

REPORT OF PROCEEDINGS BEFORE

SELECT COMMITTEE ON RECREATIONAL FISHING

UNCORRECTED TRANSCRIPT

INQUIRY INTO RECREATIONAL FISHING

At Sydney on Friday 3 September 2010

The Committee met at 9.30 a.m.

PRESENT

The Hon. R. L. Brown (Chair)

The Hon. A. Catanzariti

Mr I. Cohen

The Hon. R. H. Colless

The Hon. C. M. Robertson

The Hon. L. J. Voltz

CHAIR: Welcome to the tenth and final public hearing of the Select Committee on Recreational Fishing. The Committee commenced taking evidence in April and since then it has examined approximately 100 witnesses. At this final hearing, a number of witnesses, including officers from Industry and Investment New South Wales and the Department of Environment, Climate Change and Water, will be appearing for the second time. This hearing will provide the opportunity to explore some of the issues and suggestions raised by stakeholders during the course of the inquiry.

Before we commence I will make some comments about certain aspects of the hearing. In accordance with the Legislative Council guidelines for the broadcast of proceedings, only Committee members and witnesses may be filmed or recorded. People in the public gallery should not be the primary focus of any filming or photographs. In reporting the proceedings of this Committee, the media must take responsibility for what they publish or what interpretation is placed anything that is said before the Committee. The guidelines for the broadcast of proceedings are available from the table by the door. I remind everyone that any messages for Committee members or witnesses must be delivered through the secretariat staff. Audience comment will not be tolerated. Again, Committee hearings are not intended to provide a forum for people to make adverse reflection on others. The protection afforded to witnesses under parliamentary privilege should not be abused during these hearings. I therefore request that witnesses avoid the mention of other individuals unless it is absolutely necessary to address the terms of reference. I remind everyone, including Committee members, to turn off mobile phones.

I welcome our first witnesses from Industry and Investment New South Wales and the Department of Environment, Climate Change and Water. Witnesses appearing for a second time will not need to take an oath or affirmation. All witnesses will be sworn prior to giving evidence. Dr Wilson, as this is your first appearance before the Committee you are required to be sworn prior to giving evidence.

BRYAN VAN DER WALT, Acting Manager, Recreational Fisheries Programs, Department of Industry and Investment,

PETER TURNELL, Director, Fisheries Resource Management, Department of Industry and Investment,

PAUL FRANCIS O'CONNOR, Principal Director, Fisheries and Compliance, Department of Industry and Investment,

MICHAEL JOHN WRIGHT, Director, Protected Areas Policy and Programs, Department of Environment, Climate Change and Water, and

ADRIAN DAVID TOOVEY, Manager, Aquatic Protected Areas, Department of Environment, Climate Change and Water, Level 2, 43 Bridge Street, Hurstville, on former oath:

KATE WILSON, Executive Director, Scientific Services, Department of Environment, Climate Change and Water, affirmed and examined:.

CHAIR: If you should consider at any stage that certain evidence you wish to give or documents you may wish to tender should be heard or seen only by the Committee, please indicate that fact. If you take any questions on notice today, we would appreciate it if the responses to those questions could be sent to the secretariat within 21 days. That is particularly important given that we are coming to the end of the inquiry. We have three hours with the first group of witnesses, so we have ample time. However, we have many questions. Does anyone wish to make a brief opening statement?

Mr WRIGHT: No.

CHAIR: On page five of the whole-of-government submission, the Government states that, "annual scientific fish resource assessments are used to determine the population status of fish species harvested by commercial and recreational fishers and to identify the need for management intervention". Are the results of those annual assessments publicly published? What are the results of the most recent review and are there any species that require management intervention either for recreational or commercial fisheries? The Committee notes in evidence given comparisons of tables between the take of commercial fisheries, which seem to be very precise and specific, and recreational fisheries, which include huge ranges of estimates. We understand that that is probably because recreational fishing data is difficult to gather. In addressing those questions, particularly in relation to recent reviews, can you also address the question of how the particular department, be it Fisheries or the Department of Environment, Climate Change and Water, obtains data on the recreational fishing take?

Mr TURNELL: I will answer at least two parts of the question. The information is made publicly available. It goes through a bit of a process to be ground truth before it is released more publicly. That involves consultation with a number of stakeholders, including both commercial and recreational fishers. The second part of the question was about management intervention.

CHAIR: Are any particular species currently being reviewed that require management intervention in commercial or recreational fisheries?

Mr TURNELL: Yes. Approximately 10 species have been identified as either recruitment over-fished or over-fished. We are going through a process of determining what recovery actions may be needed to help these species to recover. For example, mullocky is of significant importance to the recreational sector. I can provide further information coming out of that most recent process that lists all 10 species.

CHAIR: If you could provide the Committee with that assessment that would be appreciated. How long does that review usually take or, more specifically, how long will this current review process take on those 10 species?

Mr TURNELL: The actual assessment of the species is done by our science and research division within Industry and Investment New South Wales, not particularly my group, so I would not like to give a specific answer at the moment. I can certainly come back to the Committee with that information. As far as the recovery planning process is concerned, we can call a group together to discuss recovery actions quite quickly. We then consult with both recreational and commercial stakeholder groups with regard to any changes to fishing

rules that might come out of that. It takes potentially a number of months, but it can be quite responsive when needed.

CHAIR: Can someone respond to the third part of my question, which relates to the apparent guess work in the data on recreational fishing? How is that data collected?

Mr O'CONNOR: We do comprehensive reports that are available approximately every five years. We are about to release another report later this year. We do annual reviews of all species. We look at the catch data that we have from commercial fishermen's records and also the information that comes from our scientific surveys. The reason there are much larger confidence intervals around the recreational catch data is because of the way the data is collected. We basically do it through surveys. We do a lot of creel surveys but we also do surveys of individual fishermen about what their activities are, what they catch, et cetera. Then we extrapolate from that to the size of the fishing population. So, that is why there are large confidence intervals around our recreation data and there is a constant challenge to try to improve that. That is certainly one of the focuses the department has.

CHAIR: You are probably aware that the last extensive survey in any location of the recreational fishing havens were the two surveys done on the Tuross fishing haven and Lake Macquarie, and I think they were in 2005, although I may be wrong there. Can you advise the Committee whether Fisheries or whoever has any plans to repeat or extend the surveys of the recreational fishing havens and, if so, when?

Mr VAN DE WALT: Yes. Those surveys were carried out in 2003-04. Those surveys were designed to specifically assess the effectiveness of recreational fishing havens. A new survey is proposed to commence in recreational fishing havens which will involve a combination of fisher catch surveys—things like creel surveys—but also involve Fisheries independent methods as well, which is a good thing to do because information is collected on the broader ecosystem and biodiversity, not just the angler catch which is collected during the research survey. So, a new survey which is being partly funded by the Recreational Fishing Trust is due to commence soon.

CHAIR: Soon?

Mr VAN DE WALT: In 2010. It is being set up in the next few months.

CHAIR: Can you for the benefit of the Committee describe the methods that you did not describe, the other fisheries methods? What sort of scientific methods do you use to assess biodiversity?

Mr VAN DE WALT: In terms of catch surveys these may involve creel surveys. For instance, the national survey used diary surveys. Diaries were issued to anglers and they kept diaries of their system. They did phone interviews as well. That is one way of sampling. Another major way of sampling is creel surveys and boat ramp surveys. That was mainly used in the survey that has just been completed in the greater Sydney region. They also mentioned that Fisheries independent sampling methods, which do not use anglers to collect the data. They mainly use other fishing methods like netting them to gain information on the broader ecosystem and not just recreational commercial species but other species that are not targeted by fishers.

CHAIR: Do they use methods like bait cameras and that sort of method?

Mr VAN DE WALT: Yes, we can. We currently use baited underwater videos for measuring the effect on artificial reefs or monitoring fish catch populations on our ocean reefs, and it can also involve the use of nets as well.

CHAIR: Am I correct in assuming that the only two recreational fishing havens that had baseline data established in 2002 were those two I mentioned—Tuross and Lake Macquarie—or were other recreational fishing havens assessed at the time they were created so that future research would have some baseline data to compare to?

Mr VAN DE WALT: The only two recreational fishing havens that we have survey data for were Tuross Lake and Lake Macquarie. So in 1999-2000 it just happened that we had undertaken comprehensive surveys in both those estuaries, but they were the only two where we had good surveys, which were then repeated in 2003-04 to provide a comparison.

CHAIR: In relation to those two recreational fishing havens, will the survey work and the scientific work you said was probably going to happen in 2010 be carried out in such a fashion that current data can be compared to 2003-04 and 2000? In other words, will you use the same methodology?

Mr VAN DE WALT: I believe some components of the proposed research will use similar methods that were used in the previous two surveys. The current survey will also be a bit broader in using the Fisheries independent sampling but I believe it will provide some scope for providing a comparison with those previous two surveys.

CHAIR: There is no current data available from the most recent review, because the most recent review is the one that will be carried out this year, is that correct? In other words, you have no recent reviews?

Mr VAN DE WALT: We do have some other research programs that have been carried out.

CHAIR: As part of the five-year cycle that Mr O'Connor referred to?

Mr VAN DE WALT: The last review of our fishing rules was completed in 2007.

CHAIR: So the next one will be 2012?

Mr VAN DE WALT: It is proposed to commence the next one in 2011.

The Hon. RICK COLLESS: Mr Turnell, can I follow on that line of questioning the chairman was pursuing a minute ago about fish populations, and so on? How regularly do you monitor fish populations? Is it a continuing process that is occurring all the time or is it a spot in time?

Mr TURNELL: It is on a yearly basis, it is a continual process. That is mostly through the commercial fishing catch returns as opposed to the recreational studies that are more episodic. A big national survey was done almost 10 years ago and some more recent surveys that Mr van de Walt made reference to.

The Hon. RICK COLLESS: So you monitor those commercial catch returns on a regular basis?

Mr TURNELL: On a regular basis. If we see disturbing trends we would not wait for any annual review process, we would look at those as they occurred. Generally each year it is a process of going through that catch and effort.

The Hon. RICK COLLESS: Let us use one of the most popular species as an example—snapper. How do you determine size and bag limits for snapper?

Mr TURNELL: A number of things are taken into account. There are strong differing views between the commercial and recreational sector as to what the appropriate size for snapper is. Obviously, biological information is taken into account as well as, from a commercial perspective, the likely by-catch of what would become the undersize snapper under a much larger size limit. So, it may be appropriate to have a larger size limit for snapper from a biological perspective but we need to take into account the likely by-catch of the smaller snapper if we were to increase the size limit. Simply because fishing methods currently used in the commercial sector in a multi-targeted fishery would continue to catch snapper of a certain size unless a significant change was made to them. If a significant change was made to those commercial fishers that would then draw into question their effectiveness to harvest other species such as bream and leather jacket.

The Hon. RICK COLLESS: The commercial fishermen that target snapper principally, do they catch them on the line or trawl or trap?

Mr TURNELL: Mostly trap, from my understanding.

The Hon. RICK COLLESS: So, undersized fish that are caught in a trap could be released?

Mr TURNELL: Yes. It depends on the depth of the trap and how quickly it is pulled out. A lot of barra trauma research has been done but that is one of the consequences of traps that are retrieved from the deep. Whether that is specific to snapper I would have to check and get back to you.

The Hon. RICK COLLESS: Have you any idea of the percentage of snapper taken by traps, trawling or line commercially?

Mr TURNELL: Not on hand, no.

The Hon. RICK COLLESS: But you would have access to that, would you?

Mr TURNELL: We could get that from a commercial perspective, yes.

The Hon. RICK COLLESS: I would appreciate that because one of the things that has been brought up in this Committee, and fishermen have told me directly, is that they cannot fathom why the commercial size for snapper is smaller than the recreational size. Is it 27 centimetres for commercial snapper and 32 for recreational?

Mr VAN DE WALT: Currently the size of them is 30, which applies to both commercial and recreational.

The Hon. RICK COLLESS: Really. I thought commercial fishermen had a smaller size limit for snapper.

Mr VAN DE WALT: No, it is the same for both sectors.

The Hon. RICK COLLESS: I have seen a lot in the fish shops and I have let a lot go that were a lot bigger than those. It is disappointing that there are so many small fish in the fish shops that a lot of fishermen would not touch.

Mr TURNELL: Could I make a comment on that? There is a lot of snapper that is imported from New Zealand and from Western Australia. I would not be in a position to comment on what the size limits might be in those jurisdictions but I would be happy to find out what those are.

The Hon. RICK COLLESS: I will keep an eye out for that. When you assess the fish populations, determine the bag limits and so on, do you take into account the impacts of one species that you are addressing on other species that live in conjunction with that particular species? When you are determining the size and bag limits for snapper, do you take into account the other fish that live with the snapper and what impact that may have on the other populations?

Mr TURNELL: I am not sure the scientists do, if you are talking about relationships between prey and predators and things like that.

The Hon. RICK COLLESS: Yes. I will tell you where this question comes from. We have had evidence that the current plague of leatherjackets offshore is a result of—what was the species they told us was in decline and they were feeding on the leatherjacket eggs and that species had gone, and hence the leatherjacket were in plague proportions?

Mr O'CONNOR: Just as a comment on your last question, with regard the size limits, the biggest factor that influences our decisions on size limits really comes back to biological information and the size at which they first breed. As Peter has indicated, that is also tempered by what is pragmatically realistic and what is not, and that changes over time. Sometimes we plan to move towards a higher size limit and we do so in a phased fashion. The other thing, particularly with regard to your question about bag limits, is quite often we do have bag limits in groups of species, recognising the sorts of issues that you have talked about, so yes we do.

Mr VAN DE WALT: Can I add to that?

The Hon. RICK COLLESS: Yes, sure.

Mr VAN DE WALT: With regard to leatherjackets, there is a boom in offshore leatherjacket populations and the offshore leatherjackets have had a long history of commercial and recreational exploitation which goes back to the 1880s and those historical reports from commercial fishers, even from the 1880s show that jackets were troublesome to snapper fishers at that time. The commercial catch records since then have shown significant declines and increases in the populations, so there has been a lot of variation in leatherjackets.

There is no current scientific evidence to explain the current boom in the most recent population. A possible explanation could be the optimal environmental conditions which have provided for really good recruitment. I guess the history of catches has shown there have been quite big fluctuations in the leatherjacket populations.

The Hon. RICK COLLESS: So from a predicted point of view you might expect that to increase in the next few years or whatever?

Mr VAN DE WALT: That is right.

The Hon. LYNDA VOLTZ: That will disappoint my kids; they like catching them.

The Hon. RICK COLLESS: In terms of compliance, we have taken evidence that very few fishermen have ever been checked by a Fisheries compliance officer. Do you believe there are enough officers to be a serious deterrent to illegal fishing practices?

Mr O'CONNOR: There is an old saying from one of our previous chief Fisheries officers George Saccagio, who used to say that compliance was a question of the three PPPs. He said basically if you had high enough penalties—so that is where one P was—and you had perception, you won't get caught; then you would get prevention. I think there is a fair bit of truth in that. Achieving compliance is firstly a question of getting people to understand why we have the fishing laws that we have, so education is an important tool. What you will then find is that if you have high enough penalties and there is a perception that you have a risk of getting caught, then people will comply. We try and create the perception that there is a risk of getting caught by publicising in the press captures of people doing illegal activities.

We get a lot of publicity and there is a lot of support for that in the regional media. In the end you can always have more Fisheries officers; we could always do with more Fisheries officers, but in the end what we try to do is to strategically address the compliance risks that we see. We try to work very constructively with industry and we try to do it based on education so that we get optimised compliance and we get, in large measure, voluntary compliance. So 90 per cent of the people will look at the fishing rules, understand what it is we are trying to do, and 90 per cent of the people will support it. It is then a question of targeting the other 5 or 10 per cent who perhaps are doing the wrong thing and trying to be strategic in the way you address that.

The Hon. RICK COLLESS: I think it is fair to say that we have also heard from a number of witnesses that those deterrence are not sufficient; there are still too many people who do not have licences, who are catching fish, taking them to the pub and selling them or whatever. That is the sort of thing that the vast majority of fishermen want to see stamped out because of the impact it is having on the whole industry from a morale point of view. How do compliance officers operate? Do they have the power to board your vessel while it is on the water to check the fish that you have on board?

Mr O'CONNOR: Yes, they do.

The Hon. RICK COLLESS: Do they operate like that principally or do they operate mainly at boat ramps, checking people as they come in, or is it a combination of both?

Mr O'CONNOR: All of the above. We have a large compliance vessel, the *Swan* and we have the capacity of using two rubber duckies in association with that. We frequently have it cruising in key areas where we think there may be compliance issues to address. We will have the mother ship if you like and the two duckies out there addressing issues as they move along the coast. We have a strategic approach to work at boat ramps but also work from land and also work from sea. We cover the whole spectrum.

The Hon. RICK COLLESS: How many compliance officers are on strength at the moment?

Mr O'CONNOR: Currently we have 92 positions and I think there are currently two vacancies which are in the process of being filled.

The Hon. RICK COLLESS: How many offshore vessels do you run?

Mr O'CONNOR: As a guess—I can provide you with the detailed information—but we have one large vessel, which is a 43-footer. We have a couple in the range of 35 down to 27 and then we have a lot

smaller vessels, in the order of 23 foot, but we have a strategic capacity, we believe, at all stages up and down the coast.

Mr IAN COHEN: I have just a couple of questions to either Mr Wright or Mr Toovey. With respect to the many complaints about sanctuary zones and protected areas, the scientific irrelevance of them and the fact that fish move, et cetera, could you give some basis to the scientific strategy behind the choice of sanctuary zones—how effective are they—and the assessment or the processes that have gone into choosing particular areas as sanctuary zones?

Mr O'CONNOR: The fundamental scientific principles the Marine Park authority uses to select areas of sanctuary zones are the principles of comprehensiveness, adequacy and representativeness [CAR] in terms of habitat types. The intention is to get a CAR set of habitat and types within sanctuary zones in the marine park system. That is the fundamental principle which has informed the selection of sanctuary zones and marine parks more generally in terms of their location and decoration. In terms of how the authority has gone about identifying those habitat types, it has been informed by the habitat mapping program it has put in place, which has pulled together very comprehensive information on habitat types up and down the coast.

Dr WILSON: New South Wales, in line with the approach that is used both by the Commonwealth and the other States and the Northern Territory, based the identification of representative areas on using underwater habitat as a surrogate. That is using the habitat to project the kinds of biodiversity you are going to save there, and that is in turn ground-truthed and tested using approaches like the baited remote underwater videos. The program that has been implemented in New South Wales has been assessed as quite likely the best in the country; it is certainly of a very high standard. A lot of it has been done in collaboration with the Commonwealth research hub on marine biodiversity.

CHAIR: May I interrupt you there. You have just made the statement that the New South Wales methodology is regarded as the best. You are aware of the recommendation in the "Marine Park Science in NSW - An Independent Review 2009", which was presented with the original all-of-government documentation, secondary importance item 7, which provides: "Test the key assumptions involved in using the ecosystem and habitat features as a surrogate for biodiversity per se as a priority over the next five years". Does that not imply that the scientific review panel do not necessarily agree that the methodologies currently used are adequate?

Dr WILSON: No, that does not imply that at all. Nationally there is a major program testing those assumptions which will report at the end of this year.

CHAIR: When did that program start?

Dr WILSON: That is the Commonwealth Marine Biodiversity Research Hub, which has been running, I think, since 2005. That is a major focus of that. The report says that once you establish the basic parameters you need to continually test that and refine it, but that in no way undermines the premise of using the habitat mapping approach for defining the sanctuary zones.

Mr TOOVEY: If I could add to that. That is exactly what we have done in Solitary Islands Marine Park in terms of the habitat classification changes that have been made. They have been informed by the mapping that has been done since the park was originally zoned and by the underwater baited video, which has told us that there are different assemblages associated with those habitats based on different depths or different distance from shore. That is really what Kate was saying: you are progressively expanding your knowledge of how the habitat is represented.

Mr IAN COHEN: There is a lot of criticism about, if you like, a static assessment of these areas, choosing sanctuary zones and marine parks. To many people appearing before the inquiry there is a certain irrelevance to that, given the movement and seasonality of fish populations. Can you explain your position in those terms, and perhaps give some examples, particularly of the pelagic fish, their behaviour, and the impact or effectiveness of sanctuary zones? The comment that comes through is that perhaps seasonally it should be shut down but not all the time in terms of sanctuary zones. Perhaps you could comment on that.

Dr WILSON: The general question you are asking is about the perception that because fish move—

Mr IAN COHEN: Fluid medium, and all that.

Dr WILSON: Yes, fluid medium and all that. At the end of 2009 a global analysis was published of marine protected areas. So there has been commentary, generally that there is a big difference between tropical sanctuary zones, where you have fewer pelagic fish, and sanctuary zones in temperate areas, where of course you have more pelagic fish and therefore the fluidity question arises. That global analysis showed quite clearly that, if anything, the sanctuary zones in temperate areas performed better in terms of biodiversity outcomes than some of the ones in tropical areas, so there was no clear difference between temperate and tropical sanctuary zones that could be attributed to this difference.

Mr IAN COHEN: You are basing that on ongoing surveys that are being undertaken?

Dr WILSON: Yes. That is looking at a global analysis, but it was very specifically separating out the temperate data, much of which would have come from Australia and New Zealand, and also temperate zones in the Northern Hemisphere as well.

Mr TOOVEY: A couple of other points to make would be that what we understand from the work that has gone into building effectively a global system of marine protected areas is that, in combination, the effects are additive. If you represent the different habitats across our marine ecosystems, when we have changes that undoubtedly will occur in regard to climate change—we have shifting eastern Australian currents—then you are likely to have some of those areas that are already protected where you are going to see shifts outward with species. The other point is that we do not tend to have marine protected areas for stock management, for management of fish stocks or pelagic species that are targeted commercially or recreationally.

Certainly we have protected areas that are focused on giving extra protection to threatened and endangered species, but management of individual species by aerial restrictions or temporal restrictions is not something that a marine protected area is particularly focused on. It is focused on the full range of species, not just including fish that are located in those ecosystems. There has been some recent academic debate about pelagic marine protected areas and they are the sorts of points that have been made in that debate.

Dr WILSON: If I could add to that. I realise this is an inquiry about recreational fishing, so fish are the subject of the tension. Fish represent, I think, less than 2 per cent of marine biodiversity, and much of the other 98 per cent is sessile—in other words, it sits in place, it does not move, and does not swim around.

Mr IAN COHEN: You are talking about basically the whole food chain, the whole ecosystem?

Dr WILSON: Yes.

Mr IAN COHEN: So there is an argument that is beyond the pelagic nature of the fish. They are the top of the food chain. But they still depend on a basic ecosystem to maintain themselves?

Dr WILSON: Yes.

Mr IAN COHEN: There has been discussion in the inquiry about gemfish populations, and we have also heard about orange roughy. Could you comment on their level of vulnerability, and the methods or effectiveness of being able to judge the level of health of those particular types of fish populations?

Mr TOOVEY: They are deepwater species that typically well and truly occur outside our marine park system in New South Wales.

Mr IAN COHEN: They are in Commonwealth waters primarily?

Mr TOOVEY: Yes.

Mr TURNELL: If I could add a bit more information. Both gemfish and orange roughy are predominately Commonwealth species. We have adopted in our New South Wales classifications the results of the Commonwealth stock assessment on gemfish, which puts it at "recruitment overfished", which is not a good place for a species to be. New South Wales has pretty strong trip limits. It is by far and away a Commonwealth-harvested species, and much less so from a New South Wales commercial point of view and even less so from a New South Wales recreational perspective.

The Hon. RICK COLLESS: Who is doing that?

Mr TURNELL: Commonwealth-endorsed commercial fishers are taking the majority, less in New South Wales-managed commercial fishers; bearing in mind that a lot of these commercial fishers are licensed or endorsed in both the Commonwealth and New South Wales.

The Hon. RICK COLLESS: Are any of those commercial fishermen that operate outside the limit coming in from other jurisdictions, particularly international jurisdictions? Is there a pressure on the gemfish and orange roughy population from Queensland or international fishing?

Mr TURNELL: I could not answer that.

Mr O'CONNOR: If I could just add to that briefly? One of the things that make those two particular species vulnerable is that they form really large schools and in those schools they can easily be picked off by fishermen using trawl nets.

CHAIR: We had evidence of that presented on Monday.

Mr O'CONNOR: That is one point. The other point is they are taken not just in New South Wales waters but also further south. So they are taken in the waters belonging to several States but mostly deepwater.

