What happened to those?

Mr Williams—They are still there. I have said to the government that when they shift their soil off their crown land next to me, I will shift mine. I think that is fair enough, is it not? However, just to get over the problem, because I do not like to stir things up, they will be getting moved into another pond that I am obliged to build under the deed and hand over to the Cardwell Shire Council.

Senator HOGG—So are they being treated currently?

Mr Williams—There is no treatment being given to them at the moment, but we will be looking at that. We have got the geotechnicians and we have our engineers. We are now required to engineer our bundwalls, even though there is only one left to go. By the way, there was no slump in the bundwall. The bundwall did not collapse, it never did. I have given you my opinion, it was vandalised. The opinion of the geotechnician, and it was not prompted, was that it was quite impossible for that wall to have been broken through.

Let us just say that I think it was Professor Talbot, or somebody, who said that it collapsed. No wall ever collapsed. A portion of the top section of it was eroded, and by vandalism, and I cannot find another result for that. Let us say that it was through the pond over-topping. It would then have eroded, and there were rivulets down the side from rain

erosion. But that really had nothing to do with it; that did not weaken it to that degree. There is no way on earth that that wall collapsed and there is no way on earth that it eroded of its own accord.

Senator HOGG—The other thing that was indicated to me today in response to a question about the acid sulfate in the site itself was that it was more or less across that area of the marina. Have there been any concerns expressed to you about the possible leaching of acid from that excavated area on the mooring sites, boats and other things?

Mr Williams—No, that was one of the first things addressed by the acid sulfate experts. They say that in that situation, where it is under a tidal influence, there will be no damage and no ill effects.

Senator HOGG—So even though there is a rise and fall in the tide there and land being exposed, oxidation would take place over a period of time.

Mr Williams—No, it will not because it is being flooded again every 12 hours. The tide comes in twice a day, so twice a day that acid sulfate soil, which is only exposed on an edge, is being covered. I am not the acid sulfate expert but that was the first thing investigated and there has never even been any discussion about this. There has never been any anti side to it. Everybody who has looked at it has said there is no concern with that acid sulfate soil. I am pretty sure that, if you asked Dr Bowman, he would tell you the same thing.

Senator HOGG—On the issue of monitoring of the acid sulfate soil run-off on site, are you able to make available to us mapping of where the monitoring takes place and the results of that monitoring?

Mr Williams—Yes, we have a plan called the acid sulfate treatment plan No. 1. It shows all the monitoring sites and it is with the Department of the Environment. I am presuming that, with the approval of the state and federal departments of the environment, we can give you the reports of all the monitoring. I am sure you will be more than pleased with them.

Somebody talked about the monitoring. Some acid sulfate might have got past at a higher level or lower level. With due respect, that is a bit of wishful thinking. Nephelometers have been placed at varying depths. In addition to the data logging nephelometers, which take a reading every six minutes, hand-held nephelometers are being used at varying depths as a check. It is not being monitored at one site. Somebody from CSIRO said that it is being monitored at several sites.

The first site where it is measured is the site which took the place of the mouth of Stony Creek. You may also have heard Dr Bowman say that things have changed. When he went there, Stony Creek was a little creek that dried out at low tide. A lot of acid was flowing into that creek and by flowing across the tidal banks could have caused damage to some growth. It never had that in the 10 years that Tekin was away, but I suppose you could stretch a long bow and say that it could have. Now that it is going into a canal, which is about 1,000 metres long, 100 metres wide and four metres deep at low tide, the chances of it doing any damage to anything are nil.

Senator HOGG—So is there only monitoring at the mouth of Stony Creek? Is there any further out in the channel?

Mr Williams—No, it is not used, but there is monitoring done at the outlet pipe. The technical advisory committee appointed under the deed determined that it was no longer appropriate to measure it there, but the readings are there, and you are welcome to those readings as well. I do not think I have seen a reading under seven in the last three months.

Senator HOGG—What is the history of the outlet at Stony Creek itself? Is there any indication that there is any acid sulfate run-off.

Mr Williams—With the nephelometer there?

Senator HOGG—Yes.