Mr IAN COHEN: We have had evidence about gemfish swarming around Brown's mountain; anecdotal evidence of a fisher out with equipment that was able to view what he considered to be hundreds of thousands of fish in that area. You are saying that their vulnerability lies in the fact that they school so intensively that a commercial operator can wipe out a massive school—

Mr O'CONNOR: That is correct. It makes them more vulnerable to high level predation. Species like orange roughy also are very slow growing and breed at a very large size, which also makes them very vulnerable.

Mr IAN COHEN: Mr O'Connor, in terms of compliance you went into detail about the number of boats available. When you said 92 with a couple of other jobs pending, was that marine or were you talking of inland fisheries or the whole lot, with that sort of number?

Mr O'CONNOR: There are 92 positions and, of those, two are currently vacant but they are in the process of being filled. Yes, that incorporates both freshwater and marine.

Mr IAN COHEN: What is the breakup between coastal marine, looking perhaps at major urban centres, the coast and the inland fisheries?

Mr O'CONNOR: I can give you a more detailed breakdown, but in round figures I think there are 21 Fisheries officers inland and the rest are on the coast. What I would say is that they do not just stick in their own little districts. The reality is we operate according to an operational plan. We identify issues and we develop an operational plan to address the issues. We will draw on staff from wherever they are based in order to address those issues. For instance, there are very large fishing competitions that occur during Easter, for argument sake, and also the October long weekend. There are particular times of year when you have trout opening, and so forth, when we have particular operations. We will draw people from the coast to work on those issues or if we have a particular operation or a particular concern about abalone, for argument's sake, on the South Coast we will draw people from the inland as well to come and work on those operations. So we have 92 officers. We use them strategically. We try and address issues through targeted operations.

Mr IAN COHEN: Do you have an opinion, or can you give any figures on activities around the newly formed marine parks, sanctuary zones, and policing operations in that type of activity as opposed to general fish assessments and the legality of fish in general being targeted? Can you give us an assessment of how much work is involved, or if it goes into policing marine park zones?

Mr O'CONNOR: In terms of effort, no, other than to say that Fisheries officers work in all waters of New South Wales. We work inside marine parks and outside marine parks, and we work very closely with marine parks officers who are obviously dedicated to compliance in those areas.

CHAIR: Do they work in the commercial waters as well?

Mr O'CONNOR: Fisheries officers?

CHAIR: Yes.

The Hon. JOHN ROBERTSON: Federal.

Mr O'CONNOR: We work in all waters of New South Wales so they are addressing commercial and recreational issues, they are also dealing with aquaculture compliance issues.

CHAIR: I meant are they also involved in the Commonwealth zone?

Mr O'CONNOR: Yes. Just to answer that question specifically, the Commonwealth in the past has contracted New South Wales to undertake compliance on its behalf. The amount of work we have been doing for the Commonwealth in the past couple of years has shrunk because they have appointed their own officers to do some of that work. So we are doing bits pieces and they are doing bits and pieces.

Mr WRIGHT: Can I just say—and I mentioned this in the hearing back in April as well—that we have 10 marine parks officers working across the marine parks system who are authorised to enforce the Fisheries Management Act.

CHAIR: Are they co-warranted?

Mr WRIGHT: Correct.

Mr IAN COHEN: That is separate from the 92?

Mr WRIGHT: That is in addition to the 92, plus a series of other authorised officers who also assist in compliance but for the Marine Parks Act and Fisheries Management Act.

Mr IAN COHEN: Do both parties, Fisheries and marine parks, or the Department of Environment, Climate Change and Water, have figures on the number of fishers approached, warned and charged? Is that something that is readily available? You can take that on notice.

Mr O'CONNOR: The answer is: Yes. I do not have it with me here but I can easily provide it.

Mr IAN COHEN: If you could provide it because there is a lot of argument about people feeling victimised, et cetera. It would be good to get some clear figures on the actual process and the rate of prosecution.

The Hon. CHRISTINE ROBERTSON: I think you have given them to us before but we have got so much evidence that it would be very good to have them on top.

Mr O'CONNOR: If I could just say? As I mentioned before, with regard to compliance with take a very strategic approach. We do a lot of planning but we also do a lot of reporting. We collect detailed stats of what we do out in the field so that we can go back to groups like the Advisory Council on Recreational Fishing and give them detailed information on how many recreational fishers we have inspected and how many compliance actions we have needed to undertake. What proportion of the total was compliant? As I have indicated in the past, I think it is roughly about 92 per cent of the recreational fishers that we inspect are compliant. Then we have a very detailed breakdown on what compliance action we take with the remaining 8 per cent, be they prosecutions, be they penalty notices or be they warnings. Yes, we will provide that.

Mr WRIGHT: In terms of the marine parks system, the Marine Parks Authority recently considered a report on enforcement and compliance actions for 2009-10. We have a set of figures here and it would probably be best if I table that post this—

CHAIR: Is it possible to provide the whole report?

Mr WRIGHT: We certainly could do that.

CHAIR: Thank you, if that would suit your purposes.

Mr O'CONNOR: Could I make one last comment? That is, in addition to the Fisheries compliance officers that we have—the 92 that I mentioned—we also have, as I mentioned, a large focus on educating anglers so that people understand the rules and people understand why we have the rules. In particular we have an educational program with over 300 volunteers involved in getting out there talking to anglers about why we have the rules we do have. In the end, as I have said, what we are trying to do is achieve voluntary compliance as far as possible.

CHAIR: Point of clarification. What are the key performance indicators for measuring the efficiency or efficacy of the fish volunteer program? How do you measure whether it is being successful or not?

Mr VAN DE WALT: We keep numbers of contacts that are made by Fishcare volunteers. For instance, I think in 2008-09 Fishcare volunteers attended over 600 events, which include things like field days, trade shows, fishing competitions, boat ramp advisory days, and they do advisory days in shopping centres and that type of thing. In 2008-09 the figures were 125,000 contacts; that includes recreational fishers and potentially other members of the public as well.

Mr IAN COHEN: It has been mentioned to me that some value could be gained by a fin clipping process of recreationally caught fish. Can you comment on that? Is it a handy tool or a waste of time?

CHAIR: That is to prevent the fish from going into the commercial market.

Mr TURNELL: That is correct.

The Hon. RICK COLLESS: They do it in Queensland, I think.

Mr TURNELL: I am not sure whether they do it in Queensland.

Mr VAN DE WALT: Yes, they do it for the reef line species and also Spanish mackerel.

Mr IAN COHEN: Could that be a strategy to knock down the shamateur? How big a problem is it at this point in time? It has been talked about a great deal. It was talked about when I was on a fishing inquiry in 1997.

The Hon. CHRISTINE ROBERTSON: In the olden days.

Mr TURNELL: It has always been a problem. It is a small but important problem. When I say it is small, approximately one million people go fishing recreationally in New South Wales at least once a year. The percentage that get involved in taking fish for some sort of commercial gain is relatively small. In saying that, it still is an important issue. We receive information from members of the public and other concerned anglers from time to time. We are starting to get a clearer picture of where this may be happening and who may be involved. I would probably prefer not to say much more about that side of it. The fin clipping is one way to identify which species should not be in commercial outlets, in other words, which ones have been taken recreationally. We recently spoke to the Advisory Council on Recreational Fishing about a proposal to fin clip a certain group of species, the species that are the usual suspects in this sort of illegal activity.

There was initial concern that imposing yet another rule to a group of species would be a little confusing for recreational anglers. We certainly did not want to be catching people up in prosecutions who did not deserve to be. In other words, they were concerned there are already bag limits on certain species and they vary. Some do not have a bag limit and there are different size limits on different species. Then to introduce a category of species that had to be fin clipped could be problematic. We then considered, at someone's request, fin clipping of all recreationally caught species. At the moment we think that is potentially a bit of overkill to try to get some compliance from this relatively small sector of people who do not want to obey the rules. We are in continual negotiation or consultation with the Advisory Council on Recreational Fishing to see where fin clipping may have a role.

Mr IAN COHEN: If all recreational fish were fin clipped, there would be no discernment. It would be a matter of catch a fish, clip the fin. Is that a major task?

Mr TURNELL: It may be for a lot of people and getting the message out so that everyone is fully aware. There are some groups of people who will take a number of fish, keep them alive in a live tank and then later release them if they catch another one that might be more desirable or bigger. At which point you actually require the fin to be clipped is also another point that needs to be taken into account. Your point is right: It could just become a standard requirement, in which case it would not be that difficult other than getting the message out there to everyone. We need to be convinced that making everyone do this to every fish they catch is a necessary way to stop what could be a relatively small but significant problem.

The Hon. RICK COLLESS: Is it illegal to fillet a fish at sea?

Mr TURNELL: Generally, yes. That is basically so that compliance officers can measure the size if they approach them at sea.

The Hon. RICK COLLESS: If a fisherman came in with an esky full of fillets at the boat ramp, would he be prosecuted?

Mr TURNELL: He could well be.

The Hon. RICK COLLESS: Or she?

Mr TURNELL: Or she. I am not sure if there are exemptions for certain species but, generally speaking, the answer would be yes.

The Hon. CHRISTINE ROBERTSON: Can you explain to me the process of fin clipping? When you catch the fish you clip the fin. What is that for?

Mr IAN COHEN: So that it cannot be sold.

Mr VAN DE WALT: It can be identified. If a fish sold whole does not have a clipped fin, then the source of that sale can be identified.

The Hon. CHRISTINE ROBERTSON: What happens if the commercial fishers pick up the fish with the clipped fin?

The Hon. RICK COLLESS: They will not. They do not have to clip them.

The Hon. CHRISTINE ROBERTSON: The fin is clipped after the fish is killed?

The Hon. RICK COLLESS: Yes, the fin is clipped after the fish is dead.

Mr VAN DE WALT: The fin clipping does address the potential black marketing of whole fish but it does not address the issue of filleting fish. It still allows for black marketing fillets.

CHAIR: For instance, bass fillets being sold as bream?

Mr VAN DE WALT: Yes. Black marketers could still fillet the fish and sell them.

Mr IAN COHEN: The inquiry has received information which, to me, is confronting about the Nye brothers down on the South Coast and indigenous fishing rights and method of fishing. They referred to conditions that they felt oppressed by, particularly in not being able to have family members help land the fish. It has quite an impact on their traditional fishing methods. This has been a major issue for many years. Could you give the Government's position on dealing with Aboriginal communities, their fishing rights and traditional fishing rights?

Mr TURNELL: Recent changes to legislation have brought in the establishment of an Aboriginal Fisheries Advisory Council. The expressions of interest in membership on that council closed very recently and we are just about to send out letters to people to invite them onto that council. There a number of things that the council will be considering in the short term. One of those is issues to do with cultural fishing. A second is to do with Aboriginal participation in licensed commercial fishing.

The Hon. CHRISTINE ROBERTSON: They are separate.

Mr TURNELL: They are separate issues. There are a number of commercial fishermen at the moment in New South Wales who are Aboriginal. One of the indigenous representatives on our peak commercial fishing committee has recently been successful in securing some funding to undertake a study on, firstly, who is this group of commercial fishers that are Aboriginal and, secondly, what current barriers exist to the way they have traditionally operated, which includes the involvement of family members? Some of the rules and the administrative processes that apply to commercial fishing are difficult for some of the Aboriginal commercial fishers.

Mr IAN COHEN: Could you answer that in light of who owns the fishing licence and the difficulties they are having if the licence holder is sick and unable to operate? In that case they have what they feel is a breakdown in their ability to reasonably operate.

Mr TURNELL: One of the fishing controls we have from a commercial perspective is limiting the number of crew that can be used, depending on what fishery you are operating in. It might be that if a particular individual is the holder of that licence, that does not mean they can automatically pass it to someone else if they are ill or unable to fish. That does not sit well with the way the Aboriginal communities have traditionally operated as part of the family operation. We have also received information, and I think it is a fair assessment, that commercial fishing appears to be quite an attractive operation for many Aboriginal individuals and family groups. One of the issues that this research program will be looking at and also the work of the Aboriginal Fisheries Advisory Council will be developing opportunities for Aboriginal people and family groups to participate in commercial fishing. That is one of the key concerns that they have had—the individual nature of the commercial fishing licence does not sit well with the communities.

Mr IAN COHEN: We heard some complaint, which seems to be reasonable, that for cultural fishing people have to catch the fish and cook and eat it on the beach. Obviously there are situations where elderly family members are unable to be there and need the fish to be delivered to their home. They feel quite restricted by that condition. Can you comment on that?

Mr TURNELL: That concern was brought to us recently and we are working through that at the moment and members from the New South Wales Aboriginal Land Council and Native Title Services Corporation have been speaking openly with them about this issue. We appreciate their concerns and they understand that we are trying to develop arrangements that allow that to occur without compromising the intent of cultural limits, if you like.

Mr IAN COHEN: Looking at perhaps Dr Wilson—I am not sure whether it is appropriate to be asking you this—but there has been a lot of complaint before the inquiry, again questioning sanctuary zones and the sort of national park structure of working out a regime to protect species, which I think you have explained quite well and it was interesting to hear in terms of the total pyramid of sea life, and I have already forgotten the word you used—

The Hon. RICK COLLESS: Sessile.

Mr IAN COHEN: A lot of complaint comes from the fact that not enough attention is undertaken by the various government agencies into the protection of habitat—onshore habitat, estuarine habitat, breeding ground areas and those sorts of specifics. Could you comment on that at all? Let us look at Hexham swamp, for example, and the condition of that one and promises by Government when Eddie Obeid was the Minister to inundate and rehabilitate those sorts of areas. They are the big issues for a lot of practising fishers.

Dr WILSON: I will make some comments and then probably hand to my colleagues, who can talk more about the protection of swamps. Clearly, the protection of grounds where various marine species will breed is a critical component of conserving marine biodiversity, and you are correct that very often those are estuarine or near-shore areas. Five out of the six parks in New South Wales are all coastal marine parks so they are a very important component of the national system of marine protected areas to ensure that some of those environments are protected. I might hand to Michael at this point.

Mr WRIGHT: It is worth noting that 40 per cent of the coast is now included in terrestrial national parks, which provide very significant catchment benefits to our marine park system and many of our marine parks abut significantly up against those coastal terrestrial national parks. In terms of catchment protection, the

Government has invested significantly in catchment management authorities, who develop catchment action plans, which target the protection of estuarine environments and catchments back from estuaries as well. There has been significant investment in upgrading sewage treatment plants as well in the last decade or so by the current Government, and various wetland rehabilitation programs—you mentioned Hexham—are happening, which we mentioned at the inquiry back in April.

So we are certainly working collaboratively with catchment management authorities and with the Department of Industry and Investment on some of these issues. Acid sulphate soil is a big issue. We have got a program which has us collaborating with the Great Lakes Shire Council to acquire lands which are a risk in terms of acid sulphate soil, for inclusion of those lands in the reserve system. We are also working with that council to rehabilitate lands that have channelized and which, as a consequence, produce acid sulphate run-off into the adjacent marine environment. So I think Government and these agencies are very cognisant of the risks posed by those sorts of land-based impacts on the marine environment and there is a series of quite comprehensive programs in place to attempt to address those risks, and they are complementary to the marine protected area and fisheries management programs the Government is running.

Mr IAN COHEN: Just as an example—I think it might be the biggest but correct me if I am wrong—Hexham? Where is that up to in terms of re-inundation and promises made back in the mid nineties?

Mr WRIGHT: Could I take that on notice? But I would say that the Hunter Catchment Management Authority has been running that program, so the inundation project has commenced and is being stepped through. The Department of Environment, Climate Change and Water [DECCW] is in the process of taking over responsibility for the management of Ash Island, part of which is within this inundation area, and there are ongoing discussions between ourselves and Hunter CMA about the future management of that inundation program. But I am more than happy to provide additional information to the Committee on that.

Mr O'CONNOR: Can I just add some comments as well? Fisheries has always taken the view that you do not have good fish populations if you do not have good habitats. So we put a lot of effort into habitats. The first thing we do is attempt to assess all development applications that are happening along the coast, in particular, with a view to trying to mitigate the impacts of those developments on fisheries habitats. Secondly, we do a lot of work to protect key habitats such as sea grasses. That is another key focus of what we do. A third thing that we do is to do a lot about restoring degraded habitat, and in particular in our submission earlier this year we pointed out that, for instance, we have undertaken activities at over 200 sites to improve fish passage, and that has resulted in over 2,000 kilometres of riverine habitat put in place. We have also worked very closely with the Murray-Darling Basin Commission, in those days, with regard to the establishment of fish ways along the Murray. We have done most of the pioneering research in Australia on fish ways. So that has been a very key focus of what we have been doing.

Another thing we are doing a fair bit of at the moment is reintroducing barge woody habitats, or snags, back into rivers. There was a major program by the Department of Water Resources years ago to take snags out of rivers in order to improve riverine flow, but we have always argued that they are incredibly important for native species. That has been recognised and now we are in the process of putting them back in many areas. That is another very constructive thing we are doing. We have also recognised—Michael mentioned the issue of acid sulphate soils—the impact that tidal floodgates have and we have been working with farmers and with fishers in local communities to try and get many of those floodgates opened. We have been successful in getting over 100 tidal floodgates opened.

So, habitat is a key issue for us—it always has been. With regard to Hexham swamp in particular, I note that we provided some information back to the inquiry in May, so I will just refer you to that. But, in essence, at Hexham the issue was all about trying to restore just on 2,000 hectares of Hexham swamp to healthy, functioning wetland, and since the first floodgate at Ironbark Creek was opened in 2008 there has been a lot of monitoring happening to try and ascertain what the impact of that has been. My understanding is that that monitoring data has progressed. It has not all been analysed yet, but stage two reports and that monitoring, I am told, will be available later this year.

CHAIR: Just on Mr Cohen's last point. I understand that the New South Wales Habitat Action Plan is due to be released in 2010. Do you know when in 2010 it will be released?

Mr O'CONNOR: I have not yet seen a draft of it. Our staff are working on a habitat plan for New South Wales. What it is trying to do is pull together the various aspects of what we are doing and to give an indication of priorities for the future.

CHAIR: Is Fisheries the lead agency?

Mr O'CONNOR: Yes.

CHAIR: Would you be able to provide the Committee, on notice, with some sort of rough estimate as to when that action plan might be available? Just an estimate—we will not hold due to it.

Mr O'CONNOR: It will be rough but yes we can.

CHAIR: I would be interested particularly to know whether it would be available before this Committee reports at the end of November, for example.

The Hon. CHRISTINE ROBERTSON: Will that have the work of the catchment management authorities, and I cannot remember what your title is—

Mr WRIGHT: DECCW.

Mr O'CONNOR: In essence, at this stage it is largely a Fisheries focus. We do not envisage at this stage that it will encompass the work of all other agencies. However, it will recognise the work that we are doing in conjunction with CMAs and so forth. It will be fairly broad in its scope. As I said, it is early days. We had a target date of trying to get it completed this year, but that may not happen.

The Hon. CHRISTINE ROBERTSON: We are getting a picture that the three agencies are working incredibly well together on these issues. However, having one produce a plan not attached to the others is a problem for me.

Mr O'CONNOR: I understand the point. Rome was not built in a day and we need to take important steps. We are pulling together the various aspects of what we are trying to do in our agency and then we can use that as a springboard to develop a broader plan.

CHAIR: Dr Wilson, I will come back to you later this afternoon to discuss the issue of the relative percentage in a marine diversity bundle of fish. You said it was very low—probably only about 2 per cent. I will ask you how that equates with the methodology the Government has chosen to protect that biodiversity; that is, spatial restrictions. It is a complex question and I am foreshadowing it so that you have time to think about it.

The Hon. LYNDA VOLTZ: I want to ask about the formation of marine parks. My question follows on from Mr Cohen's questions about traditional fishing areas. Given the decision processes used with regard to native title at Cape York Peninsula, has consideration been given to traditional fishing grounds and what may in the future become areas the subject of native title?

Mr WRIGHT: In terms of the consultative arrangement we have in place for marine park establishment and management, we have a statewide marine parks advisory council that has Aboriginal representatives sitting on it. For each of our marine parks we also have a local marine park advisory committee, which again has Aboriginal representation. The authority is very concerned to ensure that the views of Aboriginal people, both at a statewide and local level, are considered in terms of the identification and management of marine parks. The Marine Park Authority has also recently finalised the cultural resource use policy, which puts in place a policy framework to engage with Aboriginal communities to facilitate cultural use of marine parks, including extraction of marine resource for cultural purposes. We are still learning in this area. I must admit that we do it better on land in our terrestrial national parks than we do it on water.

The Hon. LYNDA VOLTZ: Do you follow the same procedures followed on land? Is a native title check done and is consideration given to who may have title?

Mr WRIGHT: No, we do not. The fundamental reason that does not occur is that the legal advice that the Government has suggests that native title in marine waters is unlikely to be able to be substantiated, whereas on land it is able to be substantiated if it has not been extinguished through a past act. From a legal point of view

there are different processes that we go through with our terrestrial reserves, for example, or land use more generally—I am talking about Crown lands—and issues on marine waters in terms of Aboriginal use.

The Hon. TONY CATANZARITI: Do you have any problems keeping those people on your committees?

Mr WRIGHT: We do often have problems in terms of getting Aboriginal representatives to sit on committees and retaining them. It is an ongoing problem. It is often a cultural conflict issue. Effectively you are asking these people to participate in a Western European-type process. That is not always the best way to engage Aboriginal communities. While we do have those formal processes, we also have arrangements in place to ensure that we engage with Aboriginal communities in a less a formal and more culturally appropriate setting.

The Hon. TONY CATANZARITI: Do you have a plan to try to keep them on those committees or to attract other people to take part?

Mr WRIGHT: We certainly do. We are proactive in identifying representatives to sit on those committees and attempting to ensure that the committees remain relevant to them and address their concerns. It is often an issue of representatives feeling that they can speak on behalf of country and other Aboriginals.

The Hon. LYNDA VOLTZ: So they really need to be elders.

Mr WRIGHT: Ideally they do.

Mr O'CONNOR: I would like to make a comment particularly with regard to the Solitary Islands Marine Park. When we were first establishing it there was a recognition that the indigenous representatives on the committee did not feel they could adequately represent other views. They could put their own view, but they did not feel they could be representative of indigenous views. I know that the marine park manager spent a lot of time with the tribal elders. Indeed, a separate group was informally set up with all the tribal elders to try to ensure there was an inclusive process so they could have their input recognised. Their involvement was not limited to having an indigenous representative on the marine park committee locally. There was a very inclusive process that happened outside that. We are trying that deal with that issue as constructively as we can.

Mr TOOVEY: That is the case with, for example, our current signing plan review processes. We are engaged directly with the different communities. In Jervis Bay there are three different Aboriginal communities that have an interest. That is another issue. We are not dealing with just one Aboriginal community, there are often several.

The Hon. LYNDA VOLTZ: Which is why the issue of title always comes into question. A document provided by Professor Keaney from Canberra states:

As most of the species taken by commercial fishing in this area are migratory, or at least highly mobile, it is more than possible total kill of these species will not be significantly changed by localized removal of fishing.

This refers to the buy-back of fishing licences. It continues:

Fisheries data, such as yield per recruit analysis, that have been available since the early perfect 1990s, showed that a closure of all areas inside three miles of the NSW coast to all fish trawling would benefit many fisheries, particularly the fish trawling industry itself. These benefits do not necessarily come from closing small bits of this total area.

Can you explain the logic of the fish buy-backs in terms of that view?

Mr O'CONNOR: I would prefer to read the quote carefully and then respond if I could.

The Hon. LYNDA VOLTZ: Certainly. Would you like to take the question on notice?

Mr O'CONNOR: Yes.

The Hon. LYNDA VOLTZ: I can provide a copy of the quote.

The Hon. JOHN ROBERTSON: It is on the website.

Mr O'CONNOR: In part what he seems to be saying is that pelagic species clearly migrate north. Therefore, if you close a particular area and buy out the fishing effort in that area, you may be removing effort but it does not necessarily have an impact on those migratory species. I will take the question on notice.

The Hon. LYNDA VOLTZ: It is talking about mobility of fish and their migratory nature, and the fisheries data refers to a closure of all fisheries areas inside three miles of the New South Wales coast. I would appreciate it if you could take the question on notice.

Mr O'CONNOR: Sure.

The Hon. LYNDA VOLTZ: How is the restructuring of commercial fishing in New South Wales being done?

Mr TURNELL: A few things are underway at the moment. At present we are currently going through an exit grant process. There were \$1.5 million identified in the Commercial Fishing Trust that the Minister for Primary Industries approved to be used for a restructure within the commercial fishing industry. We spoke with fishing representatives from the Seafood Industry Advisory Council as well as some economists about how such an amount of money can be best used. It is not a large amount of money when you are looking at a structural adjustment program, but the message we got was that a lot of fishers were interested in leaving, actually selling their fishing business which comprises different share packages for different fishing types. We have offered anyone who expresses an interest up to \$15,000 in addition to what they can get for selling their shares, and we have had, I would call it, a reasonable interest in that process.