Mr Williams—None at all. It is quite the opposite. Always in regard to turbidity and invariably in regard to acid, we are always far better than the Hinchinbrook Channel into which it flows. You only have to fly over there in an aeroplane at flood time and you will quite easily be able to identify which creek or river mouth north of Townsville is the cleanest of all and it is Port Hinchinbrook. As far as acidity is concerned, in the dry season our reading at 0.7 is approximately the same as the Hinchinbrook Channel. In the wet season the Hinchinbrook Channel is far worse and far more acid than Port Hinchinbrook and the whole of the Hinchinbrook Channel. That is because of everything flowing out of the Herbert and Seymour rivers and all the tributaries. Of course, that is coming off the cane fields.

Senator HOGG—Is the stormwater on the site going out through Stony Creek?

Mr Williams—Yes.

Senator HOGG—It is?

Mr Williams—Through the channel. There is no more Stony Creek there.

Senator HOGG—Through what was Stony Creek.

Mr Williams—I can just clarify that. There were three creeks that came into the property. They can be seen in my report. Those three all came together within my property. They have now been put into a creek diversion channel and that in itself runs into the main canal.

Senator HOGG—But does the stormwater that is generated on the site itself have one stream without the pit?

Mr Williams—No.

Senator HOGG—It doesn't?

Mr Williams—No. You could not engineer it.

Senator HOGG—No, because in an absolutely different inquiry to this we have heard evidence on problems associated with stormwater on the environment. I am just wondering what stormwater precautions are on site because one would assume that the channel at Hinchinbrook is fairly sensitive. We have heard on previous occasions how things are just left lying around in gutters and so on and get swept down in the stormwater and then out into the channel and affect marine life. Have you taken any steps there to ensure—

Mr Williams—We had to prepare, according to the EPA, a stormwater plan and we did that. It is just like anywhere else. All the stormwater runs into the nearest river. There is nowhere else you can put it.

Senator HOGG—That is part of the problem sometimes. Have there been any special precautions taken?

Mr Williams—No. Our situation is going to be cleaner than any other I can think of in Australia.

Senator HOGG—Are there stormwater traps on the outlets to trap—

Mr Williams—Stormwater traps on the—

Senator HOGG—Yes, on the water outlets which will—

Mr Williams—No, but you have to consider that whatever gets washed into the marina basin is going to be collected by wind and tide movements at the western side of the marina basin because it is carried by the wind across the surface and the winds blow from the north-east or south-east 364½ days a year. I had exactly the same situation on Hamilton Island. Everything was collected in the marina.

We will have a cleaner situation than anywhere else and likewise our main canal. I have deliberately kept any work out of the marina, which is unusual. Most marinas have boat servicing in them. They have all those sort of things. All of mine, as I explained to you on site, is in the main channel. The main channel, the refuelling jetty and where all the work will be done is right at the western end of that main channel. If anything did escape, it would be bound to find its way into the western end of the channel. We can run booms across and I have voluntarily undertaken to have all boom equipment on site and a boat to run it across. That is a voluntary undertaking that I have given. We will not have any problems with discharge from storm water.

Senator HOGG—Right. I had better leave it go there.

Senator IAN MACDONALD—I have a number of questions I would like to ask Mr Williams but regrettably I have to leave. Perhaps I could catch up with Mr Williams at the adjourned hearing.

CHAIR—Mr Williams, you mentioned earlier that you were not building the resort because you did not have the tourist permits from the federal and state governments. Is that correct?

Mr Williams—I said I am not building the hotel component of the resort at this time.

CHAIR—It depended on those permits?

Mr Williams—Yes, totally.

CHAIR—What is the status of the permits to which you referred?

Mr Williams—I would love to know, Senator.

CHAIR—You have made application?

Mr Williams—All I know is that everything that I want to do has been stopped by a moratorium that was put on by the state government and the federal government, I believe at the request of Senator Hill, and it was done without consultation, without notice, without anything. The state Minister for the Environment said to me, 'We know, and you have already forewarned us, what type of tourist activities you will want to operate out of Port Hinchinbrook and I believe that we should honour those obligations.' They never have honoured those obligations. I know that a very senior man was put on the job of doing that and making sure it was honoured, but they were not honoured.

I waited three months and I heard the moratorium was off, so I applied for permission to land a seaplane. Three months have gone and I have not even had a reply to my letter, let alone a permit, and I am told I am not going to get a permit. You saw the ridiculous situation when you were up there where a lady with a flying business is allowed one flight a day over the Hinchinbrook Passage, one flight a day.

CHAIR—So your decision about whether to go ahead with the hotel or not depends on tourist permits related to flights? Would you be a little bit more precise?

Mr Williams—It depends on knowing that you can take your tourists somewhere. When I started out to build that resort, permits were a matter of applying and getting a permit, as they are everywhere else on the Queensland coast. Hundreds and hundreds of people are going out of Port Douglas to the reef every day; hundreds of people are going out of the Whitsundays every day; hundreds, if not thousands, are going out of Cairns every day; and they are going out to Rosslyn Bay on Keppel Island. They are going everywhere, but right now you cannot get a permit to send one person anywhere in the Hinchinbrook region.

Until they have got their act together and cleaned that up, I am not going to keep pouring money into building hotel rooms only to have guests arrive and say to them, 'I'm terribly sorry, you will have a great sleep tonight but you can't go anywhere.' We cannot even go to the mountains, never mind the water. We cannot go on tourist trips to the mountains or anywhere, nothing. No tourist permits are being issued.

CHAIR—So does the viability of the whole project depend on having a hotel?

Mr Williams—Not really. We talk about viability and all these smart alecs who have never run anything in their lives are trying to tell me what is viable and what is not. I have never run anything yet that is not viable. Every business that I have developed and run has been the most successful of its type in Australia, the most successful. Seaworld is the most successful theme park in Australia. My three raceways were the most successful raceways in Australia. Hamilton Island is without doubt the most successful island resort in Australia. I am not in the habit of going out and building failures. I know when something is going to succeed and I do not need some expert who has gone to college and got a few letters after his name telling me what is going to be viable and what is not going to be viable.

Another of Talbot's lies, which he knows is a lie because I have told him three or four times, was, 'Eighteen hundred people plus the houses.' Houses are included. They have got a total population of 1,500, not 1,800, and he knows that full well. These people are just trying to deceive you. That is why I say again, without cross-examining you will never get the truth, never.

As far as the resort is concerned, it will proceed. Plenty of major areas have proceeded simply with a marina, shopping facilities and a residential component. Some of them have proceeded without even a residential component. Look around Australia and you will see these things happening everywhere.

CHAIR—So you would not be looking for compensation from the state government or the federal government, whoever is to produce these permits, should they not occur and you are not able to go ahead with the hotel?

Mr Williams—I am not prepared to answer that.

CHAIR—The reason I raised that, Mr Williams, is that a lot of the local support for this development derives from the hope that there will be a number of jobs coming from it.

Mr Williams—If I did not have the goodwill of the local people at heart, if I did not want to keep my undertakings to those local people, I would have walked off the site four years ago. I make that very clear.

CHAIR—Would you like to tell us why you would have walked off four years ago?

Mr Williams—Because I have never put up with so much harassment in my life. At my stage of life I do not need it. I did not need to build the thing in the first place. I build things because I enjoy building them. I take pride in what I do, I take pride in my achievements, and it is a damn pity we did not teach children in school these days to take pride in their achievements and to have confidence in their ability to undertake any task and to be competitive and a few other things I can think of.

CHAIR—The subject of harassment, as you have just mentioned, has come up time and time again in this committee from a number of submitters. Accusations have been made

along the line that you have threatened legal action and that that is a very successful form of intimidation on everybody from local residents to scientists. Can you—

Mr Williams—Nobody has to worry about being threatened with legal action unless they are deliberately going out to tell defamatory lies.

CHAIR—If I can just finish. You have, as I understand it, denied that you have used that technique as an intimidatory tactic. Do you stand by that position?

Mr Williams—I have published it in the newspaper. I have said that if you want to go out and tell lies then you stand the risk of getting legal action taken against you. That is as current today as it ever has been. It is the normal commercial practice, and why I am being questioned about it I do not know. That amounts to more harassment as far as I am concerned.

CHAIR—It is the case then that you—

Mr Williams—Am I supposed to say that because you are a professor, because you are an academic, you can say what you like about me? Would you allow people to say what they like about you if they are telling untruths? Would you?

CHAIR—Let me ask you—

Mr Williams—I am asking you, Senator?

CHAIR—At the end of last year you wrote to the Queensland Department of Natural Resources. I think you were complaining about a report that month which you regarded as 'unnecessarily alarming', your words.

Mr Williams—Yes.