We are just at the stage now where those people are about to trade their shares within the fishing industry and take this exit grant. That will be finalised before the end of this year, we hope. There are other options that we are discussing with industry. We just held 12 port meetings along the New South Wales coast, talking to commercial fishers about options to link their shares. Their access as commercial fishers is reflected in the number of shares they hold. In some fisheries the shareholding is scaled; major operators will hold more shares than small operators. That is traditionally in fisheries where there is a direct link between the number of shares and how many fish you can take. Examples of that would include our lobster fishery and our abalone fishery. In some other fisheries they are yet to have made that link between the number of shares and relative access to the fish stocks.

In some fisheries that would be problematic and it may not work very well, particularly in a lot of the multispecies fisheries. But we have worked with industry groups to see where there is interest in linking those shares. That will provide incentive to some fishers who wish to become a relatively large operator in the industry to invest and be able to become that larger operator. We will be writing letters to fishers and groups of fishers in the near future to try to canvass the support for such a move. Obviously that will also generate some restructuring and provide, if you like, the share market with the incentive for people to be buying and selling.

CHAIR: Throughout the inquiry we have had a lot of representations from commercial fishers that all said pretty much the same thing. That is, the way buyouts were done in the past, whether they were recreational fishing haven buyouts or others, had not necessarily achieved the results intended, and that, coupled with the closure of areas, only resulted in a shift in the location of effort. Let us say there will still be a thousand tonne of fish caught here but now you have 20 fishers instead of 10. With the Marine Park Authority's proposed closure in the Solitary Islands Marine Park review of the Coffs Harbour prawn fishery, what methodology would the Government be thinking about using there—I do not want to go into dollars or anything like that—to ensure that that effort was not simply concentrated somewhere else?

Mr TURNELL: We have data and records on catch from individual fishers and on an area basis.

CHAIR: So you are using historical data?

Mr TURNELL: We are using data. We are using that information. The goal would obviously be to have no net shift of fishing effort from one location to another as a result of a closure and a buyout. That is the objective of such a process. But some fishers who get bought out in a certain area but fishing is their life—as a commercial fisher it is their tradition—they will seek to buy back into a new area. Obviously the small coastal towns and villages where commercial fishing is quite predominant, when a new player turns up it causes a few ripples, if you like. For a lot of commercial fishers it has been their family way of operating, it is all they know. So it is understandably quite difficult for them to transition into a completely different source of employment.

CHAIR: The Hawkesbury commercial fishing area was one that suggested that is exactly what had happened, obviously by people who had been fishing there traditionally for years.

Mr TURNELL: Are you suggesting that people moving out of Sydney Harbour may have moved into the Hawkesbury area?

CHAIR: I am not but that is what these witnesses are suggesting.

Mr TURNELL: I have heard that comment before. I can get some information if it would be of value.

CHAIR: No, my question is really only a follow-on from Ms Voltz's question. I just want an assurance that the Government was looking at that issue when you make decisions like closing down a fishery like Coffs Harbour's prawn trawling, that you do take those things into account.

The Hon. LYNDA VOLTZ: Perhaps if you could provide that data on notice. It might give us an indication of what is happening.

Mr TURNELL: And that would be specific to the closure of Sydney Harbour to commercial fishing?

The Hon. LYNDA VOLTZ: Yes, if that is the issue that was raised.

Mr TURNELL: I cannot quote the figures off the top of my head, but I gave that example because I think it shows the clear intent of what we are trying to achieve and a very clear outcome.

The Hon. CHRISTINE ROBERTSON: Are the Hawkesbury and Sydney Harbour in the same fishing zones?

Mr TURNELL: From an estuary perspective they are, yes.

The Hon. CHRISTINE ROBERTSON: It was the moving of zones that was the issue.

The Hon. LYNDA VOLTZ: You were talking earlier about the collection of data and diaries from recreational fishers. How important is that kind of data? What do you get from fisher people in terms of data collection?

Mr O'CONNOR: One of the types of survey we do is an attempt to try to find out how many people are fishing in a particular area and what sort of fisheries they are involved in. That gives us data of a broad sort but then we also want to undertake detailed studies of what they catch in a particular area. So we do what are called creel surveys where we have people go out there and talk to fishermen about what they had caught and inspect their catches. So, we get the detailed studies from some sorts of surveys and broad information from the other sorts of surveys. Then you put the two together and extrapolate.

The Hon. LYNDA VOLTZ: Another question I want to ask, and which Dr Wilson might want to answer, follows on from the idea that fish are only 2 per cent of the whole environment and when you are looking at what you are doing in the marine park environment it is about the total environment there. In some marine parks there have obviously been some concessions on beaches where they are sanctuary zones but a certain proportion of the beach has been made available for recreational fisher people and that is a consideration to the fact that that is obviously a favourite fishing spot of people. Do you find that those kinds of environment work well in terms of biodiversity where you make those concessions to fisher people in those sanctuary zone areas? They are not sanctuary zones but obviously when the whole beach has been doing that and you are talking about it as the whole biodiversity, do you think that is a workable solution?

Dr WILSON: So your question is whether—turning it around a bit—allowing recreational fishing on the beach zone has an impact?

The Hon. LYNDA VOLTZ: Yes. We have obviously done that in some areas. Jervis Bay springs to mind, where part of the beach has been allowed for recreational fishing and the rest of the beach is a no-take zone. Given where it is situated, that has obviously been a consideration to what the community use of that area

is. It is obviously a popular place for kids and for people to walk down and fish. Do you find, given the intention is obviously the total environment, that making those concessions has a minimal impact on the biodiversity?

Dr WILSON: Again it would depend on the principals as representatives, so as long as those representative habitats are protected elsewhere, then clearly that is the kind of trade-off you make in designing a marine park. We do allow activities in certain areas. There is some research on the impact of organisms that live in the sand and on beach. There are not huge amounts of research. Clearly any human activity does have some impact, but provided that some adjacent areas are protected, I think it is not a major issue. I invite my colleagues to comment.

Mr TOOVEY: Just to clarify, marine park sanctuary zones only include about 43 kilometres of sandy ocean beach. We are talking about an ocean waters coastline in the State of a bit over 2,000 kilometres, so it is around about 4 per cent. You pointed to examples in Jervis Bay. In Cape Byron there are quite a few examples—at Brunswick Heads habitat protection zone, there is Grays Lane habitat protection zone, which is north of Byron itself, Belongil Beach and at Tallows Beach there are recreational fishing off the beach opportunities, and at Seven Mile Beach, towards the south of the park.

The Hon. LYNDA VOLTZ: But it is more when you are offering a different mix. There is one beach where you cannot take a boat in and do anything within 100 metres of the beach but you can fish off the beach. Obviously it is the same type of fishing but it is the method in which you are doing it. That has been taken into consideration when you have looked at the beach and what uses will be allowed there?

Mr TOOVEY: Yes, that is correct. A lot of the feedback that we get when we put these plans out or when we talk to local communities and local fishing groups are the spots that are important to them. As Dr Wilson said, we are seeking to represent examples of those beach habitats.

The Hon. LYNDA VOLTZ: You are still meeting your biodiversity objectives but giving those concessions?

Mr TOOVEY: Yes, because we do have some areas of beach that are within sanctuary zones.

(Short adjournment)

The Hon. LYNDA VOLTZ: I want to ask some questions about migratory fish in sanctuary zones. Evidence has been given that certain species do not reside permanently in those sanctuary zones; they are migratory fish. What role do those fish play within the ecological processes in the sanctuary zone habitats? Dr Booth from Australian Marine Sciences Association [AMSA] has said that he believes that bream might be sedentary on the rock reef habitats for periods of up to 10 months. How long are bream in those reef habitats? Could you advise what habitat the bream actually spawn? Are they there for five minutes on the reef or do they stay there longer and where do they spawn?

Mr TURNELL: I might just take the question on notice, if I may. As far as bream hanging around a particular rocky reef, that may be the case for some of their life cycle and spawning. I think as juveniles they spend a lot of their time in estuaries, but I would like to take that question on notice, just to get what information is available to the Committee.

Mr TOOVEY: We can work together on that question on notice response in terms of the sanctuary zone aspect.

The Hon. LYNDA VOLTZ: Apart from the marine parks themselves, what else can be counted towards New South Wales' contribution to the national representative system of marine protected areas?

Mr WRIGHT: In addition to the marine parks themselves, we count the oceanic and estuarine components of our terrestrial national parks. We have some national parks that actually extend out into estuarine and oceanic waters, so we count those towards the marine protected area system, and also aquatic reserves established under the Fisheries Management Act.

The Hon. LYNDA VOLTZ: So aquatic reserves are included, but there is no requirement that our marine parks include sanctuary zones under those requirements, is there?

Mr TOOVEY: Yes, there is. One of the components of the national representative system of marine protected areas is that you would have areas that are more highly protected than others so sanctuary no take zones or their equivalents do exist around the country in the various parts of the national system, including in the Commonwealth marine reserves.

The Hon. LYNDA VOLTZ: A number of submissions called for areas such as recreational fishing havens and grey nurse shark critical habitats to be managed under the Marine Parks Act as these would provide greater protection. Obviously there are different views on who should be managing certain areas. Certainly the environmental groups that came forward put forward this view. Does being inside a marine park provide an area, regardless of its zoning, with greater protection than areas protected by other means, such as aquatic reserves?

Mr O'CONNOR: If I could pass one comment, I guess what is the main purpose of the Marine Parks Act and what is the main purpose of the Fisheries Management Act? The main purpose of the Marine Parks Act is to conserve biodiversity—that is what it is all about. The main purpose of the Fisheries Management Act is to conserve fish stocks and where we conserve fish stocks, then to try and promote quality recreational fishing opportunity, viable commercial fisheries, et cetera. It comes back really to what is the issue that you are talking about and what is it you are trying to achieve. That then gives you an indication about where you should manage it.

The Hon. LYNDA VOLTZ: That is essentially the reason why there are two levels of management?

Mr WRIGHT: In terms of aquatic reserves and marine parks, aquatic reserves provide for the protection and conservation of fish and marine vegetation. They cannot regulate for the protection of marine mammals or sea birds, for example, which can be done under the Marine Parks Act. So it is a more constrained set of biota, which are protected in aquatic reserves vis-a-vis marine parks.

Mr TURNELL: The recreational fishing havens are really a tool to deal with allocation between recreational and commercial catch; that is their primary role. It is not as a biodiversity protection measure.

The Hon. TONY CATANZARITI: Some of the recreational fishing clubs have indicated that Fisheries is a bad communicator. How does Industry and Investment currently communicate with fishers, particularly inland fishers?

Mr VAN DE WALT: It is certainly a challenge to communicate with the one million recreational fishers in New South Wales. We have had to use a variety of methods to target frequent anglers and also infrequent anglers, the anglers that go fishing maybe once or twice a year. The types of methods we use include our very informative website; there is a lot of information there, and we keep it up to date with relevant updates. A very useful tool is our recreational fishing licence agents network. Currently we have 1,000 licence agents and we provide recreational fishing information to them. Most of those agents are fishing tackle stores. Anglers would go into a fishing tackle store at some stage during the year.

We also use our recreational fishing stakeholder committees, such as the Advisory Council on Recreational Fishing and the trust expenditure committees, to try to get the information out. We also maintain a database of recreational fishing organisations and fishing clubs. Currently we have around 900 fishing clubs and organisations on that database. Where we have information to send out, we do a mail-out to those clubs. We have our Fishcare volunteers, as has been mentioned earlier in the discussion. We have around 350 volunteers situated throughout New South Wales, including inland.

From memory, I think there are at least 40 or 50 volunteers on the inland. We have a recreational fishing newsletter called *Newscast*, which we try to distribute widely. Firstly the newsletter goes on our website, but we also send it out to our email distribution list; we have about 400 people on that at the moment. We are also looking at the email addresses we have collected during the sales of fishing licences, through electronic means. In 2008 we integrated to the Government Licensing Service, which allowed us to collect email addresses, and we are currently looking at that database to try to use that facility as well. That is the range of methods we try to use. But, as I mentioned earlier, it is a tough job.

The Hon. TONY CATANZARITI: With regard to fishing licences, do you have provision to ask for a person's email address so that you can get the information out to them using that facility? There seems to be

quite a bit of animosity about that: people have said they are not receiving the information they would like to receive.

Mr VAN DE WALT: On the paper licence system, the system used by the agents, there is no requirement for anglers to fill out their email address. That is mainly because we try to cut down on the information requirements that our agents have to fill out. Basically, we want to cut down the time it takes to sell the recreational fishing licence. So it is currently not on there. We would obviously like to have it on there, but I guess we need to take into account the agent's time. But, ideally, having the email addresses does represent a very good way of potentially reaching anglers.

The Hon. TONY CATANZARITI: What is being done to restructure the commercial fishery in New South Wales? I know you answered that in part earlier, but could you elaborate on that?

Mr TURNELL: The next steps are really to sit down with individual share class groups to work out which of those groups feel that they want to link their shares to a relative catch within their fishery type. Some of the other fisheries are considering increasing the minimum shareholding—in other words, forcing some sort of restructure amongst their part of the industry. It is not accepted or liked by some of the share classes and some of the commercial fishery types. However, the operators in the ocean trawl fishery, for instance, think it could be a useful tool to force amalgamation of licences so that there are fewer operators in theory being more viable—in other words, taking the same amount of fish overall but having fewer operators. That is the theory behind minimum shareholding. But it is not a popular thing with a lot of commercial fishers.

The Hon. TONY CATANZARITI: I have spoken to a few of them and some of them are concerned that they are going to be forced out. They do not want to get out, but they want to remain viable. I suppose that will involve the process of a review of some sort?

Mr TURNELL: Those issues are subject to ongoing review. We take a lot of advice from the Minister when it comes to matters of viability. Our job and our role is clearly set out. The Act is about the sustainability of the fish stocks, and that is first and foremost our responsibility. We will certainly help the commercial industry when it comes to issues of viability, but we take a lot of advice from them on how quickly they want to progress those issues. In many ways, it involves a benefit for perhaps some and not for others. So there are very strong and differing views within the commercial industry about the rate of restructure.

The Hon. TONY CATANZARITI: I think everyone is proud of the quality of fish they are able to buy. However, is there any control over the quality of imported fish as to whether it meets Australian standards? In Australia we have strict standards with regard to food, including fish. What sort of controls do we have to make sure good quality fish is presented for sale?

Mr TURNELL: I would like to take that on notice, if I may, as far as the imported and the requirements. I suspect you will have both; aqueous from the Commonwealth perspective as well as the Food Authority for food safety, so there might be a couple of different answers there. But we have been speaking with the commercial industry in recent times about commencing a program to identify fresh local seafood as an alternative to imported, whether it is imported from other States or overseas. The reason being is that we do have comprehensive environmental impact statements that were prepared for each of our commercial fisheries. Whilst there is in certain quarters a lot of criticism of commercial fishing, in New South Wales it is highly regulated and subject to some pretty strong environmental requirements. We would like to give consumers the option to think about those things when deciding whether to pay a few extra dollars for a premium local product.

Mr IAN COHEN: How much of our local seafood in New South Wales—I know in Western Australia there is a huge amount of export with the lobster fishery and such like—our local wild caught seafood is actually exported? Perhaps you would like to take that on notice. I am wondering if we could get a bit of a balance on this.

Mr TURNELL: I will take that on notice to get some specific figures to you where I can. But a small number of our commercial fisheries have significant export components—abalone is one that comes to mind. But all other seafood we catch commercially in New South Wales is in relatively small amounts because we have such diverse range of species, which is not really conducive to feeding a large export market, as opposed to some of the northern hemisphere fisheries that focus around a few key species. But I can get you some information on export.

The Hon. CHRISTINE ROBERTSON: My first question is a bit complicated. In this inquiry the Committee has been subjected to claims of no science, wrong science and contradictory science. Probably Dr Wilson, but anybody else who would like to contribute to this part of the discussion, could you outline from the marine park science specifically the processes that have been used to ensure that science that has been utilised both in the setting up structure and the review structure—this is an extension of an earlier question by Ian Cohen—in relation to peer-reviewed science, the pieces of science, the literature-review base. We have had some determined witnesses who have told us no science, wrong science or whatever. I am wondering if you could give us an outline on the processes that have been utilised, emphasising the work that is being used for the current review processes that are underway—I have forgotten how many years after implementation, five or seven?

Mr TOOVEY: Five.

The Hon. CHRISTINE ROBERTSON: —the processes that are being utilised. Also, what advantages or disadvantages have occurred through the extra science input on the marine parks to our knowledge of our seas around the New South Wales coastline—a complex question?

Dr WILSON: I might start off by addressing the first part of question that went to the credibility of the science and what processes we have. Then I might pass on to Mr Toovey to talk about specifically the rezoning. Within the Department of Environment, Climate Change and Water I run the science division. We have a large number of very highly qualified scientists and we use the normal standards of rigorous peer review—so publishing in the scientific literature is one means of ensuring the quality of the science. I think another important point to make is that we also engage very much. So we are not just doing this work in isolation with New South Wales Government scientists by any means.

We engage very much both with scientists within New South Wales—and you have heard from some of scientists from the Sydney Institute of Marine Science—but also nationally, working closely with the CSIRO in particular and other scientists across the country, therefore sharing their approaches, sharing their knowledge and actually carrying out quite large collaborative programs. For example—clearly it is an anecdotal example—but in talking to Professor Nic Bax, who heads up the Marine Biodiversity Research Hub, he has really complemented a lot of work that has happened in New South Wales and said how that has been critical in contributing to this broader national program. So again that is another measure.

If the data we were generating was not high quality then it would not be taken up by other groups around the country to look at these broader high-level questions. That is perhaps a general overview of the general quality-assurance process. I might pass part two of the question to Mr Toovey on specifically how the science has been used in the rezoning.

Mr TOOVEY: In terms of the rezoning, when the marine parks have been established the basis for the establishment has been a bioregional assessment. That is looking at a particular bioregion and the different habitats and the different species that are there. We then have used that to inform both the sort of outer boundary of the park to capture examples of those habitats, and also to inform the zoning within it. There have then been subsequent monitoring programs in place. The review reports that we provided to the Committee in April identified some of the range of research work that has been undertaken in the Solitary Islands and Jervis Bay marine parks.

It is important to note that that is not just ecological research, if you like, or biological research, there has also been use data. There have been aerial surveys of activities that occur within the marine park, including fishing but also other activities like marine mammal whale watching and the like. A principal part of it has been further work that has been done mapping habitats in both the Solitary Islands and Jervis Bay. A key element of the approach to zoning marine parks has, as we have heard, been based around habitats. So in Solitary Islands we have significantly expanded the area of mapped habitat there so we actually know more what is in the park so we can then identify representative samples of that—

The Hon. CHRISTINE ROBERTSON: Does this just refer to fishes or also the sessile?

Mr TOOVEY: If I can explain. Part of the concept is using habitat types as a surrogate of what lives there. So if you have an environment certain species will inhabit that environment—they may be sessile, they may be pelagic, they may pass through. But fundamentally our work is looking at what habitat is there and then coming along and looking at what actually lives there—the species assemblages. That is what the underwater-

baited video and underwater visual census survey works about. It is about identifying what is actually associated with those habitats—that is, what is it that we are actually representing in the different zones? One of the things I mentioned earlier, as part of that work we have identified that the inshore reefs, if you like, and the intermediate depth reefs, and the distance from shore in the Solitary Islands has implications for the different types of species assemblages that are included in those habitats. So we have got sponge areas offshore that are still reef but they are sponge dominated, the reefs inshore are different, so they have different species. Part of what has informed the proposed zoning changes in that park is this monitoring over the past six or seven years of habitat, habitat mapping and species assemblages in the park. That is one part of it. It was a long question so perhaps we can maybe elaborate specifically more and take the remainder on notice?

The Hon. CHRISTINE ROBERTSON: Yes, that would be very useful.

Mr WRIGHT: If I could just add one other thing in terms of that swathe mapping exercise to identify habitat? Whilst focused on waters within marine parks it has also looked at marine waters outside the marine park system. In terms of the larger benefits of the research that has been driven out of the marine park system, there is a whole set of data now available about habitat types up and down the New South Wales coast, which I know is informing, for example, the revision of catchment action plans by CMA. So some larger beneficial uses of the data collected through the marine park research program, particularly around habitat mapping.

Dr WILSON: It is worth pointing out that one of the primary recommendations from the independent science review was to complete habitat mapping across the entire New South Wales coast, not just within the marine parks, to get that representation.

The Hon. CHRISTINE ROBERTSON: Has the implementation of the marine parks increased the scientific knowledge we have of the seas off New South Wales?

Mr TOOVEY: Yes.

The Hon. CHRISTINE ROBERTSON: There is an amazing amount of misinformation in the fishing industry that is distributed via the Internet. This is reinforced to us almost every day of our hearings. I recognise the difficulty of dealing with this issue when there is a huge swathe of information out there that is sometimes mischievous and sometimes just confused. Is there a way that a government department such as New South Wales Fisheries could engage in this process and feed in information? We have heard information, fishy stories, about the size, bag limits, who got fined and who did not. It is difficult even for people working in the area because it is a matter of belief. It has made it difficult for us to decipher exactly what is going on. You have told us what you are doing about communication. Do you have any ideas on how to deal with this misinformation?

Mr TURNELL: It is a difficult issue to deal with because a lot of the people involved, even if it is recreational fishing, are still very passionate and have very strong views about certain matters.

CHAIR: On both sides of the argument.

Mr TURNELL: Indeed. To answer your question specifically, by the time we hear about some of this mischievous misinterpretation or use of information, it is sometimes too late to come in and stop it. A lot of the time people will be using information or misusing information, if you like, and not be interested in what it really is meant to be saying or doing. By and large, I think that is a relatively small proportion of people. Overall, people are interested in the right information. We have people trying to cause mischief, which is a bit unfortunate, but wherever we do we try to correct it as quickly as possible. Maybe one of the other things that we could do is hold more public information sessions. We have been speaking about doing that with both the commercial industry and with the recreational industry more recently. We can have forums and present information about what is happening, trends to do with sustainability, fish catches, et cetera. A lot of people are interested in what information we do have and some of the challenges dealing with broader fisheries management.

Mr TOOVEY: We field a lot of inquiries by email. Some of them, interestingly, say, "I have heard this but I want to know. I want to be informed is this the case. Are marine parks places where you are locked out and you cannot fish?" While there is some misinformation out there, there are some genuine people who are trying to find out and we do our best to point out the facts to them. Mostly they are quite appreciative of that as well. Certainly we had an exhibition at the Sydney International Boat Show over the five days of the show. Our staff ended up speaking to close to 1,000 people. It is interesting the different views that you hear. I have gone along

for a period of time and it is a real diversity of views out there. Most of the people are reasonable, take in what you say, take a brochure and go on about their business.

The Hon. CHRISTINE ROBERTSON: Another issue that has been raised a great deal is representation on the trust boards and organisations. People's perceptions are that they are not represented. I realise it is difficult when dealing with such a large population as we have in New South Wales. The majority of people who have spoken to the inquiry have been connected to the professional or commercial fishing industries, so they have their own agenda. It is difficult to ensure representation of the very large group of diverse humans. Do you have any ideas about representation, feedback loops and power and control? How would you deal in the future with the trust board?

Mr TURNELL: We get a lot of comments about the representation on our advisory committees, Basically, the system we have at the moment for recreational and commercial as well, but for recreational particularly is one peak group, which is the Advisory Council on Recreational Fishing who are ministerially appointed people. Each year or couple of years we call for expressions of interest for people to sit on the council. Judgements are made on their experience, affiliations and background as to whether or not they are suitable. We make recommendations and those people are subsequently appointed. With the peak group, the Advisory Council on Recreational Fishing, it is based on an expertise criteria, so that we have someone with underwater diving experience or expertise, someone with offshore, someone from the media, someone who is an estuary fisher. That is the criteria we use.

With the committees that make recommendations on funding from the recreational trusts, there are two of those, one for freshwater and one for saltwater, who report essentially through that peak advisory group. They are done on a regional basis. The reason there is we want to try to ensure that the expenditure from those recreational fishing trusts is done equitably across the State. We do not want it all funnelled into Sydney or the North Coast, et cetera. So there is a mix. One group has the regional representation, the other the expertise base. Obviously with any of these advisory processes there are only so many seats available at the table. We try to get the best that we can from the applications we get. If you think about the fact that there are approximately one million people who go recreational fishing once each year, there are about 10 to 15 people on the peak advisory group. Mr Van de Walt might be able to tell us how many expressions of interest there were. From memory, it was not an awfully large amount.