CHAIR—You said:

If you will not agree to amend this report and remove the reference to low risk or comparatively quantify such risk then I shall have no alternative but to take this matter up further with the relevant authorities and my legal advisors.

Is that not intimidatory and threatening?

Mr Williams—I do not think so. I am taking the risk. I can only win a case if they are wrong and I am right.

CHAIR—On how many other occasions have you threatened legal action in this way to the state government or other authorities?

Mr Williams—I have no idea but I have only proceeded once and that was against a professor in Brisbane who has since published an apology. He wrote to me and said I could send him bankrupt and he had a whinge on my shoulder about his family, so I said, 'Just give me an apology.'

CHAIR—So it is a method of working that you are accustomed to, obviously, if you do not recall the number of times you—

Mr Williams—I have never had to do it before in my life, Senator Allison, never, until I got a bunch of grubs. Don't mind me saying 'grubs' because the Mayor of Hinchinbrook referred to them as 'cockroaches' and said they had to be stamped out. These people have no scruples at all about defaming me, about character assassination, and they tell lie after lie. Do you expect me to sit there and cop it and not say I am going to take action against them if I need to?

CHAIR—Mr Williams, the example I gave you was not of anybody calling you a liar, it was pointing out low risk. In fact, this letter points out:

. . . development activities on the Cardwell and northern side of the marina are considered to be of low risk to World Heritage property values.

That was the subject of your threat of legal action; I do not believe you were called a liar.

Mr Williams—Yes, because he said one thing one day and another thing another, and he had no reason. He admitted that the only reason he had said there was a risk at all was he just did not want to go as far as saying there is no risk when in fact he admitted to me he knew there was no risk. He said to me there is no risk but when it comes to making a report he said there is low risk. Let's be fair about this.

CHAIR—You said earlier today that you are not responsible for rainwater on the site. This is a technical question really. Does that mean you are not responsible for the spill which was on crown land if there is heavy rainfall and—

Mr Williams—The spill that was on crown land?

CHAIR—The spill from the sludge ponds that we talked about earlier, the failure of the bund wall to—

Mr Williams—I would be responsible for it if it had not been vandalised, but it was vandalised, there is no doubt. There were three people trespassing on that very site at 6.30 a.m.

CHAIR—Do you monitor the material that was spilt?

Mr Williams—Yes. Geotechnicians have inspected it three times, and they said it was quite okay. When they came back and inspected after the spill—

CHAIR—Can you assure the committee that none of that material will become acid sulfate in the drying process?

Mr Williams—I am not sure at all. The necessary steps are being taken to monitor it. How much do you think we are speaking about? Do you realise there is only 150 cubic metres spread out to about 50 millimetres thick, maximum?

CHAIR—Mr Williams, I stood in some of that and I can tell you that I went down that far and I did not go to the bottom. I would be very surprised if it is 50 millimetres.

Mr Williams—With due respect, if you stepped in it and it was more than two millimetres you would have been in a hell of a mess, and you were not that badly off. It only went half way up your shoe and a bit splashed onto your slacks. If you had stepped in something that was 100 millimetres deep you would have known all about it.

CHAIR—The point which has been made by a number of scientists is that the nature of acid sulfate soils is that they change according to the drying process, and other chemical changes take place. My question to you, again, is this: you said they have been monitored three times. Do you have an ongoing commitment to monitor that spill? What happens in the event that acid sulfate is—

Mr Williams—It is directed by the state government.

CHAIR—In the event that acid sulfate is found to be in that material, what are your responsibilities?

Mr Williams—I could get up and fight it and say it is not my responsibility because I did not cause it. I am not doing that. I have just written a full management plan to the Department of the Environment—it was forwarded to them on Thursday of last week—undertaking to monitor the material. They asked for it three-monthly; I said I would monitor it monthly. I have also said that I will do a series of photographs showing the trees. There are 20 very second-rate acacias. That is all there are. I am saying 'second rate' because acacias are regarded as second rate. There was no damage to any of the melaleucas and the eucalypts. I have undertaken to take all of the steps and to do whatever is necessary under the instruction of the independent monitor. It is all being monitored.

CHAIR—Mr Williams, we have lost our quorum. I apologise for having to finish early today. We will be in contact with you to see when you are next available so we can resume and the rest of the committee can put questions to you. I thank you for your attendance today.

Committee adjourned at 3.48 p.m.