Mr VAN DE WALT: Typically we would receive around 30 to 40 applications per expression of interest process. Most of those people would be affiliated to recreational fishing organisations or clubs. Affiliated people are the ones who generally respond.

Mr TURNELL: Of the ones expressing an interest to be involved in the process, approximately 30 per cent end up becoming involved in it. The role of the Advisory Council on Recreational Fishing is as a ministerial advisory council as opposed to a lobby group or representative group on behalf of recreational fishers. I think there is a subtle but important difference in those two roles. We have a similar structure with the commercial fishing industry where there is a peak commercial representative group. They have recently been discussing the merits of having a representative group that is not ministerially appointed, in other words, a group that they choose themselves, a representative voice, if you like, to negotiate with government. They have asked us to engage a consultant to have a look at how that might work for the commercial fishers to have their own representative group. I know there have been experiences in other jurisdictions around Australia and this consultant will be having a look at how that might work for the commercial industry.

The Hon. CHRISTINE ROBERTSON: A lot of information has been received which, when we read our submissions, is very contradictory in relation to the policing processes for the marine parks and for fishing—exactly what happens, who gets fined, how big the fines are, how appalling they are, how they do not relate to them. Is there any way that this data, which I know is available because you have given it to us and you are going to do it again, could go on your website so that there is some place people can go and get a balanced view of the warning and penalty processes? Is there a possibility that could happen? It is not secret, is it?

Mr TOOVEY: I think we could consider that. It is certain information that gets published at times in our annual report.

The Hon. CHRISTINE ROBERTSON: Who is going to read that?

Mr TOOVEY: That is what I am saying. It is some information that we could immediately lift off the annual report and put up. But in terms of the further detail, that is something that we can consider.

The Hon. CHRISTINE ROBERTSON: It would fit your PPPs.

Mr O'CONNOR: The answer to your question is that we compile that information; we compile it at a level where it does not relate to an individual. But reports to what is happening with recreational fishers or commercial fishers as a whole, we report that information regularly to our various advisory committees. I think there is no reason why we could not put it up on the Web, so we will look at doing that.

The Hon. CHRISTINE ROBERTSON: It might be an added communication.

CHAIR: Just before I pass over to Mr Colless there are a number of questions the Committee would like to ask you about the science, but I will leave those to later. One particular issue I would like to raise with Mr Toovey. Earlier you stated that marine protected areas—and I think you were referring to marine parks—do not include temporal management methods and there are a couple of exceptions to that.

Mr TOOVEY: If I could qualify that. What I was talking about is spawning-type closures and things like that.

CHAIR: Like certain areas are allowed patrolling during certain periods of time?

Mr TOOVEY: There are two aspects there. The temporal is the sort of time component of it and what I was saying is that generally time and seasonal type arrangements have tended to be more species specific, stock specific, in the fisheries management's position.

CHAIR: And location specific?

Mr TOOVEY: Some of them location issues as well.

CHAIR: Bermagui and—

Mr TOOVEY: Port Stephens.

The Hon. RICK COLLESS: A number of witnesses that have come before the Committee have referred to the CSIRO DPI report, which I am sure you are all familiar with—"Ecologically Sustainable Development of the Regional Marine and Estuarine Resources of New South Wales"—compiled by CSIRO, the University of British Columbia and the DPI. Do you make use of the Atlantis modelling, which this refers to, when developing fisheries management strategies and conservation strategies? I am asking both departments here.

Mr O'CONNOR: From our perspective I would prefer to take that question on notice.

Dr WILSON: I could make some general comments about the Atlantis modelling system. I certainly know that it has been used in Commonwealth fisheries management. I will let Mr O'Connor take it on notice for the New South Wales fisheries management. That particular modelling system—and correct me if I am wrong, has not been used in the design of the marine parks to date. It is another tool, I suppose, in your scientific armoury to allow you to model and assess potential future outcomes and also, perhaps, to understand the processes that are happening at present. So, it is not predicting a certain outcome but it is looking at what may happen on the balance of probabilities. The thing about a model is that you can change the parameters that go into it. So you can say we have this amount of fishing pressure or if we had this amount of closed area then what are the likely outcomes, and that helps you guide your future research.

CHAIR: Sort of like the climate change models.

The Hon. RICK COLLESS: In the executive summary of this document they draw some main conclusions from the runs that they did with the model and one of them that is very interesting is that marine reserves caused a decline in the biodiversity of the groups represented in the model, irrespective of whether its historical fishing effort is entirely removed or redistributed into neighbouring areas outside the reserve. What is

the significance of that, the fact that this process, which is obviously a very expensive document that was prepared, has come up with that as one of the main conclusions?

Dr WILSON: Again, that is a particular modelling outcome, given the particular parameters that were put into the model. I have had a further conversation with one of the authors of that, Dr Scott Condie, and if you look at the detail, that is modelled with the 1976 level of fresh fishing effort, so it is a particular level of fishing effort. In fact, Dr Condie will be presenting further work they have done subsequent to that report at a meeting at Coffs Harbour I think next weekend—the Australian Coral Reef Society's meeting. I know that he is giving a talk on some further modelling in which he has changed the model parameters. So, in this case when they double the fishing pressure they get quite a different effect, and in that case it predicts increases in biodiversity within marine parks in all cases.

So the models are very sensitive to the different parameters. That would be one point. The second point is if you go on to read the rest of that dot point and the conclusions it goes on to say that, "This result can also be understood in terms of the intermediate disturbance hypothesis with these two cases pushing the system to either extreme". So that is either biodiversity limited by direct fishing pressure or high predation rather than the intermediate position where biodiversity is thought to peak. That goes to quite a complex issue. Biodiversity is a complicated concept. Just having more species, more biomass, is not necessarily optimum, and, indeed, in ecological theory you get the greatest stability of ecosystems at intermediate levels of biodiversity, not necessarily maximum.

When I talked further to Dr Scott Condie he clarified that it is absolutely correct, that is what model runs say in that report. He also went on to say, "Finally the report in no way suggests that biodiversity is the only or even the best measure of the ecological benefits that may be derived from marine reserves. For example, those evidenced in the scientific literature that top predators play a key role in maintaining functional ecosystems on both the model"—the conclusion we have cited—"and empirical results from other systems suggest marine reserves are usually effective in protecting these groups."

The Hon. RICK COLLESS: Just in relation to this biomass that you referred to, when the studies from Australia and overseas report an increase in the biomass for an area that has been declared a sanctuary zone or a no-take zone, does biomass in that respect refer to all or the majority of marine species within the zone or to a standard set of species or to specific species? What is the story?

Dr WILSON: Individual reports probably present things differently. Most of the reports I see tend to have fish separated out. The most recent modelling work certainly I have seen from the CSIRO separates out biomass into a major functional group—sponges, crustaceans, fish, et cetera. It is looking at the effects on different groups. Another example would be—and I am sure this has been referred to in some of the submissions—the marine protected areas at Maria Island in Tasmania, which is one of the longer marine protected areas in Australia: you see increases in fish and some of the predators but you also see corresponding decreases in things like sea urchins, some of the prey species. So you are correct that you need to separate out the different groups to get a really in-depth analysis.

The Hon. RICK COLLESS: Do you find that if there is a reduction in the fish species that that has an impact on some of the sessile species?

Dr WILSON: Yes. It is a complex trophic food chain, but there are well-documented examples that if you remove some of the larger carnivorous fish—the top-level predators—then you do get increases in low-level fish.

The Hon. RICK COLLESS: Simply because there is less predator risk?

Dr WILSON: Yes. Particularly in the marine environment it is very much the predator-prey relationship and what we call the trophic cascades that are the critical part of ecosystem functioning; that is, who eats whom.

The Hon. RICK COLLESS: What is the view of both departments on aquaculture, particularly in relation to the feasibility of waterway-based aquaculture as opposed to land-based aquaculture—for example, in the prawn industry? Obviously oysters are already a big part of that. What about potential for aquaculture involving finfish species in some of the major waterways on the coast?

Mr O'CONNOR: Our department believes that there is significant potential for the industry to develop in New South Wales. However, there are probably limited opportunities and limited spatial areas in which it would be suitable. We have certainly looked at places such as Jervis Bay, Twofold Bay and Port Stephens. They are key areas in which we can see development. The trouble in New South Wales is that many people live on the coast and many of them are involved in waterway activities. There are many strong viewpoints about what is acceptable and what is not. We have a large oyster industry in New South Wales that has been there for the best part of 100 years genetically, and it has been very successful.

However, the attempts to introduce finfish farms, or mussel and scallop farms and so on, has always been a difficult process that has generated a great deal of community involvement and political interest. One of the big issues is environmental impacts. We take that very seriously and we have done some major environmental impact assessment studies on all of these sorts of developments. The likelihood of a big industry in New South Wales in our waterways, other than existing oyster farms, is probably limited.

The Hon. RICK COLLESS: What is the Department of Environment, Climate Change and Water's point of view?

Mr WRIGHT: We are certainly supportive of a sustainable aquaculture industry. Aquaculture is permitted in marine parks in the marine protected area system. Obviously it is not permitted in sanctuary zones.

CHAIR: Is that in habitat protection zones or only general use zones?

Mr WRIGHT: In general use zones.

Mr TOOVEY: And special purpose zones.

Mr WRIGHT: In terms of the impacts of aquaculture, the department may have a role in regard to the pollution rate of impacts and their regulation.

The Hon. RICK COLLESS: The other issue that arises—and I would appreciate Industry and Investment New South Wales's view on this—is the restructuring that would be required. If we want it structured so we encourage a lifestyle change and given that many in the fishing industry have been there for some generations, it would be a dramatic change of operation to move from catching wild fish into fish farming. What would be the feasibility of restructuring the industry such that it would encourage fishermen to move from a fishing operation into a fish farming operation?

Mr WRIGHT: There are certainly examples where commercial fishermen have moved out of that industry and into farming. I can think of some people involved in the prawn farming industry who used to be commercial fishermen. The same is true of some tuna farming operations. There are examples, but I do not see any reason to restructure the commercial fishing industry to push people into aquaculture. I think people recognise that there are opportunities. They are good businessmen and they will take advantage of those opportunities when they can. An oyster farmer on the South Coast has recently moved into mussel farming. People recognise opportunities and address them where they can.

The Hon. RICK COLLESS: I refer back to an issue that has been discussed at some length already; that is, the surveys that you require fishermen to complete. Do you require those fishermen to record every fish they catch or only the fish they keep? I assume that does not apply to the trawlers, because it would be impossible. It would make a lot of sense if the released fish were also recorded.

Mr TURNELL: Are you talking about commercial or recreational fishing?

The Hon. RICK COLLESS: When I penned this question I was thinking about recreational fishermen. However, professional line fishermen could also record that information.

Mr TURNELL: From a recreational perspective I would have to take the question on notice. I am not sure exactly what happens with the survey. Mr van de Walt might be able to clarify that. I will speak first about the commercial catch returns. We do require them to record by species by weight, not by individual number. We regularly do inspections at the Sydney Fish Market to get samples to work out some of the biological information about size, age et cetera. We do get a bit of an idea of what 30 kilograms of a certain species

commercially harvested would look like as far as numbers are concern. We do collect specific bycatch data in some fisheries, in particular where we think bycatch could be a problem.

CHAIR: Do you run compliance operations specifically on bycatch? You cannot measure bycatch generally because it is disposed of before the commercial operator comes anywhere a fish market or disposal point. How do you handle that?

Mr TURNELL: With bycatch we have trip limits. If people are going to interact with a non-target species they will inevitably catch them. We say that they can keep a small amount by weight. That hopefully deters people from targeting the fish we do not want them to catch. Inevitably in some operations there will be bycatch. There are compliance operations with respect to those bycatch size limits.

CHAIR: On the water?

Mr TURNELL: Yes, and, more importantly, back at port. It is when they are landed that it becomes more definitive that an offence may or may not have been committed. One of the other methods we use for bycatch, as opposed to compliance action, is to have fisheries observers. We have scientific observers go out on commercial fishing boats to note what is happening in the real operations of the commercial fishing industry. That helps us to get an idea of what bycatch issues there are and how we might best deal with them.

CHAIR: That would be mostly offshore trawling and long-line fisheries, would it not?

Mr TURNELL: Indeed it would.

Mr VAN DE WALT: I refer to the discarded catch by recreational fishers. The main issue is recall bias; that is, asking recreational fishers to recall what they discarded. There is potential bias when they make estimates of what they discard. If you are doing that at boat ramps, the recall time is obviously a lot less than if you are doing a telephone survey. The error associated with the estimate of that discarded catch might be greater. Generally with recreational surveys the estimates are focused on landed catch because the bias associated with that is a lot less and it provides a more definitive count.

The Hon. RICK COLLESS: But I suspect that the law-abiding recreational fishermen—which by my guess is the vast majority—would be more than happy to let you know how many small snapper they caught.

Mr TURNELL: Yes.

The Hon. RICK COLLESS: That information would be extremely valuable to you as a management tool, would it not?

Mr TURNELL: It would, but the statistical error around those estimates tends to be quite large.

The Hon. RICK COLLESS: Particularly given the way the fishermen exaggerate sometimes. As you obviously would know, a number of participants in this inquiry have suggested that fishermen should be able to fish for certain species that do not permanently reside in sanctuary zones, in other words pelagic. Can you advise what role the presence—and the increased presence when fishing is banned from those areas—these fish play in the ecological processes within that no-take zone?

Mr TOOVEY: If we could take that question on notice and provide some more detail, but briefly that sort of work, research would need to go into determining what the effect of that was. If it was just targeting pelagic species, what are the species? What are the factors that would influence the outcome of any biological response to that activity? That is something that would need to be looked at. We will take that on notice and provide some further detail.

The Hon. RICK COLLESS: The Committee heard evidence from Dr Booth from AMSA. He said he believed that bream might be sedentary on rock reef habitat for periods of up to 10 months. Can you advise whether this is known to be the case and also can you advise in what habitat bream spawn?

Mr TURNELL: I took a question very similar to that on notice a little earlier. I will get back with some information on bream.

Mr IAN COHEN: Just following on from the Hon. Rick Colless's question on fishing in sanctuary zones, I wonder whether someone could clarify grey nurse shark habitats, exclusion zones, the idea or the possibility or the efficacy, if you like, of trolling seasonally through those zones and the impact that could have on the grey nurse and also circle hooks or trolling selectively as opposed to exclusion zones, which has been a bit of a debate outside and within the Committee?

Mr TURNELL: There are a number of issues there I would like to provide specific information on so if I can generally take the question on notice. However, there are a number of moves at the moment to ensure we have consistency within those areas for both recreational and commercial fishing operations, and circle hooks are certainly playing a significant part in the commercial fishery to deal with hooking of species that we do not want retained.

CHAIR: Can I add another tag to that question when you take it on notice? The comment that the grey nurse shark aggregation is time based, the point that they are not there all the time has been made, therefore why are they permanent exclusion zones? In your answer can you also comment on the accuracy of that statement, is it factual or not?

Mr TURNELL: Yes.

Mr IAN COHEN: And the concept of trolling through a zone, how separate is it from impacting on something like a grey nurse or a bottom dweller, a deeper dwelling species?

Mr TURNELL: I will take that on notice.

Mr VAN DE WALT: If I may just make a comment. There have been some recent research looking at recreational fishing and the impact on grey nurse sharks. I can certainly provide the results of the surveys.

Mr IAN COHEN: Can you say from your perspective can the trolling co-exist or is it a potentially damaging process?

Mr VAN DE WALT: From memory, the main methods that resulted in interaction with grey nurse sharks—because they were not actually using hooks, they were using hookless baits—they tried a variety of methods and I recall the use of baits, dead baits like slimy mackerel, and this resulted in interaction and I think with trolling there was slightly less interaction. But we can provide more details on that.

Mr IAN COHEN: With regard to storm water and sewerage in marine parks, do all marine parks have sewerage management plans? Do stormwater outlets that discharge directly into sanctuary zones pose a threat to biodiversity and habitat?

Mr WRIGHT: Can I take that question on notice, but I can say that marine parks do not have explicit sewerage plans but we do try to link up with the local council authorities involved in sewerage treatment. But if I can take that question on notice?

CHAIR: The Committee has a number of questions that we would like to ask if we have time or we can put on notice related to the independent review of marine park science in New South Wales. That review was conducted by Fairweather from Adelaide, Buxton from Tasmania and Robinson from the University of Queensland. A press release was put out by your Minister, Mr Wright, in which I think he said at the time that the Marine Parks Authority was fully supportive of the recommendations, but I am not quite sure whether the Marine Parks Authority is going to implement all or some or none of the recommendations. Could you comment on that please?

Mr WRIGHT: Certainly the Marine Parks Authority has accepted the recommendations of the independent review. As of yesterday we have up on the Marine Park Authority website a draft marine park research framework that we are seeking public comment on over the next four to five weeks.

CHAIR: My observations from just reading the 24 recommendations—and I started to address this with Dr Wilson before—is somewhat different to the public press release put out by the Government in relation to this document. It seems to me that the vast majority of these recommendations require that the Marine Parks Authority, and maybe even Industry and Investment NSW—whoever conducts the research—need to do a heap

of things. Has the Marine Parks Authority developed a reply to the independent review stating how you will address each of the 24 recommendations?

Mr WRIGHT: That response is the draft marine park research framework that we just put on the website.

CHAIR: Mr Wright, earlier there was discussion on the difference of the emphasis between the Fisheries Act and the Marine Parks Act. The Marine Parks Act is all about protection of biodiversity and only about 2 per cent of the biomass is represented in fisheries; the rest is sessile species and all that sort of stuff. If we look at the way you have gone about providing that protection of the biodiversity in New South Wales and, with a couple of exceptions where you use temporal methods, all of them are spatial methods that specifically exclude the one activity that only targets 2 per cent of that biodiversity. Do you understand what I am saying?

In other words, a ban on either commercial or recreational fishing is only going to interact with 2 per cent of the biomass you are trying to protect except in certain circumstances like, for example, people dragging anchors across seagrass, people anchoring on soft reef using bottom drawer methods that clean off reefs, all those issues. Most of those issues, though, can be handled using methods derived for the fisheries objective, that is, by a temporal closure, gear closure, species closure, rather than spatial mapping. During the course of this inquiry, in fact, in your first hearing here, I put a question as to whether you would be prepared to alter the current policy of no artificial reefs in habitat protection zones and the answer after some consultation was yes, why not.

Secondly, I understand that Mr Toovey is having some negotiations with certain fishers, namely underwater fishers, in relation to maybe some accommodation on getting access to areas that they have not been given access to. It is quite obvious that there are areas where the Marine Parks Authority can accommodate change or has suggested change. Can you comment then on whether the Marine Parks Authority feels that as part of its ongoing research, as called for in this review document, you might assess whether the spatial exclusion of just, for example, recreational fishers, could be changed to take into account some of the other methodologies that are applied, say in the fisheries model, to achieve the same protection of that 98 per cent of the whole biomass that you are trying to protect, or am I oversimplifying it?

Dr WILSON: I will start with some of the science. I could take it on notice to get more details about the exact composition so that the figure—

CHAIR: I do not care whether it is 2 per cent or 10 per cent.

Dr WILSON: Whether it is biomass or number of species, but it would not be correct to say that the activity of fishing only targets those species because of the way the ecosystem works. If you remove certain fish species, then you have very dramatic flow-on effects through the whole ecosystem.

CHAIR: If you remove—

Dr WILSON: Say fishing activity. The literature on marine parks and Australia temperate reefs, global analyses, repeatedly come back—if you are looking for a beneficial effect from a marine park—the most dramatic influence on marine parks is fishing. That is the most dramatic difference you can see.

CHAIR: Do the research findings you refer to differentiate between recreational fishing and commercial fishing?

Dr WILSON: I will take that on notice but I think they would be fishing.

CHAIR: Could you take that on notice and advise us?

Dr WILSON: The majority probably do not differentiate, I would surmise, but we can see if we can find some examples.

CHAIR: It was not a loaded question; I genuinely want to know.

Dr WILSON: It is a good question.

CHAIR: Mr Wright?

Mr WRIGHT: In terms of the tools and techniques that are available under the Fisheries Management Act, we look to work cooperatively with our colleagues in the DUI in terms of marine conservation insofar as there are some benefits from marine protected areas in the establishment and management for fisheries management matters as well. Fundamentally, the principle that underlies the marine parks system is ensuring we get a representative sample of habitat types within strict no-take zones. That is backed up by international consensus scientifically. At this point in time until the authority is presented with incontrovertible evidence to the contrary that that system is not effective in conserving marine biodiversity, then speaking on behalf of the Marine Parks Authority, I think we would stick to that principle.

CHAIR: But surely most of the recommendations of the independent review recommend that you actually go and do that science to determine whether what you have is the right way of doing what you are doing, does it not?

Dr WILSON: It does, and I think what the review did was very appropriate; that the initial science is required to establish the parks. It is the nature of science that as you move on, your questions change and you shift. It gives good guidance that these are the questions. There is no doubt that we always need to keep building on our knowledge base and getting those long-term studies so we can actually detect change. It is very challenging in the marine environment to actually get the data to be able to detect trends over a long time.

CHAIR: It is very expensive research, is it not?

Dr WILSON: It is very expensive and, for your interest, there is lot of work and discussion going on to try to find better methods of automatic monitoring so that we can start to collect this data in an automotive sense, but at the moment it is still very expensive.

CHAIR: Given the recommendations, has the Marine Parks Authority made any representations to the Government to increase your budget so that the work can be done?

Mr WRIGHT: We have had an increase for each of the financial years for the last three or four years in our Marine Parks budget and I can tell you that in the financial year 2010-11, the current financial year, the Marine Parks Authority is allocating \$1 million to marine parks research, which is up \$100,000 on the \$900,000 budget from 2009-10. The amount of effort being put into marine park research is increasing.

CHAIR: The reason I ask is that perhaps a finding of this inquiry may well be that you are woefully underfunded for what you need to do in accordance with the Government's own directions as to what you should do. That is why I am asking the question. I have to be careful but obviously the Marine Parks Authority has put forward that request for budget funding. Would you like more, if you could have it?

The Hon. LYNDA VOLTZ: Can you find a public servant who will not chuck their hand up to that one?

Mr WRIGHT: Given the resources we have, we believe we are running a very effective marine parks research program.

CHAIR: Can I ask the same question of Industry and Investment? Given that a lot of the research work that is done for the Marine Parks Authority is done by Industry and Investment researchers or comes partially out of some of your budgets, is there sufficient money and/or resources in Industry and Investment to assist this process?

The Hon. LYNDA VOLTZ: Point of clarification: Are they really policy government questions that the departmental people should be answering?

CHAIR: No, I should not be asking them whether they want more money.

The Hon. LYNDA VOLTZ: Much as I love hearing the Shooters and Fishers Party arguing that the department should be getting more money, I am wondering about it in terms of their role as public servants.

CHAIR: I will ask the question this way: Are there enough resources on the ground, in other words, enough money, scientists or Fisheries officers or volunteers to enable you to carry out the research required under the recommendations of this review, which are quite specific? In the way you currently operate can you deliver on this requirement laid out by the independent review or not?

Dr WILSON: I will give two different takes on that answer. One of the recommendations of the review was to give more detail in the key directions to go forward, which we have done. One of the reasons is to be able to better leverage on other research groups that can also contribute to our understanding; so to give better guidance, say, for universities and other potential partners. That goes some way to answering the question. I note that when I look at the literature around Australia on the benefits of marine parks and so on, the majority of the literature would come from the Great Barrier Reef and that is probably commensurate with the level of resources put into understanding that particular marine system. That is perhaps a slate of hand in answering the question.

CHAIR: The \$1 million does not necessarily have to be all spent on internal research. You are saying it can be used to leverage research cooperatively with other groups?

Dr WILSON: Yes, that is always part of the strategy.

Mr TOOVEY: And some of the statewide research projects have actually value-added significant national projects, so they have contributed too. I suppose the other point to make is that there is other research capacity in both of our organisations that contributes to our knowledge of these environments that is not just about marine parks that is still useful. It should not be seen that just \$1 million is all that is being contributed in an indirect sense.

CHAIR: One of the reasons I have taken this line of questioning is that right throughout the inquiry we have had quite a bit of evidence to suggest that not enough work is being done on the environmental issue related to coastal land. I notice that Mr Wright made the point that over 40 per cent of the coastline is protected. Mr Cohen asked a further question about sewerage plans in marine parks. You obviously carry out cooperative research programs with catchment management authorities. Should this inquiry be perhaps going back to other bodies, such as the catchment management authorities, to ask them what their future plans are and how they might interact with your \$1 million? You only have a restricted budget. When you do your research plans—for example, the research plan you are going to put on the Internet—would you already have had discussions with the catchment management authorities, for example, on how much of that will be cooperative research with them?

Mr O'CONNOR: You ask that question of Industry and Investment as well as the Marine Parks Authority?

CHAIR: Yes, both groups.

Mr O'CONNOR: In essence, I think the last time I was here someone asked me a question about whether we had enough compliance officers. I think the same answer is true. You can never have enough compliance officers, you can never have enough research officers, and you can never have enough resources to do all the work you need to do. If you look at the assessment of fish stocks on our website you will find that there are a lot of species listed where we have insufficient information to have a thorough understanding of the status of those fish stocks. In essence, what we attempted to do, whether it be about compliance or research, is to undertake some sort of risk assessment of the issues that are confronting us, and to identify which of the risks are potentially going to hurt us the most, and therefore where we need to put our dollars. But, inevitably, you never have enough dollars, so you need to take a risk assessment approach to understand that question in deciding where you put your input.

CHAIR: With regard to Industry and Investment, that process is done every year when you are planning your budget?

Mr O'CONNOR: It is every year, but it is also on a more strategic, longer-term basis. We attempt to identify what are the longer-term issues we need to address and how we are going to address them, and what are the short-term problems that we can address with tactical research programs. We do the same thing with compliance. Again, we attempt to take longer-term rather than short-term views, and try to identify what is the best way of spending our research or compliance dollar.

CHAIR: The question may have already been asked, and we have had hundreds of pieces of evidence. There is currently no formal body between, say, the catchment management authorities, the Department of Environment, Climate Change and Water, and Industry and Investment, that considers the issue of cooperative research. Or is there?

Mr WRIGHT: There is no formal body as such. However, catchment management authorities actually sit within the Department of Environment, Climate Change and Water [DECCW], so there is good connection between catchment management authorities and DECCW. In terms of marine conservation research, the marine reserves framework of the Marine Parks Authority has been developed in close cooperation with Industry and Investment. So it is, in that sense, a whole-of-government approach to marine conservation research.

Mr O'CONNOR: The other comment I would make is that when we set our own research priorities one of the things we do is that we consult with all our stakeholders, and that includes catchment management authorities, commercial fishers and recreational fishers, to see what their views are on what the priorities should be. So that is part of the issue. The other thing is that we have very constructive working relationships with people in the universities and people in other organisations to ensure that the best mix of research is undertaken. Some people specialise in certain areas; others specialise in different areas.

CHAIR: So the answer is that there is no formal body set aside. However, formally you do consult?

Mr O'CONNOR: Formally and informally, yes.

CHAIR: The Committee probably has many questions to provide to both departments on notice. Could I ask that you return the responses to any such questions within 21 days? Thank you very much for your open and frank discussion with us.

(The witnesses withdrew)

ROBERT EDWARD KEARNEY, Emeritus Professor, University of Canberra, Australian Capital Territory, on former oath:

CHAIR: Before we commence questions would you like to make a brief opening statement?

Professor KEARNEY: Yes, if I may. As the supplementary questions which you sent me after my first presentation were concentrated very much on marine park issues, I have taken the assumption that that is really what you wish to discuss with me. Accordingly, I would like to remind members of the inquiry that my two primary concerns about the system of marine parks in New South Wales are, firstly, that it represents an inadequate and inappropriate consultation measure that has been misrepresented to the public as a solution to biodiversity, conservation, and even fisheries management.

There are many examples of the fisheries management component of it. I do not know whether you have seen the press release from the then Minister, Verity Firth. I am happy to table it if you have not, and I will refer to it because it makes the statement, under the heading, that "Marine parks will preserve recreational fishers' future". Clearly, this is confirmation—

The Hon. LYNDA VOLTZ: Is that a press release?

Professor KEARNEY: It is a press release in the *Northern Star* of 20 October 2007.

The Hon. LYNDA VOLTZ: So it is a newspaper article?

Professor KEARNEY: It is a press release from the Minister. The Minister's statement commences, "I write in response ..."

The Hon. LYNDA VOLTZ: So it is a letter to the editor?

Professor KEARNEY: It is signed by Verity Firth. I do not profess to be an expert on such things, as to whether it is a letter to the editor or—

The Hon. LYNDA VOLTZ: If it is a letter to the editor, it is a similar thing. It looked like a newspaper article, so I was simply seeking clarification. I see that it is a letter to the editor.

Professor KEARNEY: In any event, the issue is the claim that they represent a solution for recreational fishers. In that same letter, it confirms the Government's support for a scientific paper and processes, even after I had exposed them, and which the department now admits had what they call unfortunate errors in them. This is significant, and I will raise that later.

I believe that by falsely claiming that fishing closures are a solution to the conservation of a comprehensive, adequate and representative fraction of aquatic biodiversity, the public has been hoodwinked into believing the current system of marine parks represents an appropriate and even an adequate response to the continuing degradation of our coastal aquatic ecosystems to which Minister Firth refers. In reality it is a fundamental cover-up of the Government's failure to properly address the real biodiversity conservation issues. As Minister Firth said herself in that, "To have done nothing about the State's rapidly deteriorating coastal ecosystems..." would have exposed the Government even more obviously. But by also misrepresenting the benefits to Fisheries management, it does nothing more really than acknowledge duplication at considerable expense of the responsibilities of another government agency for no additional demonstrable benefit.

The real threats to New South Wales coastal ecosystems continue to be not adequately addressed by the Government through marine parks or otherwise. There are many of those, and they included the acknowledged declines, 50 per cent declines in seagrasses, 97 per cent of river length that has been impacted, the inadequate treatment of some sewage and the problems in the Hawkesbury from a number of pollution sources, introduced pests, and on and on it goes. And more recently, the issues that have been identified with fish larvae malformation and endocrine disruption due to pesticide residues and other problems that are finally starting to be identified. To put that in context, the claims by the Government that current and proposed fishing closures represent protected areas must be exposed as the folly that they really are. The Marine Parks Authority has failed to identify a single threat to biodiversity from fishing—it assumes them but it has not identified them—which is the only activity it really manages. Its fundamental assumption that all forms of fishing are a threat to

biodiversity is false. Its particular demonisation of prawn trawling in the Solitary Islands Marine Park, which is currently under review, has really been exposed as an unjustified assumption for which the authority has no relevance science—it is just assumed that it is a threat.

In the current review of the Solitary Islands Marine Park no scientific evidence is given to support current proposals to increase the area of sanctuary zones and to completely ban prawn trawling in the park. The whole of the documentation to support the review of the zoning arrangements in the park contains no science really relevant to this issue, and absolutely no demonstration of any benefits from the existing zoning arrangements. So why change them? No increases or restrictions on fishing of any form have been justified. It is yet another example of management based on preconceived wrong concepts, and a failure to provide adequate or appropriate science to support these decisions.

My second major concern, equally important, is that the abuse of the principles of science by the Marine Parks Authority, and the misuse of science in the management process by DECCW, will unquestionable damage the public's perception of science and scientists for at least as long as it continues, and probably much longer. I have already provided documentation of the abuse of the principles of science by the department in my first presentation to you, and in the documentation I previously provided. I have also given you a copy of my letter to the Director General that details the department's continuing inability to deal with my concerns, even after they have been directed to do so by their own review.

he Firth press release, sorry, the letter, again confirms that I had addressed the correct science and that the Minister reaffirmed her support for that science. In other words, the recent letter I got from the Director General contradicts her own Minister. As evidence of further continuation of the deliberate distortion of the truth in this matter by the department, the Deputy Director General's letter of 10 June to the *Coffs Harbour Advocate* outlines numerous things that were just, again, misrepresentation. I can provide you a copy of my response to that if you require.

CHAIR: Yes, please.

Professor KEARNEY: I shall make it available.

The Hon. LYNDA VOLTZ: Sorry, what was that a reply to?

Professor KEARNEY: It was a reply to a letter from the Deputy Director General of DECCW to the *Coffs Harbour Advocate* on 10 June 2010.

The Hon. LYNDA VOLTZ: Have we also got the original document?

Professor KEARNEY: I imagine you can get it. I did not bring it, but I can imagine you can get it, yes. I mean, I imagine the department can give it to you.

The Hon. LYNDA VOLTZ: I am just wondering if we are responding to something that we do not know what we are responding to.

Professor KEARNEY: If you cannot get it anywhere else I can give it to you. I just did not happen to bring it with me.

The Hon. LYNDA VOLTZ: Will you take that on notice? If you have a copy will you provide it to the Committee?

Professor KEARNEY: Certainly. It must not be assumed that the obvious problem of misrepresentation of science by the New South Wales Government will be confined to marine parks. In view of the central role that must be anticipated for that department in the inevitable forthcoming public debate on how to deal with climate change that is already upon us, I believe this inquiry would appear to have inherited significance responsibility to rectify apparently entrenched misuse of science and of management malpractice. The problems that misrepresentation of science causes when environmental issues impact public policy are now well documented, and the consequences are being felt throughout the world. The impact of misrepresentation of data on Himalayan glaciers and the University of East Anglica's leaked emails had an incredible impact on the Copenhagen climate change debate and subsequent public scepticism of the science of climate change. These are just some of the more telling examples. Thank you.

CHAIR: You are obviously aware of the document entitled "Marine Parks Science in New South Wales: An Independent Review", Fairweather, Buxton and Robinson, dated December 2009?

Professor KEARNEY: Yes, I am.

CHAIR: Did you have input to that review?

Professor KEARNEY: I did, I gave a submission, presentation to the review.

CHAIR: As a stakeholder in the independent review, what is your overview of the report and the recommendations that it makes? Do you believe it is a good review, a valid review or do you think it is wanting?

Professor KEARNEY: I think it is fairly good. I think there are limitations to it. I still think there are obviously some things that are evidence of not digging deeply enough. I think it is rather a pity that the chairman found it necessary to put in his own independent conclusion at the end on efficacy of marine parks, for which he clearly did not get the support of his colleagues or else it would have been part of the review. But I think the recommendations, particularly those that call for increased demonstration of the management of the parks and what benefits there might be, rather than just documentation of what is in the parks, is really quite correct and appropriate.

CHAIR: Can I infer from that that you would support the Government adopting these recommendations?

Professor KEARNEY: Look, I have not seen enough detail on them to absolutely accept all of them but, yes, I have no problem at all with them adopting them. The answer is yes. But I might add, if I may? I did not agree with the Government's interpretation of the outcomes of that review. I thought the press release stating that the science was excellent was a gross distortion of what the review actually says. This was subsequently confirmed by Professor Buxton who said that is not what they intended to say. In fact the only part of the research that was excellent was the bit referring to habitat mapping. If you do a word take on the document you will find the word "excellent" occurs once and it is in relation to habitat mapping, which should have been done before the parks were declared and across the whole of the State, not only in the parks and after the event.

CHAIR: This Committee has not had that document tabled but we do have the report, and the report is probably what the Committee secretariat will take into account in their determinations. I now pass to Mr Catanzariti for questions.

The Hon. TONY CATANZARITI: A large number of submissions from recreational fishers have called for the exclusion of commercial activity in estuaries. In your view is this necessary?

Professor KEARNEY: It is not something that I support, and I never have. I am not a big fan of recreational havens, as they are called. I think that the public of New South Wales have a right to seafood and anglers have a right to catch fish, but I do not particularly favour exclusion of one over the other. I think the fact that 20 per cent of the people go fishing gives considerable rights to anglers and that needs to be respected, but about 95 per cent of the public of New South Wales each fish. I accept that inevitably around the world because of other perceived benefits that come to coastal communities from angling there has been pressure to exclude commercial fisheries, but that is not a principle that I like.

The Hon. TONY CATANZARITI: How do you see both the recreational fishers and the commercial fishers working together?

Professor KEARNEY: There have always been antagonisms between the two because it is a classical tragedy of the commons. They are competing for the same resource. They are competing for the same resource and there is a limited amount of fish. The representation of anglers has been largely voluntary. There is not even a national peak body in operation at the moment for anglers nor is there a national peak body for commercial fishers. Both groups are guilty of not representing themselves appropriately or their interests appropriately and not negotiating with each other correctly. The future is going to be fraught with problems. They do have to work closer together because the resources are finite and most of them are very close to fully fished and competition is going to be more intense as populations increase.

The Hon. TONY CATANZARITI: It is a pity they cannot work together. With your experience, is there a way how these two groups can be brought together?

Professor KEARNEY: If there was a magic bullet I would love to know what it is. I think the two groups simply have to accept that there is a greater need to work together than there ever has been and that they need to find ways of doing that. I do not wish to suggest to you that I know the best way for them to do that. I merely accept that they do need to do so.

The Hon. TONY CATANZARITI: Some inquiry participants have claimed that there has been an acknowledged bias in scientific articles reporting positive outcomes from the implementation of sanctuaries or no-take zones. Are you aware of this claim? Do you believe it has substance?

Professor KEARNEY: I am not entirely sure what claims you are referring to. I have certainly personally raised issues with distorted claims, exaggerated claims of benefits. My concern relates to the translocation of results from elsewhere, in particular, or from situations that are not relevant to New South Wales to the New South Wales scene. That really worries me. But if you have any other specific ones I am happy to comment on them.

The Hon. TONY CATANZARITI: Some participants have made this claim. We always get the toing and froing in any inquiry.

Professor KEARNEY: For example, the Government submission to this inquiry stated that the public can expect 975 per cent increases in biomass. That, to me, is a seriously distorted claim that is based on some irrelevant information. More importantly, if that is true, then why can't the authorities simply demonstrate the 975 per cent increases that we have got in New South Wales? After all, we have had fishing closures in the Solitary Islands Marine Park for almost 20 years now.

The Hon. TONY CATANZARITI: We understand you made a submission to the zoning review of the Solitary Islands Marine Park. Can you outline what recommendations you made to the review and if any of your recommendations were taken up?

Professor KEARNEY: From memory, that submission was in 2008 when the original review was done. I do not think I have a copy of it with me, although I was working on it recently. It was done jointly with Professors Underwood and Chapman and Dr Marcus Lincoln Smith. We pointed out that we had been asked to comment on the review of the Solitary Islands Marine Park and we were given absolutely no scientific information on which we could comment. None was available and we could not get any. We suggested that no review of the zoning arrangement should go ahead without public discussion of what science was available and what the implications of that science clearly were. As far as I am aware absolutely no notice was taken of that submission. I cannot find mention of it in any of the Government's documentation and we were not subsequently contacted in relation to it.

The Hon. CHRISTINE ROBERTSON: Throughout this inquiry we have heard a great deal about the comprehensive program at both State and Federal levels working towards increasing the biodiversity along our coastline. Marine parks were a component. You are putting a presentation forward that there are claims marine parks will save the world. The evidence presented to the inquiry has shown the involvement of other programs, including from landholders themselves. Have you had a look at the whole-of-government approaches to biodiversity on our coastline?

Professor KEARNEY: Yes, I have.

The Hon. CHRISTINE ROBERTSON: Do you have any feedback?

Professor KEARNEY: I have looked carefully at the requirements of what the Government is required to do and the basic principles to conserve biodiversity. If you look at it more deeply in terms of the various Acts, one of the processes for doing that is to adopt a system of marine protected areas, the key word there being "protected". It is important to note the times at which these various things developed and the Acts were drawn up. They originated back in the late 1970s, one or two things, but, in essence, in the 1990s when the concept that the world's fisheries were seriously overfished was starting to gain momentum. In fact, several of Australia's fisheries were in rather serious decline and people took that rather seriously. The orange roughie fishery springs

to mind immediately, which had been acknowledged then to be seriously overfished. People perceived there to be a very significant threat to biodiversity from fishing.

The problem that I have with the Acts as they were developed—and I think the New South Wales Act is classical in this regard—is that there is repetitive confusion between marine parks and marine protected areas in the wording and in the content. The clear intent was to get protection. Unfortunately, this was disproportionately aligned with the restriction of fishing. It is clear that when you read the outcomes that people assumed, and it is even stated in some of them, that total protection would come from total fishing bans, which is inherently wrong. That wrong philosophy, unfortunately, pervades those Acts and the subsequent actions disproportionately. The expectation that a ban on fishing would do any more than interact with fishing practices and would not necessarily conserve biodiversity has not been correctly represented in almost all of the documentation.

The Hon. CHRISTINE ROBERTSON: I was talking about whole-of-government approaches—land use, water quality, different waterways uses. Have you looked at those issues?

Professor KEARNEY: I have not looked at them all in detail. I have looked at a few and I have looked at the outcomes. I certainly agree that those are ones that I believe are far more critical to the conservation of aquatic biodiversity than is restriction on fishing. My reasons for that are many. If you go back and look at the state of Australian fisheries now, they are in a great deal better shape than they were in the days when these things were formulated and enacted. If you look at the IUCN [International Union for Conservation of Nature] statement of the creation of the representative system of marine parks, it acknowledges an important point, that there has never been a species of fish anywhere in the world fished to extinction. That is a really major issue because when you get to countries like Australia that have good fisheries management, the real threats to fish and fisheries and particularly to coastal aquatic ecosystems are largely terrestrial activities or inappropriate activities on the ocean, such as destructive fishing practices, inappropriate mining practices or whatever else it happens to be. The tightening of those actions that respond from the associated Acts that called for actions on terrestrial activities is, in fact, what desperately needs to be done.

The Hon. CHRISTINE ROBERTSON: Do you know what percentage of the coastline has banned fishing? We have heard a great deal of evidence of a perception that everywhere there is a marine park there is banned fishing. Do you know what percentage of the coastline has fishing bans?

Professor KEARNEY: I would think it is about 6 or 8 per cent.

The Hon. CHRISTINE ROBERTSON: I do not know the answer to that.

Professor KEARNEY: I would think it is about that. The issue really there is whether that 6 or 8 per cent is appropriate management, whether it is effective and whether it is necessary. That is the issue.

The Hon. CHRISTINE ROBERTSON: Or whether it is a component of something?

Professor KEARNEY: Or whether it is a component of something. An effective component of something is my concern.

Mr IAN COHEN: Professor Kearney, on 27 November 2009 you were quoted in the *Bay Post* as saying:

There is science behind some marine parks.

Could you identify the marine parks and the scientific and empirical evidence you refer to in that article?

Professor KEARNEY: I cannot remember it in the context of that article, to be exact, I am sorry. But of course there is science behind some marine parks. I have never stated that there is not; it is what happens to the science and what management results that was the issue that I was probably addressing. But I am sorry, with just a one-line statement I am not sure of the context.

Mr IAN COHEN: It is quoting you.

Professor KEARNEY: Yes, I know.

Mr IAN COHEN: Given the general tenor of the statement, can you identify the marine parks and scientific empirical evidence that you are referring to? In general terms can you identify those parks and that evidence given in the statement you have made?

Professor KEARNEY: I would rather take it on notice and have a look at the context in which I made the statement.

Mr IAN COHEN: You have been critical of sanctuary zones in estuaries, is that correct?

Professor KEARNEY: That is correct.

Mr IAN COHEN: Are you of the opinion that sanctuary zones in estuaries do not protect biodiversity given the cessation of fishing impacts?

Professor KEARNEY: I am strongly of that opinion. There is variation, of course, between estuaries. In some areas fishing bans may be useful, but my major concern is that the real threats to these estuaries are not fishing and that the effects of fishing are minor or non-existent when compared to the big issue.

Mr IAN COHEN: You do acknowledge that in certain circumstances fishing bans are one of the steps in the right direction?

Professor KEARNEY: No, I am not acknowledging that at all. I am acknowledging that they may be if they were properly designed and it had been demonstrated that fishing was a threat to biodiversity.

Mr IAN COHEN: Therefore, do I take it that under certain circumstances the cessation of fishing impacts in estuarine areas can be beneficial in terms of the protection of the specific biodiversity?

Professor KEARNEY: If a threat from that fishing to biodiversity was demonstrated I would accept that that could be so.

Mr IAN COHEN: That is a very sort of splinters on the fence answer, you might say. I am asking yes or no, do you accept that in certain estuarine areas with sanctuary zones—it is not a case of whether it is demonstrated by someone else—do you or do you not agree that there could be protection of biodiversity with the cessation of those fishing impacts?

Professor KEARNEY: No evidence has been given by anybody, that I am aware of, in relation to the declaration of marine parks in New South Wales that the closure of estuaries to fishing results in any benefit to appropriate protection of biodiversity, and, for example, the evidence that is available on the effects of fishing, when even prawn trawling in estuaries is demonstrated to have virtually no or minimal impact and no significant threat to biodiversity, I do not think any action should be taken to restrict fishing in estuaries until that specific evidence is given.

Mr IAN COHEN: How do you respond to the research of Edgar *et al*, published in the journal *Ecological Applications* 2009, which found significant differences in fish abundance biomass in a number of sanctuaries in Australia, including Fly Point, which is in an estuary, and Port Stephens Great Lakes Marine Park?

Professor KEARNEY: I have not looked at that paper in great detail—I do not read them all; I only read a selection of them. I know in that paper there are references to areas where fishing impacts may have been excessive and that if this was the case then a cessation or a restriction in fishing will lead to an increase in the target species and potentially an increase in biomass, depending on how you measure it. I am not aware of those studies in sufficient detail to comment on whether or not they are truly representative of benefits in Australian estuaries.

Mr IAN COHEN: Thank you for your answer. In general terms, would you be comfortable to take that on notice about those specific areas?

Professor KEARNEY: And your question then is am I prepared to go back and look at the paper of Edgar and see if I think they are appropriate?

Mr IAN COHEN: Yes.

Professor KEARNEY: If I can find the appropriate data and it does not involve a massive research effort I will do my best.

Mr IAN COHEN: Thank you, I appreciate that. You can appreciate also that you are making some pretty resounding statements to the contrary so it is not an unfair thing to ask.

Professor KEARNEY: No, I accept it is a very fair question. I do not have the slightest problem with the question. I am aware of many similar papers that have quoted aspects of the work in some areas where fishing has been closed that do distort the actual average situation and the overall situation. But what I would require would be evidence relevant to New South Wales because, as I have said, we have had fishing closures in place for up to 20 years. It is a perfectly reasonable thing for somebody in my position to expect that benefits from those closures should have been already demonstrated before we go around extending those closures or proposing declaring more.

Mr IAN COHEN: I think the issue there is that perhaps it has been, but I am quite happy for you to have a response to that situation. Have you undertaken or conducted any research in marine parks within New South Wales or marine protected areas in Australia? If that is the case, have you published any such work in peer review journals?

Professor KEARNEY: No, I have not.

Mr IAN COHEN: Can you identify any empirical research papers with measured data showing that marine protected areas are not effective tools for biodiversity conservation for the Committee to consider?

Professor KEARNEY: I would think that you should look at Professor Buxton's recent work and speak to him about it. He was a member of the review and he has presented scientific evidence. I believe it has been published. But check with him; I think he is the one who can give you that evidence.

Mr IAN COHEN: You might like to take part of that on notice? If you find any other empirical research papers we would be glad to receive that information. Have you read the final appendix compiled by the Chair of the New South Wales Marine Parks Science Review? I am specifically referring to the appendix entitled "Replotting global data on MPA effects but using only locally-relevant cases". The data shows a clear increase in biomass density size and richness of organisms inside sanctuary zones in cases relevant to New South Wales. How do you interpret this appendix and what implications does it have for the argument that most evidence supporting marine protected areas comes from research on historically highly unsustainable fisheries converted to MPAs?

Professor KEARNEY: I have already stated that that was Professor Fairweather's interpretation of that information, and I think it is significant that he put it in as a minority statement in that review when there were three members of the review. So, obviously, one could suggest that the other members did not agree with it and certainly did not want to have their name put to it. He has looked at some data that has been compiled. If you look at it in detail there are a lot of areas in there that—I think 80 or 90 per cent of them—are rocky reef areas that had been heavily impacted by fishing, and generalisations are made that are questionable in relation to before and after studies and appropriate analysis of that data, and I think in combination it represents, again, a suggestion that the benefits that one can expect from marine parks are much higher than in fact they actually are. Therefore, I believe it does not represent an accurate description of the situation.

Again, I come back to the issue of if he is right and you can expect 975 per cent increases in biomass then it is time that New South Wales demonstrated, after 20 years of closures, where those areas area.

Mr IAN COHEN: You just mentioned rocky areas heavily impacted by fishing. Could you describe the areas? Are we talking commercial fishing? What type of fishing, in general, would impact on that general ecosystem?

Professor KEARNEY: They range from cyaniding and dynamiting in Southeast Asia, which is still, unfortunately, a fairly common practice in many areas, and a lot of those reefs have been very, very seriously impacted.

Mr IAN COHEN: Perhaps in the New South Wales context?

Professor KEARNEY: I am not aware of many in the New South Wales context.

Mr IAN COHEN: When you said "rocky areas" I did not interpret that as a tropical or—

Professor KEARNEY: "Rocky reef areas" was the expression I thought I used. The areas that I have been most worried about have been those that have been fish-trawled in the south of the State, and I have been trying to get a closure of all the fish-trawl fisheries inside three miles for a variety of reasons that relate to the economics of wise fisheries management, because a lot of juveniles are caught in the inshore areas and they should not have been open to fish trawling, they should have been closed. In fact, I first proposed that in 1990.

Mr IAN COHEN: Is that not a sanctuary zone?

Professor KEARNEY: No, because you need to do it over the whole State. Doing it in part of the area does not solve the problem. In fact, doing it in part of the area and paying disproportionately to buy out fishermen has caused the problem. These fisheries need to be managed over the whole area of the distribution. If there is a problem, you need to fix it everywhere, not just in part of the area where it is a problem. Claiming that closing part of the area is fixing it is, again, inadequate management. If it is a problem, fix it everywhere. I have said that and I have repeated it all along. That is the area that I have been most worried about. There were areas that were over-harvested, particularly in the metropolitan area, for sub-tidal crustaceans, molluscs, limpets and so on. I understand that that is an area where it was extreme. But I am not particularly worried about many others at this stage. I do not think there has been gross devastation or that there has been a significant or reported loss of biodiversity from activities other than the ones I have mentioned.

The Hon. RICK COLLESS: I would like to go back to the trawling issue. I understand that you have made a submission to the review of the Solitary Islands Marine Park. What are your recommendations and what sort of preferred management options would you would like to see imposed on that park given the review process?

Professor KEARNEY: I made a submission to the previous review, to which I have already referred. I have not made a submission to the current review, although I will probably do so. The first issue is that I would like to see demonstration of what threat trawling represents to biodiversity in the park. That would be the first step, which is the logical step before you go managing or banning anything. You should first demonstrate that it is a problem. As recently as a couple of weeks ago the department said that it had no science to demonstrate that this was in fact a problem. It has assumed that trawling was a problem.

CHAIR: Where was that stated?

Professor KEARNEY: That was at a meeting of the New South Wales Seafood Industry Advisory Council, which met in Sydney about two weeks ago.

CHAIR: Thank you.

Professor KEARNEY: My point is that before you go managing something you should be able to demonstrate that it is indeed a threat, where it is a threat and how serious that threat is. Removal of some species does not necessarily represent a threat to biodiversity at all. Furthermore, in the case of fishing in the Solitary Islands Marine Park, one of the areas inside the park that is proposed to be closed to trawling is about the most productive prawn trawling area. If you are going to regulate trawling then the silliest thing you can do is close the most productive area. In fisheries management, if you are going to close a fishery which is sustainable and which has been assessed to be sustainable you are forcing the trawlers to fish other areas harder than they have previously done because the best areas are closed.

The net flow-on effect from that is an increase in fishing, or perhaps even an expansion into areas that have not previously been trawled to try to make up for the catch that has been lost. It is important to note that the industry itself has identified areas outside the park where they believe trawling should be curtailed because they are juvenile nursery areas. I think there is 180 square miles that they have proposed and currently have as a voluntary closure. That is a closure that has some purpose. An issue has already been identified that it could be

beneficial to the prawn catch to have that area closed at least on a seasonal basis, or in the bycatch in some cases.

There are management measures that solve that problem, if there is a problem. As I said, my real issue is that no problem has been identified. It has been assumed. Even with harvesting of sand from these same areas, recovery has been shown to be complete in about four to six weeks. Even dredging the sand and taking it away does not cause permanent problems in these areas. These things need to be taken into account. The assumption that this form of fishing is a threat to biodiversity and that banning it will result in a positive outcome needs to be seriously questioned, and it has not been.

The Hon. RICK COLLESS: What is the lifecycle of the prawns in this proposed no-take zone in the Solitary Islands? Where do they come from, where do they go if they are not taken out there and what percentage is taken?

Professor KEARNEY: You should direct that question to the relevant department. I was in charge of fisheries research in New South Wales 15 years ago. My memory of that is that these prawns—the king prawns in particular and the school prawns that are the target of most of that fishery—come from estuaries as juveniles out to those areas and then they migrate up the coast progressively. They will go long distances. I think the longest migration was from Sydney almost to the Queensland border, or perhaps further. As I said, that was 15 years ago. They do migrate through those areas, but they have areas they tend to prefer. The juveniles have a tendency to be in shallow or inshore waters and a few other areas. That is a tendency. I do not know the strength of that tendency and I am afraid that I cannot give information on the percentages. However, I do remember, and I think it is still true, that there were areas that could be identified where juveniles were relatively particularly abundant and that the prawn fishery would benefit from having those areas left alone while those juveniles are there at least.

The Hon. RICK COLLESS: The prawns taken out of the Solitary Islands do not necessarily all come from that area; they could be migrating prawns going up the coast.

Professor KEARNEY: I would assume that is definitely true.

The Hon. RICK COLLESS: If they are not taken there, they could well be taken in other fisheries further north, anyway?

Professor KEARNEY: Some could be, or further south beforehand. I would assume so.

The Hon. RICK COLLESS: You referred to a document entitled "**Ecologically Sustainable Development of the Regional Marine and Estuarine Resources of NSW**". The executive summary makes the point that marine reserves cause a decline in the biodiversity of groups represented in the model. I asked officers from the Department of Environment, Climate Change and Water about that this morning. Dr Wilson pointed out that the fish-take figures used in this study were from the 1970s and 1980s. Do you have any comments on the relevance of the fish take in those days to the situation today given that this is a model only, and what impact the 2010 fish-take figures might have on that model?

Professor KEARNEY: I do not have detailed information. I have not seen more recent data and I do not wish to suggest to you that I know how that data may influence the outcome. I discussed it with one of the authors before it was printed and I expressed what I thought were its limitations. It is a modelling study and there are things about it that I thought were less than perfect. However, I raised it because it is a government study and it has been done by some of the Government's best scientists in conjunction with other scientists from the CSIRO and the University of British Columbia. It came to a conclusion that I found rather surprising. At the same time, the Government referred to another study done by those same people and said that it claimed—wrongly because it assumed assumptions were actually findings—that trawling was a problem. I said that I thought it was totally inappropriate for the Government to look at two government studies done by the same people and to use the results of one and pretend the other does not exist. I thought it was up to the Government to explain why it had done that, because it comes to a conclusion that biodiversity goes down in marine parks, which is consistent with the intermediate disturbance hypothesis.

The Hon. RICK COLLESS: This is a bit of a philosophical question for Professor Kearney You have said, and it has been said a lot during the course of this inquiry, that there is quite a serious impact on fish stocks from land management aspects or techniques in the catchments rather than the severe restrictions on or banning

fishing in certain areas. But where do you see the right balance is between terrestrial land use and agricultural practices, and so on, and marine use and fishing practices and the like?

Professor KEARNEY: That is a very broad question that I am not certain I can give a precise answer to. It is a much bigger issue, I believe, than it is being treated as. The problem with terrestrial impacts on aquatic ecosystems is only beginning to be properly identified. The very recent work I can give you—in fact, I will send to the chair—from toxicologists and other people, particularly in south-east Queensland, is identifying really major problems with chemical pollution on larval fishers in particular and the distortion of larvae. It is now being much better documented. I believe there are many terrestrial impacts that we have not even started to look for yet, and they really worry me greatly. Yet, we come around and say we will ban fishing because we think we have an impact of it. But if you look at things like Sydney Harbour, you have the dioxins and heavy metal pollution that are in my view extreme and you tell people that they should not eat fish from Sydney Harbour more than once a month because of the pollution levels, yet the fish eat them every day so they must have a serious impact on fish.

I am not for one moment suggesting that these problems are immediately solvable, however I believe what is missing is that they are not being taken into proportion in their impact on aquatic systems. Another example is the damming of waterways. It has a huge impact on our aquatic ecosystems. The fact that the Warragamba Dam—I think I mentioned this to you last time—has not overflowed for 25 years has to have a serious impact on our biggest estuary, and the Hawkesbury-Nepean is our biggest estuary. It is the biggest nursery area for species such as mulloway, for example; it is known to be. This has to have had a serious impact on the species. Yet, what we do is say those species are in decline therefore we have to have stricter fisheries management. The Government is not accepting the responsibility to understand what the real causes of these things are, which is one of my real problems with the current system of marine parks. It has been oversold as a solution to problems because the Government would not properly address the real threat to our aquatic ecosystems. You come back to the first statement, which said, "To have done nothing would have been unacceptable," but that is what is being done to address these problems, and it does not address them.

Of course, other things are being done but I come back to your question specifically. They are inadequate. We know what should be done. For example, with acid sulphate soils, we know that is the problem with the fish kills in the northern rivers—the Tweed, Richmond and Clarence—but do we fix it? No. Why? Because we have given disproportionate weight, in my opinion, to agricultural sources of food rather than to marine sources of food. Fishing gets the blame for a lot of things at the moment but think of what fishing does and the limited damage that occurs compared to agriculture, which starts from clear felling the land, then ploughing it and then introducing foreign species and then killing any native animal that attempts to interfere with it or poisoning any native grass that attempts to come back, but we have said that because we want agricultural food produce and we accept that huge swathes of Australia have been devastated permanently, biodiversity destroyed completely, in the source of food. We will not accept that some damage to some aquatic environments to produce fish is really kosher. Some people do, but a lot do not.

CHAIR: Earlier in the hearing we had representatives from the two main government departments, being Industry and Investment and the Department of Environment, Climate Change and Water. We were talking about the percentage that fish make up of the total marine biodiversity. Dr Wilson was saying it was a fairly low percentage, a couple of percent or something like that. Do you believe the methods used to protect these marine areas, that is, strict spatial exclusion of one factor, fishing, inhibits the ability to apply adaptive management to the protection of that biodiversity? If so, what other methods of protection should be used?

Professor KEARNEY: Firstly in addressing your question, let me go back to this intermediate disturbance hypothesis. The degree to which it is true in all situations is unquestionably debatable and I am not going to pretend to you that it is always right in every area. However, the concept that well-managed fisheries—and I stress well-managed fisheries—where the target species are maintained at levels above a reasonable percentage, normally somewhere in the 30 per cent, 40 per cent range, and go back to the principle that no fish anywhere in the world has ever been fished to extinction, it is not very likely that untargeted species of fish will be seriously damaged. Birds and other things are, and please do not take me out of context, we need to manage all of those by-catches particularly when they are non-fish species that may be more vulnerable to the technique.

Well-managed fisheries can give an appropriate management platform for biodiversity as well as the fisheries. I do not like using terrestrial analogies but if you leave a paddock full of cows and you do not harvest any of them you wind up with overgrazing and you wind up with older animals that are not necessarily productive, et cetera. Again the analogy worries me because I do not think there are many similarities at all

between terrestrial and marine environments. I think that is one of the mistakes people make; they think you can draw a line on an area on the land and manage it, and you can, but on the ocean is entirely different. So, the problem I have is that that misconception has been carried over into marine environments and the more work you do on that the more you realise that area management is a very poor form of conservation of aquatic biodiversity.

As I said previously, I felt my answer was slightly misconstrued and talked about trying to protect the whole area of the State—indeed, I think that is what we should do—but all of the problems need to be identified at their source. Drawing lines on the water and saying we are going to protect that area is not an appropriate or adequate conservation measure. If fish are only 2 per cent of the biodiversity—and I would have thought it was more than that but I do not have any facts to go on, is not a study I have looked into—and if those species are well managed and the fishery is well managed and there are no fishing practices that destroy sessile or other organisms or overexploit them to any extent, it is an appropriate way to manage biodiversity. It is an appropriate tool to use in the management of biodiversity. Well-managed fisheries have not been demonstrated to be a real threat to biodiversity.

Therefore, if you have well-managed fisheries in this State and one of the reasons why our fisheries in this State are in the relatively good shape they are in—in fact, by world standards they are in extremely good shape—is because of the incredible resilience of our aquatic ecosystem, not because of the brilliance of fisheries management. Most of these species are remarkably resilient to exploitation. If you take the extreme case, even to pollution in some cases, the extreme case is the northern rivers—the Tweed, Richmond and Clarence—which have total fish kills at times, yet remarkably six months later you cannot find any evidence that that occurred. That should tell you something about the resilience of these systems and the species that are targeted by fishing to recover from fishing. The key is well-managed fisheries and exploitation levels that are set within goals. If that fishery starts to cause a problem, manage the fishery.

Mr IAN COHEN: I have one question on that. In those areas with quite significant fish kills, they have actually closed the fishery for a period of time as a result?

Professor KEARNEY: Yes.

Mr IAN COHEN: So they have assessed it; it is not as though it just bounces back of its own accord?

Professor KEARNEY: Well, the answer I would like you to think about on that is that they have closed some of the areas some of the time, but they have not done it all of the time and all of them have recovered. The area closures are not necessarily contributing significantly to those recoveries. One of the reasons they closed them, their initial reason, was so that people did not get sick from eating the fish; there was real concern about contamination.

Mr IAN COHEN: I understand they closed it because of the loss of biodiversity and they protected that fishery for a period of time?

Professor KEARNEY: But the ones that were not closed still recovered.

Mr IAN COHEN: Which ones were not closed?

Professor KEARNEY: Well, the Tweed was not closed at all in the 1970s and 80s and they had completely devastating fish kills. None of it was closed. They all remained open.

Mr IAN COHEN: In recent times, in the last decade they have protected them by closing the fishery, be it the Clarence, by actually stopping the fishing effort for a period of time to allow for recovery?

Professor KEARNEY: With due respect, I suggest that people have said they have protected it. They have closed the area but my point is that that has not necessarily provided any additional protection because those areas have recovered anyway. They have previously been documented to have recovered anyway.

Mr IAN COHEN: Some have, if you are saying The Tweed in the 1970s, but what I am saying is that in the current circumstances, over the last few years they have actually closed fisheries, and commercial fishers have voluntarily agreed to close fisheries to protect them. That has been a very powerful conservation measure.

Professor KEARNEY: It has probably had an impact on the time it took to recover.

Mr IAN COHEN: That is a pretty subjective statement, I might suggest.

CHAIR: Thank you for coming in to see us today and thank you for agreeing to stay for extra time to answer extra questions. Along with any extra questions you took on notice during your evidence, would you agree to receive additional written questions that members of the Committee might not have had the opportunity to ask you today?

Professor KEARNEY: I would, Mr Chairman, however I must advise that I will be overseas from 10 September for six weeks, if there is any urgency in the responses.

CHAIR: Could you give the secretariat answers to the questions you have been asked before you leave.

Professor KEARNEY: I will do my best.

CHAIR: Thank you very much.

(The witness withdrew)

(Luncheon adjournment)

ADRIAN HENRY CROMPTON WAYNE, Vice-President, Underwater Skindivers and Fishermen's Association, and delegate of ACoRF, on former oath,

DARREN GEOFFREY HIGGINS, Accreditation Officer, Underwater Skindivers and Fishermen's Association, sworn and examined:

CHAIR: If you should consider at any stage that certain evidence you wish to give or documents you may wish to tender should be heard or seen only by the Committee, please indicate that fact and the Committee will consider your request. If you do take any questions on notice today the Committee would appreciate if a response to those questions could be sent to the Committee secretariat within 21 days of the date on which the questions are forwarded to you. Before the Committee asks questions, would one or both of you like to make a brief opening statement?

Mr WAYNE: Yes, I would. Firstly, I am introduced within my documentation, I guess, so I will not go into that. I have asked Darren to come to give me moral and perhaps verbal support where it may be needed. He is our accreditation officer. We have handed out some documentation that may be referred to in what I may talk about. I will try and keep it brief. Firstly, I would like to talk about marine parks in a little more detail than I have in my disclosure. Lord Howe Island, in particular, is closed to spearfishing and has been closed to spearfishing since the introduction of the marine park. Prior to that marine park being done, spearfishing was allowed. Any closure that was done was done as a Fisheries closure

CHAIR: Point of clarification: What year was the marine park declared?

Mr WAYNE: The marine park was declared five years ago.

Mr HIGGINS: It was seven years ago.

Mr WAYNE: It was seven years ago, I am sorry. I have fish enclosure documentation here. Prior to that, spearfishing was allowed and there was no issue with spearfishing, except that they were concerned on the western side of the island, which is where the public go to view and where the bottom boats go. There was a closure put in on the western side of the island, however spearfishing did happen and did take place on that island amongst those residents for 50 or 60 years before that, and there is ample record of that. When the marine park was declared no spearfishermen, either external or internal, were appointed to the committee to set up the marine park.

As a consequence, certain people on the committee did not like the idea of spearfishing and therefore it was banned from the marine park. That is regardless of the fact that 70 per cent of all submissions made for that marine park supported spearfishing. The fact that 70 per cent of the island community, or some 70 or 80 people, did not support spearfishing was enough for us to be ousted from a place where we had had traditional spearfishing allowed since day one. We think that is wrong, and we would like it turned around. We are currently doing a submission; it is up for review now—not necessarily for change but to see if change is required. We are asking for spearfishing to be allowed on a negotiated basis. I have met with the manager of that marine park—

The Hon. CHRISTINE ROBERTSON: It is under review now, is it not?

Mr WAYNE: Yes, it is under review now. It closes next week. It took me months to get the meeting, but I had a meeting with the manager of that marine park last week and he feels there may be a slight door of opportunity, if we negotiate our way in there through pulling back on things that may disturb the locals. I do not believe it is our role to do that; I think it is the role of the marine park management to go in there and defend our sport. As I said before, I think in this room, I think spearfishing is an acceptable, allowable recreational fishery. Should it be neglected from any area because of the concerns of some local people, I think the marine park management has as much requirement to argue on our behalf as they argue on behalf of saving fish or biodiversity. Yet, we have to run that battle ourselves.

Lord Howe Island is 100 per cent closed to us. As I have said in this room before, we had better than 20 per cent closures. I have had some work done for me by people. At Coffs Harbour, 60 per cent of all offshore

reef usable to spearfishermen has been taken. The total amount of use to spearfishermen in spearfishing usable areas within that marine park in Coffs Harbour—

CHAIR: I seek a point of clarification. Could you define what is usable reef?

Mr WAYNE: Usable reef would be reef where we can dive up to 15 metres deep. The total amount of area that is available to us in that, and diveable, is less than 1 per cent of the marine park. A total of 2.3 per cent of the marine park is available, but we have less than 1 per cent of the marine park for diving. In Batemans Bay, 30 per cent of the usable area for spearfishing has been taken from us. For Coffs Harbour, the information was based on the mapping they provided. Our people up there were lucky enough to get the site scans and the underwater maps.

I have done the same thing myself for Batemans Bay. In Batemans Bay we have lost 28.9 per cent of usable areas. The only amount of Batemans Bay that we dived in is equivalent to about 4 per cent of the total marine park. Whereas 8 per cent of it was good, we have got nearly 5 per cent, so we have lost 30 per cent. I believe it is probably the same for the other two.

Cape Byron marine park I have had done a slightly different way because it is a different area. But we looked at length of coastline and a number of other things. The length of coastline at Cape Byron is 32 kilometres. A total of 21 kilometres is accessible for recreational fishers, and 1.25 kilometres is accessible for spearfishing. That is because by law we cannot dive off beaches. We dive in 0.1 per cent of the total area of the marine park; that is all that is available to us in respect of that marine park.

I do not have anything on Jervis Bay at the moment, but I could get it. My feeling, having done some sums and estimates, is that if I took the six marine parks in New South Wales more than 50 per cent of the available diving area is banned for spearfishing.

Mr IAN COHEN: In referring to those figures—for example, 0.1 per cent in Cape Byron marine park—you are including the entirety of the marine park, which is a significant offshore area?

Mr WAYNE: Yes.

Mr IAN COHEN: A better judgement would be to take the rocky shelf areas, or the areas you would want?

Mr WAYNE: Yes. We did that on the others, but not at Byron because—

Mr IAN COHEN: It is mostly long distances of beach, as you say.

Mr WAYNE: I understand, but the answer would be the same. Byron has very little offshore reef running out off headlands. The further south you come, the bigger the shelves are, and the further north you go, the fewer the shelves. So, if you take the length of the total area and look at the width of those headlands and then multiply that, your hectares are still going to be a very small area of that marine park. I could have that done and submitted, if you like.

Mr IAN COHEN: I do not think that is necessarily worth—

Mr WAYNE: But that is certainly the way we did Coffs Harbour, and it is certainly the way we did Batemans Bay. I did Batemans Bay straight from Marine Parks own figures, and they are the percentages.

CHAIR: Would you be able to table those calculations and leave them with the Committee?

Mr WAYNE: I can have the calculations sent in, in a format that would be easier for you to read. I have the summary of them.

Mr IAN COHEN: Do you know which sections of Byron marine parks are available for spearfishing?

Mr WAYNE: I do; I have had it done. Spearfishing on the coast is only accessible in four locations: the north-eastern headland at Cape Byron for approximately 250 metres, extending seaward for 100 metres, about 25,000 square metres. The rocky foreshore drops immediately to a sand bottom. For spearfishers to access this

area requires calm conditions and there is some risk of injury from surge if the water is rough. The second location is the southern extremity of Cape Byron from a point beneath the lighthouse to Cosy Corner, about 300 metres in length. Along this 300 metres of rocky shoreline, it drops straight onto sand with a limited rocky reef. Spearfishing available in this area is limited, with conditions similar to the north-eastern headland. The third location is Broken Head North, 350 metres extending from the north-western extremity to Kings Beach for a maximum of 200 metres seawards. Once again, there is very little rocky reef available; it is mainly sand. The fourth location is Broken Head South, a maximum of 350 metres extending from slightly north of Snapper Rock to the southern extremity of Jews Point and extending 100 metres seaward, about 35,000 square metres.

At Lennox Head, the only accessible area within the marine park is closed for spearfishing. Offshore spearfishing is limited to three very small areas, for the experienced spearfishermen only, again because of depth. At Wilsons Reef and Bait Reef, spearfishing is restricted to a list of eligible pelagic species only. Mackerel Bowl is closed to all fishing for eight months of the year, fishing only being allowed for the four months from 1 January to 30 April. The ban is to protect grey nurse sharks, allegedly. That is a rough description of the way we have calculated that. If I considered Lord Howe and the other marine parks I have no doubt that more than 50 per cent of what we would call spearfishing area is closed to us, and we think that flies in the face of the public statements that are normally made, they relate to the area of marine park being within inside the total square area of the marine park like, "We have only taken 16 per cent" or "We have only taken 12 per cent"; in our case that can be as much as 60 per cent or in the case of Lord Howe 100 per cent. There is something there that is required to be done.

The other quick problem on marine parks that I would like to get out there is that young people need to be able to learn. I was shocked when I was up at Coffs Harbour recently doing a presentation with the local boys there to marine parks, prior to our submission, and there is nowhere for a young person to go in the water—nowhere! When I was a boy I could swim on the inside of all those islands. You have to learn in five metres of water. You cannot learn in 20 metres. Coffs Harbour is almost restricted to elite-type divers who know exactly where a pinnacle is—it is just outside of Grouper Island. All of Grouper Island is gone. You cannot drop a kid in 10 metres of water any more, or five metres, and say, "I'll swim out there with you". You drop him in out there, two big bronzies or something swim underneath him, as the kid is 13 years old it is going to petrify him. There is no learning factor. You cannot take him into the estuaries, train him in the estuaries, off the breakwall, or anywhere as a boy I learnt and swam out from until I used to go to the deeper water and jump straight in the deeper water. The training of a child in an area like that, or any of the marine parks has definitely been downgraded by the loss of shallow territory to swim out. That is all I want to say on marine parks.

Very quickly with ACoRF. I sit on ACoRF and I think ACoRF works, and works quite effectively. I think it works very effectively with regards to Fisheries and it is ineffective with regards to marine parks. I said in my submission that I felt a different management strategy was required. However, briefly, and I am not a management expert, I feel that if ACoRF were extended to be a non-political board, which could comprise people from all political spectres, and controlled commercial, recreational, marine parks and Fisheries, sat below that board and worked through subcommittees, and rather than give advice to a Minister for him to ignore, if they were the committee that rubberstamped things I think we would get a far better outcome for everybody and the fishery would be in a better state than it is in.

I have sat on a number of subcommittees, one being the abalone and the other one the mullock recovery, and both of those were extremely good outcomes. Scientists were involved and lay people like myself that have some anecdotal experience, and we were able to question, come back and forward to each other, and we got outcomes that were sustainable. I am fairly sure in marine parks we could achieve that if things were looked at correctly. I think definitely an ACoRF thing is required. It needs to be broadened and it needs to have more people on it but it needs more control. I think all matters regarding fishing and protection of areas should go under one committee that is non-political, and there are no deals being made by anybody to affect an election. I will not speak politically, but from watching what is going on federally we are seeing publicly what must be going on all the time otherwise—it has been exposed for once. That is my comment on ACoRF.

Grey nurse sharks have current protection. The Fisheries recognise that we are of no threat to grey nurse because in the critical habitat areas we are still allowed within the areas that grey nurses exist. Marine Parks took a different view and decided to clean out those areas where grey nurses exist by putting everybody half a kilometre to kilometre away—I agree with this for hook and line fishermen. I am sympathetic with them. The hook is hanging out of their mouths and nobody is going to deny that. It is evidence. It is happening and they need to do something about it before they can bottom fish in those areas. I think there is not enough time, enough effort and enough concentration put into recognising key threatening things, such as the difference

between trolling and the difference between bottom-set lines, the difference between spearfishing and the difference between line fishing, and I would like to see more done there.

We carry out our activities as site-based activities. Grey nurse sharks are not an issue with spearfishermen. There may be some identification things. There are people who may have issues seeing grey nurse in dirty water amongst a school of snapper, a school of salmon or something in shallow stirred-up water. It has happened that people have panicked a bit and might have fired a spear at them. That can be overcome. I believe that the future of spearfishing lies in the next point I want to talk about very quickly—our accreditation process that I have raised in here. Accreditation to me basically means that we recognise that the people who wish to participate in spearfishing need some form of training in order to carry out a sustainable safe activity in the water. We have previously approached the Government about our accreditation system and a couple of documents that you have there, being our booklet and our questionnaire, relate to our own internal accreditation. When we put it up previously we were told to go away, get it together, do it internally for a couple or three years, come back and the Government would look at it.

I would like to see that this Committee would recognise that it could perhaps work with USFA in order to bring that to fruition. However, having said that, spearfishermen are very prepared to negotiate most activities. We do not agree with bag limits of 20 bream or 10 of this or 10 of that. We want to take one of each species. Our whole sport is derived around that because we have the ability to be under the water and see what is there, as against the line fishermen. So our bag limits could be completely different to the bag limits and size limits taken by other people. There are many spear fishermen who say, "We do not even need to take that fish. Why not make that illegal?" We cannot do that because we get flogged everywhere. The more we give, the less we get back. But I think if we could reach a point where our accreditation system was accepted and the fact that an accredited diver was as safe as a licensed shooter who is permitted to go and do something, or a licensed driver or a licensed semitrailer driver, then we are getting somewhere and we should get something back. And I mentioned in here once before about pelagic species in what may well be currently banned areas. A trained spearfishermen taking pelagic fish in a grey nurse area would not cause any harm and could not cause any harm if he was properly trained. That is about all I wanted to say on my submission.

Some of the outcomes I would like to see obviously is that there is a non-political management system set up and that all matters pertaining to recreational and spearfishing and commercial fishing went below that. We want to see USFA nominated persons are automatically on any of the formed committees where spearfishing decisions may be made. That would include if there were a new marine park, not to get on it after it has been decided what it is going to be and the first draft has gone out, but to be in the room when they are first talking about it. I do not mean a spearfisherman called through the newspaper who applies for the job, I mean the USFA get approached to nominate a person to sit on that committee and put somebody in who may be experienced in that area or those types of things.

I would like to see spearfishermen get a better deal out of the breakwalls, estuaries, sanctuaries, the use of artificial reefs and fishing havens—none of those are of any use to us to be quite honest. There are artificial reefs put in and line fishermen get a huge benefit, many people get a huge benefit. They are normally stuck in the middle of a lake or in the middle of an estuary or in the middle of an area that is either too dirty or we are not allowed in there. When they put down the artificial reefs they are planning to put down the top of the things will be 30 metres deep, not much use to somebody holding their breath. When wrecks get put down the scuba divers get a shot at them, no one else gets a shot at them—again they are put too deep to dive. We all pay for licences, the same as everybody else. If the State Government can put money out to put havens in that consider recreational fishing, we would like to see a sector of recreational fishing, being us, included in something that is a bit more exclusive or inclusive to us.

The Hon. LYNDIA VOLTZ: I am noticing the time.

Mr WAYNE: I am nearly there.

The Hon. LYNDIA VOLTZ: It is just that we will run out of time for questions.

Mr WAYNE: I will stop at that, if you like?

The Hon. LYNDIA VOLTZ: I do not want to stop you though.

CHAIR: There are a number of questions we would like to put but because we are running a bit short on time we may have to put those to questions to you on notice. One of the questions I have on my sheet may have an error in it so I will ask you. Is your association able to estimate how many underwater spearfishers there are in this State—a rough guess?

Mr WAYNE: We are able to estimate two ways. One is by the number of members we have. We only have about 500 members. That is part of our problem. The accreditation process, meaning you need to be accredited to spearfish, would pick up everyone who wants to spearfish. My gut feeling, given my background is estimating, and I am not a bad crowd estimator either, is that there are probably seriously no more than four or five times. I would say there are probably 2,500 to 3,000 legitimate spear fishermen. Magazines that get sent out probably sell at about 5,000 within this State. It is a bit like the grey nurse sharks. I would say somewhere between 2,000 and 5,000.

CHAIR: Because underwater spear fishing involves a considerable level of danger or it is a sport that requires training, do you believe that your accreditation system would improve diver safety throughout the State?

Mr WAYNE: Without any doubt. One of the main things would be, with government support, we can force spearfishing gun manufacturers to put a simple safety note with a gun. That needs to be done. That should be legislated so that anybody who sells a spear gun or any item of spearfishing equipment within this State instructs people as to the safe use of a spear gun. That is not even there. The only way we can do that now is to get to them and let them know they should not carry it loaded, that sort of thing.

CHAIR: We have heard a line of questioning in the inquiry that XYZ fishing association represents only 10 per cent of all recreational fishers in New South Wales, therefore, why should that association be the spokesperson? The answer is you never get anyone else sticking their hand up. The second line of questioning is: How do you engage with all the people who are not members of the association to try to bring in uniform safety standards? The same applies to rock fishing as well.

Mr WAYNE: Darren is what we call a social diver. He is a non-competition diver. Most of the divers we have our hands on have dived competition at some point. If they are not interested in diving in competitions they are very hard to get to. Darren came to us and Darren is working on getting to those people. There are a couple of ways it could be done. If the licensing was done correctly and there was access to the licensing to start with which says, "Here is an organisation that can represent you and you need to be part of it if you want your sport to continue", we could then have those people come in. We would bring them in and then we can get our awareness going straight through electronic means. The other means of sweeping them up, and it is part of why the accreditation idea came up, is that every diver has to be accredited when he is found on the rocks with a gun or in a boat with a gun or he walks into a shop to buy a gun. He has to go to an entry level of accreditation. We would automatically pick him up then and be able to include him in the necessary documentation and education that has to go out.

Mr IAN COHEN: I am sympathetic to the point you make that you are feeling shut out. I asked about Byron Marine Park because that is where I live. I believe we may have discussed this before. In terms of suitable rock areas of that limited type in that area, outside some of the reefs where you swim from shore in the main area of Byron Bay, which is heavily visited by tourists with a pair of goggles, you actually got more than I wanted when we made the decision on the boundaries at Broken Head. You got two major sections of rocky coastline at both the north end of the Broken Head Nature Reserve and toward the south end. They were given to both rock fishers and spear fishers as a fairly good representative sample. I put to you that from another point of view it might be said that you got a fair go.

Mr WAYNE: Funnily enough, Mr Cohen, Byron to me is the least concern of all of them. I went up to Cape Byron with Mel Brown, who is in attendance, and we met with the marine park manager prior to it being implemented. We got a fair bit back at that meeting. He was quite flexible when we looked at the maps. Because of where it is, it is not greatly dived by local divers here, it is dived more by locals there. One of the issues you can get with those areas is that the offshore reefs are not known by people from outside or not in close proximity. For instance, the Coffs Harbour boys would know exactly where to go at Cape Byron to get a jew in deeper water or to find mackerel, whereas someone from Sydney would not. When you come to that access I talk of for kids or younger people or even people who do not know the area well, then it appears there is much more area available. That can be said of any area.

Mr IAN COHEN: I take your point. I understand what you say about depth of water and training. Are you talking there about specific spear gun usage training? A great deal of training can be done on inshore reefs in relatively shallow water without a gun. You can train for breathing, for diving and for general experience in the water in a lot of areas where essentially you are just an observer. You go out and you free dive.

Mr WAYNE: There are areas available to snorkel, and that is fine. You can go inside of any sanctuary zone and snorkel without a problem. You can train a person in a sanctuary zone but you cannot train them to spearfish in a sanctuary zone. To be competent to spear a fish in 15 metres of water takes about three or four years of training. But you need to be trained with a gun, not without a gun. That is what we refer to. They need to be taking fish in shallower water, not learning how to dive deep in here and then going out there. There is a danger in that, and it is a real danger. I see it having managed teams overseas where we dive in Tahiti. Unless you can dive 28 metres forget about it. If you cannot lie there for two minutes forget about it. Those divers are of that ability. You can get shallow water blackout. Somebody who has trained just to free drive and hold their breath, someone who is trained to dive fairly deep without the act of spearfishing can get himself into a lot of trouble. So you need to learn to spearfish at depth, at depth, at depth, at depth, and progress up actually stalking fish. Unless you learn that you will get into a lot of strife. Just going straight out into even 10 metres of water you could end up in a dangerous situation.

Mr IAN COHEN: Could you tell us about the current restrictions requiring spear fishers to access the water no closer than 20 metres from the end of the beach? Can you explain why?

Mr WAYNE: Why that is in place?

Mr IAN COHEN: Yes.

Mr WAYNE: I do not know why it is in place. I have no idea why that law was ever brought in. It was probably concerned with bathers and spearfishing, which I agree with. I do not want to see spear fishermen walking down the beach and jump in the water with the gun. I think the deal of being able to get in the water either end is fine, bearing in mind that that extends out and out and out, theoretically. If there are two points of a headland coming right back into a beach and there is a lovely reef in the middle, theoretically you are not allowed to dive on that reef because it goes out eastward from the beach. That is where it is wrong. Entering the water is one thing. Once you get in the water it is a matter of how far out you can carry out the act of spearfishing that would concern me. Not that I think that is a major issue. But it is an area that a fisherman can go and fish. If all else fails he can go and fish off the beach or teach his kid off the beach. It is not an area that we can do that, so we are left with a lot less area to carry out our activities because of the rule. Not that I necessarily want to see it changed. I want to see it recognised. But one sport has access for many other different reasons, quite logically. This sport does not have the access, quite logically, yet it is far more affected.

Mr IAN COHEN: In terms of onshore with a spear gun, could you describe for the Committee any restrictions on how you move if you are going across, for example, a nature reserve or a terrestrial national park? Are there problems there? For example, there are places up in Byron Bay where you have got a legal spear fishery—

Mr WAYNE: And you cannot get a gun in there.

Mr IAN COHEN: Are you illegally walking through a nature reserve with a gun, be it unloaded, et cetera?

Mr WAYNE: The ruling is incredibly hard to find. We have had work done on this. I am talking of Federal parks in this case. If there is a sign there saying no spear guns, it still stands. If there is not a sign you are fine. That was the answer that came back officially. So they are not going to change it but they will not put any more signs up. That is not really the right answer.

Mr IAN COHEN: Are you talking about Jervis Bay—Commonwealth waters?

Mr WAYNE: Yes, Commonwealth national parks. With the State national parks I keep getting told—Bill Talbot from Fisheries tells me that that has been sorted out now and that we do have access through the national parks with our spear guns in State national parks. If we do not we should have. The gun can quite easily be de-speared and carried without the spear in the barrel and there is not an issue there. We would like that access solved. It is something we are working on ourselves trying to get to the bottom of. I raised it through

ACoRF yesterday. But it is certainly an issue that needs to be resolved. It is an issue at Jervis Bay, in fact, where they were taking a whole section of coastline and saying, "You can't spear in here. We would like to let you. We will let the line fishermen in here but we will not let you in because we know you can't carry a spear gun through the park".

Mr IAN COHEN: That is the Commonwealth park?

Mr WAYNE: Yes, a Commonwealth park but a State marine park, and they were using the fact that we could not carry a spear gun in that marine park, which would be part of that southern part of Jervis Bay.

The Hon. CHRISTINE ROBERTSON: We did hear that about Jervis Bay. In the review process I acknowledge that you are cross because you did not perceive that it was your job to go and do the negotiating to get the changes, but we have had several witnesses come forward, including one who was very interesting—he wanted to fish in his canoe in an area—who has had to be the person to go into the review process to get the changes considered. Is it not better having an organisation that is a bit organised like you being involved in the review process so you know what sort of recommendations need to come forward rather than just hoping someone might listen?

Mr WAYNE: We want to be involved in the review process. My point was that we were not involved in the establishment process. If we had been sitting in the room with the Lord Howe Island locals—at the time they were saying, "That's okay. There has been spearfishing here for 60 years but she doesn't like it, she is from Sydney and she saw someone on the beach with a spear gun once and it frightened her, and I don't particularly like the idea of spearfishing"—we may have been able to convince them at that point, that spearfishing should be allowed under different regulations to line fishing. We do not spear blue fish, for instance; over there it is prime food. They have a different set of rules there. New South Wales has banned the taking of blue fish but that does not apply on Lord Howe Island because the locals like to eat blue fish.

Mr IAN COHEN: Are you talking about groupers?

Mr WAYNE: No, blue fish. It is like a cross between a black drummer and a silver drummer. It is a beautiful eating fish, I believe.

The Hon. CHRISTINE ROBERTSON: That was the original mapping process you were not included in?

Mr WAYNE: Yes. We were not included at all.

The Hon. CHRISTINE ROBERTSON: It would appear that the review processes, because they have got a lot more information and more people are on board, are more inclusive. Do you feel that is happening?

Mr WAYNE: It has happened everywhere but at Lord Howe. Since we have started pushing and pushing for inclusion we have achieved it on a number of marine parks. I cannot comment about Ian's but I know we have achieved it—

The Hon. CHRISTINE ROBERTSON: At Batemans Bay.

Mr WAYNE: I know we have achieved it at Batemans, I know we have achieved it at Jervis Bay and we have achieved it at Coffs Harbour and Port Stephens, and it has been better. Every time we are able to be in there while some of this is being done and we are looking at the maps we can negotiate a bit back and say, "Why don't you grow that area and give us that little bit there?" It has worked to some degree.

The Hon. CHRISTINE ROBERTSON: It seems a bit healthier.

Mr WAYNE: It is certainly healthier than it was, yes; there is no doubt about that.

The Hon. CHRISTINE ROBERTSON: You talked about the subcommittees that you were on in relation to ACoRF—the mulloway and the abalone. Did the Minister introduce your recommendations following your inquiries into those two fishes?

Mr WAYNE: The abalone one has just been gazetted; the mulloway one still has to get through SIAC.

The Hon. CHRISTINE ROBERTSON: I do not know what that means.

Mr WAYNE: It has got to go through the Seafood Industry Advisory Council. It has been through ACoRF. So it went through the subcommittee—it is a program to save the mulloway; they changed all the regulations regarding size and bag limits on mulloway. That went really well, it was a two-day session, but we just could not get out of there until we all roughly agreed on what should be done to preserve mulloway and still keep them as a marketable industry. I believe we got a good result—and that will go through SIAC as well. So they are two very good things I saw from a subcommittee under ACoRF. We do not get that sort of result with marine parks because we are not able to sit in at the right time.

The Hon. CHRISTINE ROBERTSON: Without offending anyone in the room, how on earth would you make such an organisation apolitical? This fishing inquiry has been far from apolitical.

Mr WAYNE: The more people you get—

The Hon. CHRISTINE ROBERTSON: What does it mean?

Mr WAYNE: Non-political.

The Hon. CHRISTINE ROBERTSON: You mean not attached to any party?

Mr WAYNE: No. Political people would need to be in there, but it would depend how well they can argue their case, to be quite honest, rather than how many seats they can give preferences to.

The Hon. CHRISTINE ROBERTSON: You are a spearfisherman politician.

Mr WAYNE: Yes, I am. I can only come up with what is reasonable. Once I am convinced that it is unreasonable or it is unviable I have got to walk away from it, whereas someone in a political party has got to stay there.

Mr HIGGINS: Adrian, I think it is fair to say that you are not just a spearfisher you are also a conservationist.

Mr WAYNE: I am certainly a conservationist.

Mr HIGGINS: So politically we are for both sides, and that is what we stand for. I think if you look at this book that we have put out there and the sort of messages that we advocate in our paraphernalia it is fair to say that we do promote good ethics through a strong code of conduct.

The Hon. CHRISTINE ROBERTSON: I am not challenging your politics; it is just that the request to be apolitical is incredibly difficult.

Mr WAYNE: I guess it is just fantasia but—

The Hon. CHRISTINE ROBERTSON: I am trying to work it through.

Mr WAYNE: I think it can be done. Those committees I sat on had recreationals and commercials in them. The commercial abalone industry has never liked the recreational industry and we have never liked them because we always reckon they can take tonnes out and tonnes out where we can only take two. Yet, when they were put together with scientists, and the issue was really about preserving the abalone and nothing else, they worked very well. It was the same with mulloway; it was the commercials and recreationals—

The Hon. CHRISTINE ROBERTSON: Because you are on a specific issue.

Mr WAYNE: Because you are on a specific issue within that subcommittee, and that subcommittee would sit below a board of people. We have a Green person sitting in on ACoRF and she is really good.

The Hon. CHRISTINE ROBERTSON: Is that a healthy process?

Mr WAYNE: Yes.

The Hon. CHRISTINE ROBERTSON: The training areas for young persons, are there training areas throughout New South Wales not involving marine parks?

Mr WAYNE: There still are, yes.

The Hon. CHRISTINE ROBERTSON: Would your sport, or whatever you call it, benefit by a mapping?

Mr WAYNE: Yes.

The Hon. CHRISTINE ROBERTSON: So within the mapping you are including the marine parks and you are including reefs that are suitable and reefs that are legal and all that stuff?

Mr WAYNE: Yes.

The Hon. CHRISTINE ROBERTSON: Then all of us could look in a balanced way where you could play?

Mr WAYNE: Yes.

CHAIR: I refer to the question of getting access to some of these sensitive areas. Do you believe there is a case for saying to the Government that access to those areas should be allowed, but only after the person has achieved some level of accreditation or even membership of your own accreditation program?

Mr WAYNE: Without any doubt.

CHAIR: Would you put that to the Government?

Mr WAYNE: We did. We believe it removes any threat. It is a very low-threat process.

CHAIR: What if somebody said that that is an argument to exclude everybody else?

Mr WAYNE: It is not, because it is an easy process to get into.

CHAIR: All you have to do, it does not matter who you are, is to go through the accreditation process, get a card and carry it with you.

Mr WAYNE: That is correct. You are not stopped at entry level by having to do that exam. A person who walks in off the street to buy a spear gun may do so, but he must take a copy of the book and say that he agrees to study it and within a year come back and take it one step further and do the exam.

CHAIR: Thank you very much for appearing before the Committee. Please return the answers to any questions you took on notice to the secretariat within 21 days.

(The witnesses withdrew)

MAXWELL JOHN CASTLE, Vice President, Sea Bees Boating Club Incorporated, sworn and examined:

CHAIR: Mr Castle has asked for permission to bring a fishing line to the witness table to assist him to illustrate a point. Should you consider at any stage that certain evidence you wish to give or documents you may wish to tender should be heard or seen only by the Committee, please indicate that fact and the Committee will consider your request. If you do take any questions on notice today, the Committee would appreciate it if the responses to those questions could be sent to the secretariat within 21 days of the day on which the questions are forwarded to you. Would you like to make a brief opening statement?

Mr CASTLE: Thank you for the invitation to appear before this inquiry. I am speaking on behalf the Sea Bees Boating Club Incorporated. I have provided some documentation to support comments made in the club's submission. I will also reply to some of the issues raised by the Port Stephens Marine Park representative who appeared before the Committee.

CHAIR: Can you table those documents?

Mr CASTLE: I have provided them to the secretariat. The club is concerned about the conflict and disunity that marine parks are causing in the community and recommends alternative management methods. If that does not happen, that disunity is likely to continue. We have difficulty in understanding why trolling, even on a seasonal basis, is not permitted in sanctuary zones and request that the Committee recommend this activity. That is covered on page five of the club's submission.

The Port Stephens Marine Park manager, Mr Haste, referred to a committee dealing with fishing competitions in New South Wales. To hold a fishing competition in a marine park you must have a permit. We understand the current permit is being reviewed. We are concerned that this could ultimately a lead to the introduction of further costs with the imposition of a fishing fee by marine parks and further financial impacts if a small profit is achieved, even if it is donated to a charity or for community purposes. For many small clubs it is these events that ensure survival. Fisheries NSW currently regulates fishing competitions and recreational fishers pay for staff to be engaged in these activities from the recreational fishing fees. Fisheries has advised that the majority of clubs comply with the fishing rules as clubs have changed their practices significantly. Why is there a need to duplicate costs and roles?

We are also concerned about the public liability insurance waiver that is required under the existing New South Wales marine parks permit. A copy has been provided today. This requirement releases the marine parks from any insurance claim in respect of injury, loss or damage. This may be potentially in conflict with the insurance arrangements for fishing clubs. Our club will need to seek advice if this requirement is included in any new permit system. We are putting that before the Committee for inquiry. As Mr Haste advised the Committee, fishing competitions are being considered and a permit is part of that consideration. We ask the Committee to examine these developments closely.

The swivel and clip issue was raised in relation to fishing competitions. We note that the Committee's discussion has occurred regarding the requirement to remove the swivel and clip when stationery within a sanctuary zone. I have provided an example here today that I will demonstrate in a moment. I have also provided an example of the knot selection in the papers provided. It gives an indication of the sort of detail and knots required to be put on a gaming swivel and clip. It is extremely difficult when you are at sea, particularly in a rough sea, to remove these gaming swivels, particularly if you have a number of rods. Under the current rules and regulations, if you stop in a sanctuary zone you are required to remove the clip. We hope this inquiry will support a change in compliance with this rule.

I will refer to my fishing rod at this stage. This rod and reel contains no hooks—they have been removed. This is a game swivel and clip. These come in various sizes, and for the purposes of this demonstration I have used a large one. If you are not underway within a sanctuary zone, this section has to be removed. Everything above that, which includes double lines and double knots, as shown in the documents provided on knotting, must be cut off and removed. We are proposing that you merely undo a clip and take away the tackle component of the outfit and the problem is solved.

Mr IAN COHEN: Why is it that not allowed currently?

CHAIR: The way the rules are written.

Mr IAN COHEN: I was asking is there any rationale for not allowing it?

Mr CASTLE: As fishes we cannot see any rationale for it.

The Hon. CHRISTINE ROBERTSON: Have they told you one?

Mr CASTLE: No. The only explanation I have received is that common sense will apply. My response has been if commonsense applied, they should be allowed to stay on.

The Hon. CHRISTINE ROBERTSON: So you want that articulated in the regulation so the confusion goes away?

Mr CASTLE: Precisely, and all compliance issues are addressed. We have no problem with the terminal tackle being removed and stored safely when you are in the sanctuary zone. That will help the fisher and it will help the compliance officer. Threats: In relation to page 12 of our submission, we do not believe that real threats have been clearly resolved or identified at the inquiry. We believe they are derived from pollution, coastal development impacts and drainage, sewage disposal, localised flooding, general pollution, farming practices and the use of chemicals, all of which are entering our freshwater rivers, streams and estuaries. For example, the Hawkesbury-Nepean River has some 30 sewerage outlets. Sydney Water has confirmed that the chemicals are not all removed. The impacts are being deposited on beach and intermediate reefs. Ballast water from overseas shipping has also been identified as a real concern. We would prefer to see more research undertaken to address these concerns as a higher priority to research and intermediate reefs.

Prospect Reservoir is covered on pages 11 and 12 of our submission. Contained within the club's submission is a proposal to allow fishing access to Prospect Reservoir and an invitation to inspect the underutilised facility. We hope this proposal is favourably received. New South Wales DII is currently running a school program called, "Get Hooked," which is primarily funded by recreational fishers from the licence fee. Although 77 schools are involved in this program, no schools apart from Penrith are participating in or around Sydney's west, where Prospect Reservoir is located. These schools are disadvantaged. If Prospect was made accessible, this reservoir could be utilised and the school's program expanded. Supporting documentation seeking permission to open Prospect to recreational fishing is provided today.

Sanctuary zones are referred to on pages 5 and 6 of our submission. An ongoing complaint has been received and discussed at the inquiry concerning curved lines used to identify some sanctuary zones in marine parks. It is difficult for the average fisher to easily identify their location, and straight lines have been requested, but it appears to be falling on deaf ears. The Port Stephens Marine Park manager advised the inquiry that some of the curved sanctuary lines are located on the contour depth lines. Forty metres was given as an example. This is the first time we have heard this explanation and this information is not provided on the marine park maps. We requested to be included to assist with compliance. Lake Meroo is on page 10 of our submission. I table some photos in the documents I provided today and I would like to speak to those.

Mr IAN COHEN: Where is Lake Meroo?

Mr CASTLE: Lake Meroo is the recreational fishing haven just south of Ulladulla. It was an issue contained within our club's submission. I would like to explain these photos as access to the lake has been ongoing since 2007 and is still not resolved. If I refer to the page of photos I would like to first record that following my representations to New South Wales Fisheries, Fisheries in the last recent weeks has been successful in arranging for National Parks to remove the south-west boundary trail sign, which is shown in the middle of those photographs. The poles still exist but the signs are removed, because, as you can see underneath there, it did say, "Authorised access only." This was causing an enormous amount of conflict with local fishers.

If you look at the two top photos you can see this as a recreational fishing haven and you can see what the area was like in 2007 when I first visited the area with Fisheries. You can see the photo next to it, which shows the same boat launching area in 2010. You can see the sedimentation and run off that has occurred. The other photos show you the indication of the degradation of the access road because no maintenance has been carried out since National Parks and Wildlife took over the facility from State Forests. You can also see trees that have fallen down. They are currently removed by recreational fishers. The problem with this particular recreational fishing haven is that this plan of management that was put out in 2007 proposes that road access be

denied. This would mean that it becomes ineffective or impossible for recreational fishers to launch small canoes or kayaks to access the recreational fishing haven.

The Hon. CHRISTINE ROBERTSON: They want them to walk in, is that what you are saying?

Mr CASTLE: They want us to walk in but this particular lake is very healthy in terms of preparing vegetation. You can see from the top photo that that sort of vegetation exists all the way around the lake. We do not want to have a situation where fishoes walk in there and start trampling down grasses and seagrass areas and start making their own areas so they can cast a few fishing lines.

Mr IAN COHEN: Won't they do that if it is more open? The track here looks like vehicle usage has caused a lot of that damage on that access.

Mr CASTLE: It has.

Mr IAN COHEN: So, if you get open access you will get not only your boat users but also your onshore fishers doing exactly what you say. I am concerned that you end up duplicating and upgrading the usage rather than changing it in a situation like that.

Mr CASTLE: I am happy to document some myths. The submission I made in 2007 in relation to the plan of management, all those issues are covered. We also proposed financial assistance through the Australian Council on Recreational Fishing to National Parks and Wildlife. We also proposed the restriction of smaller vessels. I would suggest that most of this damage has occurred because no maintenance has been carried out in the last 10 years. That did not occur when it was managed by State Forests. State Forests were using those roads and it was in its interest to maintain them. I suggest that the strategy that has been incorporated here is to let it deteriorate, let it fall apart, that will then give us the opportunity to say it is in disrepair and the only way it can be managed is by closing it. For Fisheries did not be able to come to an agreement with National Parks and Wildlife since 2007 sends the wrong message.

CHAIR: You have undertaken to provide a copy of that submission?

Mr CASTLE: I have a copy here. I am happy to leave it for the inquiry.

CHAIR: That is the submission you made to Marine Parks?

Mr CASTLE: Yes. Finally, may I say that our club was disappointed with the submission provided by the Department of Premier and Cabinet. The submission acknowledged the important social and economic values of recreational fishing but it makes no mention of community health benefits and does not propose any new initiatives. There is no mention of New South Wales tourism or sport and recreation. These agencies make no contribution to recreational fishing. The submission advised that during 2000-01 a study estimated direct and indirect expenditure on recreational fishing to be around \$550 million for an activity which creates so much expenditure—and that was 10 years ago.

It is disappointing the Government does not think recreational fishing is worthy of investment, promotion or financial assistance. The submission also quotes various financial initiatives, such as the \$18 million on commercial adjustment, annual stocking, fish-attracting devices, artificial reefs and recreational fishing havens. However, all these initiatives were funded by recreational fishers. Only recently have we seen the habitat grants program advertised, which provides \$530,000 this year, again provided from recreational fishers. The question my club is asking: where is the funding from the others in the community, especially those users of marine and national parks? That concludes my statement.

CHAIR: Thank you, Mr Castle. On page 1 of your submission you call for a social and an economic study to be conducted—and you have just mentioned that now. Certain inquiry stakeholders believe it is imperative that the recreational fishing sector be subject to an environmental impact statement. Would you consider it beneficial for an independent body to undertake a wide-ranging study that examined not only the environmental but the economic and social impacts and benefits of the recreational fishing industry?

Mr CASTLE: I think such a study is needed. A lot of information has been prepared and is on the table at the moment. Currently recreational fishers are paying for an EIS in all the estuaries up and down the New South Wales coast.

CHAIR: Could I have some clarification? Do you know what the study is called?

Mr CASTLE: It is a study to look at stocking of estuaries.

CHAIR: Who is conducting the study?

Mr CASTLE: It is being conducted by New South Wales Fisheries and being funded by recreational fishers.

CHAIR: We have had prior evidence that it is difficult to establish total harvest quantities for the recreational fishery because, unlike the commercial fishery, you have to do hundreds and hundreds of samples over a disparate geographical area. Do you think that recreational fishers would be prepared to cooperate and indeed assist in putting together the data for such an EIS?

Mr CASTLE: I think the informed and sensible recreational anglers would. Those anglers that fall into those categories realise that fishing has to be sustainable and we want to see it retained. It is no good turning our backs and pretending that it is 30 years ago. The attitude of recreational fishers has changed significantly and I must say that I believe that has largely come about by the introduction of recreational fishing havens. They have become very much more responsible. Their money is now involved in determining priorities and that, in itself, has made recreational fishers far more accountable.

CHAIR: I understand you sit on ACoRF, is that correct?

Mr CASTLE: I do, Mr Chairman.

CHAIR: Throughout the inquiry there has been much debate on the role of the Advisory Council on Recreational Fishing [ACoRF]. On page 2 of your submission you call for the establishment of a peak recreational fishing council. Can you tell us why you believe ACoRF is unable to adequately represent the needs of recreational fishers and, if so, how do you envisage that a peak council on recreational fishing would operate?

Mr CASTLE: In terms of the first part of the question, the biggest difficulty I have encountered is that ACoRF is not an advocacy body and there is a code of conduct and that code restricts myself and my other council colleagues from freely discussing ACoRF business to the extent that we would like to. The outcomes have to be submitted to the Minister and approved. This can take some time and during that stage that information is deemed to be confidential.

This puts us in a situation where it is extremely difficult to seek expert advice in areas that we may not have specific knowledge. In my case, I have got experience in estuary, freshwater and close inshore fishing, but if it was an issue, for example in relation to deep or offshore fishing, then it makes it very difficult for me to talk to my peers about their views on what decisions ACoRF should be reaching. The other difficulty is that there is a lot of discussion as to whether ACoRF is engaged to deal with policy issues or whether it is there to approve all issues that come from the trust fund. This has caused some conflict and although we have been able to work through it to date, I would like to see that clarified. At the end of the day, if it requires a sign-off by ACoRF, then it is clearly more than just a policy role.

In terms of the second part of the question, I think that what has happened in the last 10 years are two very significant actions: the first one is that recreational fishers have now contributed, I believe, \$80 million. We are effectively a recreational business. The second thing that has occurred is the introduction of marine parks. ACoRF has had to take those two challenges on and I think that considering those challenges, that has worked fairly well, but any organisation has to review their management and decide whether it needs to be altered or adjusted to deal with the current times. Considering those two fairly significant changes that have occurred in the last decade, it seems to me that it is time to revisit the way ACoRF runs and, at the end of the day, it may be decided that the current format is still the best. I would say it needs to be reviewed to see if there is an opportunity to make improvements.

CHAIR: With respect to the second part of my question as to how it would operate, how do you think the representation issue should be handled? Currently, as I understand it, not all but most of the fishing clubs belong to discipline associations—the freshwater fishing clubs belong to council freshwater anglers, sports fishing people belong to ANSA and deep sea fishing people belong to the game fishing organisation. We heard

representations from USFA this morning whereby divers accredit themselves or belong to that. I understand that those organisations are being coalesced into a voluntary or loose organisation called the Recreational Fishing Alliance but that does not cater for the views of the other 300, 400, 500, 600, or 700,000 casual anglers. If you were to have a peak body, or as you say an advocacy body, how do you believe that representation should be established? Who should be on it?

Mr CASTLE: One of the things that I would like to put on the table in response to that for debate is that you do not know how big the problem is until you know how many people you have got. The problem we have at the moment is that there are a number of people in the community who do not need to have to register for a licence. That needs to be addressed, even if it means that a nominal fee, let us say of \$5, applies to pensioners and children—or it might be \$2, whatever the cost is of printing out a plastic licence. As soon as you do that, you capture exactly how many people are fishing. At this stage we do not know.

The second part of that answer is that any such council, I believe, should then have an elected representative, who represents people who are not club members. That would be widely advertised in the data and information, which could then be emailed to all the million people, which Fisheries would then have on their database. They have not got that at the moment, because we have too many people who are not registered.

CHAIR: Where an annual licence is issued, I think there are about 350,000 of those and they are on the database.

Mr CASTLE: Yes.

CHAIR: Where a three-day licence is issued, or a so-called paper licence, we have been told that there is no current capacity to capture any data at all. Do you believe that the department should be addressing that issue?

Mr CASTLE: They are addressing it. I am not quite sure whether I am speaking out of order. This is one of the examples I have in what I am able to speak about. But I think it would be prudent for me to say that the licence is being considered and the periods of the licences are being considered. Ultimately, there will be no paper licence. As soon as it goes to a plastic licence, it should be mandatory that you provide your address and your email address. That means that Fisheries is then able to send out information to all recreational fishers, and that will help on an educational basis. Whenever there are changes—every time there is a bag limit or a change in size—they could automatically email to those licence holders. That would then pick up all those people you have referred to, Mr Chair.

The Hon. LYNDA VOLTZ: Is fishing a sport, or is it hunting?

Mr CASTLE: I think it is both.

The Hon. LYNDA VOLTZ: I only ask the question because you raised the issue of the sport and recreation government agency making submissions.

Mr CASTLE: It is certainly a recreation, there is no doubt about that, and it certainly involves a lot of tourism. They are two key areas of an economic survey that would have to be included.

The Hon. LYNDA VOLTZ: But if I became involved in any sport, you would make similar arguments. Obviously sport is a major event within the State in terms of tourism across the board, is it not?

Mr CASTLE: Yes, it is. I think all sorts of sport are worthy of promotion because of the health benefits.

The Hon. LYNDA VOLTZ: You raised the point about the \$80 million the recreational fisher people have provided. That includes people like myself who have fishing licences and take the kids fishing. So it is a very broad church in terms of those that put it forward. My fishing licence, from memory, was about \$33. This year, in order to play soccer I have paid for the summer and winter competitions \$550, and that is mainly to pay for the lease of local government and State government parks, referees, and compulsory insurance. Is sport and recreation any different? Fisher people are required to pay the \$33 licence fee, which goes back into things like compliance and equipment that is required for fishing, as opposed to the money we put forward, which pays for the goal posts and a lot of other things.

Mr CASTLE: I think there are a number of answers to that. If I live in the same suburb as you do, and I pay the same rates as you pay, your children are benefiting from those rates that I pay. That is the first thing. The council contribution in maintaining that field—although my children do not play on it and yours do—I do not complain about that.

The Hon. LYNDA VOLTZ: But the soccer fees pay for the maintenance of the field.

Mr CASTLE: Not entirely.

The Hon. LYNDA VOLTZ: My local club looks after the field.

Mr CASTLE: They are only a contribution. For a start, did you buy the block of land?

The Hon. LYNDA VOLTZ: You can make those arguments about any land in the State.

Mr CASTLE: You can.

The Hon. LYNDA VOLTZ: Is that not the reality, though? Are not the waters and the lands within the State of New South Wales held on behalf of the people?

Mr CASTLE: Exactly. And they are accessible—

The Hon. LYNDA VOLTZ: And all the people who use any of those facilities are using a resource of the people? If it is a sport, it is like any other sport, where we all contribute. If it is hunting, it is again a resource of the people?

Mr CASTLE: I have heard that view expressed. I do not agree with it. There is no other user in the marine park making any financial contribution to the management—

The Hon. LYNDA VOLTZ: I am making a contribution.

Mr CASTLE: To the marine park?

The Hon. LYNDA VOLTZ: You pay your local rates, as I pay my local rates. I pay to go into a national park, as you and other people pay to go into a national park—just as our taxes pay for everything.

Mr CASTLE: The point I am making is that recreational fishers are the only group at this stage that are being restricted or targeted with the marine parks.

The Hon. LYNDA VOLTZ: In terms of fishing. They can go to the marine parks any time they like.

Mr CASTLE: That is correct.

The Hon. LYNDA VOLTZ: In terms of taking fish out of the water, they need a licence anywhere in New South Wales—not just in a marine park. Anywhere in New South Wales you need a fishing licence, as you do in Victoria and Queensland.

Mr CASTLE: The other part of the answer is that for me to access the marine parks, particularly the marine parks offshore, I am paying something like, I think, \$600 a year now for my boating.

The Hon. LYNDA VOLTZ: For registration?

Mr CASTLE: Registration, a boating licence, licences on trailers. And the list goes on.

The Hon. LYNDA VOLTZ: If we are going to get into the specifics of equipment, we could raise those issues in relation to all sorts of sports. For example, shooters have to pay fees and have to have specialised equipment. It is a holistic approach, is it not?

Mr CASTLE: Well, perhaps.

The Hon. LYNDA VOLTZ: I understand that there are a lot of concerns from clubs about how you get representation and how money is spent. But so there would be for a lot of people across the board.

Mr CASTLE: Can I comment—?

The Hon. LYNDA VOLTZ: No; I want to ask this question. Do the clubs ever apply for community partnership grants and other such grants, which relate to the facilities as well? I understand that sport and recreation ramps may not be covered, although I suspect that boat ramps might be. Do you know whether the clubs have been accessing those kinds of grants for facilities in their local areas?

Mr CASTLE: My understanding is that no State grants are available, apart from the funding that comes from the trust fund. With regard to New South Wales Maritime, the money that comes in from boating licences and boating registrations— which are paid by people who own boats, obviously—funds the boat ramps.

CHAIR: It funds half the boat ramps in metropolitan Sydney—

Mr CASTLE: Outside the Sydney area they have to pay 50 per cent. There is one point I would like to make. In the case of the example you gave of your child—

The Hon. LYNDA VOLTZ: I was not talking about my child; I was talking about me.

Mr CASTLE: With regard to the example in relation to a football field, people who belong to that club and work in that environment are purely encompassed in that environment. If their children are playing soccer, and they are making a contribution for fees for that club and they are working and perhaps doing a working bee, it is all encompassed in that one role and that one activity. The \$80 million you referred to—a lot of that money is paying for issues which I think are core issues that should be paid by Government. Surely, compliance should be paid for by Government.

The Hon. LYNDA VOLTZ: But how is compliance different to a referee?

Mr CASTLE: And making a \$500,000 contribution every year to habitat protection grants, looking after estuaries and replacing the mangroves—

The Hon. LYNDA VOLTZ: You get a lot for \$80 million. That is \$80 million a year?

Mr CASTLE: I do not see soccer clubs making any contributions towards those sorts of environmental factors. I do not see any other group making any contribution to those assets, which are—

The Hon. LYNDA VOLTZ: Land care groups?

Mr CASTLE: They do not pay any money.

The Hon. LYNDA VOLTZ: No, but making contributions.

Mr CASTLE: They are not making any financial contribution that I am aware of at any rate. They might be given it by Government and they might be putting in time but so are recreational fishers.

The Hon. LYNDA VOLTZ: In terms of expenditure on the whole waterways up and down the coast, how much do you think the Government actually puts in? It is not defined by that \$13 million per year, is it?

Mr CASTLE: No. That is the income from recreational fishing.

The Hon. LYNDA VOLTZ: Yes.

Mr CASTLE: But the point I made earlier is that if a decade ago they are saying they generated \$554 million, I would like to know what it has generated now and I would like to know the income it has derived from the State.

The Hon. LYNDA VOLTZ: Sorry, what is generating \$544 million?

Mr CASTLE: The Premier and Cabinet submission said back in 2000-01 that this activity generated expenditure of \$544 million—that is their figures.

CHAIR: Recreational fishing.

Mr CASTLE: I am saying that a decade later, what would that figure be? It must be very significant.

Mr IAN COHEN: I agree with you. I keep hearing so many of the land-user groups lamenting about pollution, acid sulphate run off, bad agricultural practice, so many things and I agree 100 per cent.

Mr CASTLE: Thank you.

Mr IAN COHEN: I think they are major issues. They are getting attention in certain aspects but they are major issues in terms of viability and sustainability of fisheries, guarantee of breeding areas but, at the same time, I stop there when you say, "Yes, but there is nothing to be gained from marine parks." Has it ever occurred to you that a lot of people are really concerned about the limitations of marine parks and things like that, that all those issues are equally as important? We do not have a right and a wrong here. We have a critical situation, a history of overfishing, a history of degradation, a history of chemical pollution both from the farming sector and urban run-off and so many things—

The Hon. Christine Robertson: Sewers.

Mr IAN COHEN: Absolutely. All these things, where there has been really bad management for a long time and we are in a pretty critical situation. But for me, I agree with you 100 per cent on those other issues, that does not negate the need for zoning and some control and some limitation on what has been open slather from all sorts of user groups, recreational, professional fishers et cetera, which has been unsustainable in the past. We have put a Band-Aid here and a Band-Aid there but we need a whole-of-system approach, and one of those approaches is to accept the regulation that marine parks brings along?

Mr CASTLE: Mr Cohen, I did not say there were not any advantages to marine parks. In fact, my submission says exactly the opposite. It recognises that there are some advantages. I specifically in our submission spoke about Batemans Bay and the removal of nets out of the estuary. We also refer to the issue of removing commercial trawling off the coast. The thing that we do not know at the moment is what the benefits would be. We would hope, fingers crossed, there is going to have to be some benefits.

Mr IAN COHEN: There would have to be. Logic would dictate a little less effort, a bit more control—

Mr CASTLE: I am concerned about some of the other speakers and the fact that they have indicated that now the estuary down there is absolutely chock-a-block with traps.

The Hon. CHRISTINE ROBERTSON: Which estuary?

Mr CASTLE: The estuary in Batemans Bay.

CHAIR: Clyde River.

Mr CASTLE: The Clyde River. I would hate that to be the case because in theory all that has happened is that traps have replaced nets, and from the discussion I had with Brendon Kelliher, the Marine Parks manager down there, that was never the intention. So I think that perhaps is going to be addressed. Just to finish off on that point, what I am suggesting is that I would prefer, and our club would prefer, to see the priorities move back into the estuaries and the closer areas before we worry too much about what is happening out here.

The Hon. CHRISTINE ROBERTSON: Are you talking about the Commonwealth out there or the State?

Mr CASTLE: No we are talking about the State marine parks. In terms of priorities—

Mr IAN COHEN: Sort out the land-use side, the estuary side—

Mr CASTLE: First. That is our recommendation.

Mr IAN COHEN: I can see your point but I guess all I am stating here is that we seem to have come into what I would suggest, being the Greenie in the middle, is a political-based advantage and drive from various interest groups across the board, and often people are being somewhat manipulated—honest groups, fishing organisations user groups, if you like—for political purposes when in actual fact we have to look at the whole picture because it is in a pretty critical situation.

Mr CASTLE: Yes.

Mr IAN COHEN: If we are going to be talking about sustainable fisheries in the future we have got to be talking about working on estuarine nursery areas, seagrass habitats, mangroves, the whole lot, but also marine parks and the boundaries and the controls does play a role, particularly when we are looking at the lower end of the fishing effort.

Mr CASTLE: I agree. I guess it is just a matter of priorities and funding.

Mr IAN COHEN: Moving to empowerments around Sydney, empowerment and fishing access around Sydney. Could you perhaps put on the record what you consider to be the reasons why the authorities do not allow recreational fishing access to those empowerments and how you see it through your organisation?

Mr CASTLE: I have specifically looked at an area in Sydney where there are absolutely many, many children and many, many people that, for various reasons, have not been able to affordable access to the coast—

Mr IAN COHEN: Which is now restricted, yes.

Mr CASTLE: I have looked at an area in terms of water supply—and we are talking about Prospect Reservoir here, and to some degree it reminds me of the Tank Stream. If we go back a certain number of years ago that was Sydney's water supply. From there we then move to places like Lake Parramatta and the dam that sits at the lake at the moment. Then we moved to the Parramatta water supply. Many years ago the distribution of water supply changed and those open channels were done away with. We are now in the era of desalination plants. The water supply authority had on their website that if they needed to use Prospect it would only last three days, but that has not occurred for a decade.

Mr IAN COHEN: In terms of high pollution levels—

Mr CASTLE: In terms of being used. There are so many other management strategies in place now about recycling water, obtaining water from a desalination plant, when this water supply is sitting out there doing nothing. Now I thought, and our club thought, what a great opportunity to use infrastructure that already exists. We are not talking about anything being built; it already exists and it is being underutilised. Time has passed it by—

CHAIR: Thank you, Mr Castle, I have to call a halt to proceedings there. I apologise for cutting you off but we have run out of time and we have one more witness to call. Will you agree to return your answers to any questions you took on notice today, along with any further questions the Committee may wish to ask you, to the Committee secretariat within 21 days?

Mr CASTLE: Yes.

(The witness withdrew)

LAWRENCE ASHLEY LOVE, President, Coffs Harbour-Bellingen Branch, New South Wales National Parks Association, sworn and examined:

CHAIR: Thank you for appearing, Mr Love. Could you tell us in what capacity you appear before the Committee?

Mr LOVE: I am the President of the Coffs Harbour-Bellingen branch of the National Parks Association. I am presenting the National Parks Association submission.

CHAIR: If you should consider at any stage certain evidence you wish to give or documents you wish to tender should be heard or seen only by the Committee, please indicate that fact and the Committee will consider your request. If you take any questions on notice today, the Committee would appreciate it if the response to those questions was sent to the Committee secretariat within 21 days of the date upon which the questions are forwarded to you. Before the Committee commences with questions, would you like to make a brief opening statement?

Mr LOVE: Thank you, Mr Chair, I would. I will introduce my organisation, then introduce myself, then speak briefly to our submission and then I am happy to answer questions. The National Parks Association is a large membership-based organisation in New South Wales of 18 branches and over 5,000 supporters. What that statement does not say in our submission is that we are the longest established organisation, going some 51 years. Most of our members are over 50. We are getting pretty old and dodderly. We are basically a pretty conservative bunch. Nevertheless, we can pack a punch, as we did recently in the red gums campaign when we managed to engage very effective campaigners.

CHAIR: Yes, I know. Congratulations.

Mr LOVE: We are not anti-fishing. We recognise that fishing is an important part of the social and economic life of communities in New South Wales and with proper management this can be balanced with environmental needs. About me, I am a replacement presenter here. Our marine campaigner, Nicki, who prepared the submission, unfortunately recently left. I did not contribute to the actual preparation of the submission and I am not familiar with all the references cited. I can trace any up if you want me to. I am sure your staff is probably familiar and probably you now are familiar with most of them. About introducing me, my association with fishing started back as a seven-year-old when I made myself a nuisance when my father and his mates were building a 16-foot clinker-built boat which they launched off the beach, a little beach called Black Head near Taree. It extends on and off through to last night when I went to a pretty feisty meeting of the Solitary Islands Marine Park committee over the rezoning plan that is currently on display. In between I have come in and out of fisheries interests and I have picked up a few other qualifications and skills.

I have worked with State Forests and the National Parks and Wildlife Service. I have had a long association with conservation criteria, and I am here to talk about that. My first exposure of that was, believe it or not, in 1977 when I listened to a speech from the then Minister for National Parks Bill Crabtree, who was announcing that the International Union for Conservation of Nature [IUCN] adopted a 5 per cent criteria for terrestrial areas. Bill expressed a personal opinion that it should be 12 per cent, so there was a bit of green in him at the time. I then went through what I call my Communist period in the early 1990s when I was part of Tim Moore's negotiating team to set up the Solitary Islands Marine Park. Another Minister, a fairly portly gent, called us all "b... Communists", so I consider that my Communist phase. That was my first association with marine parks.

The Hon. LYNDIA VOLTZ: You are not going to name and shame him?

Mr LOVE: No, I would not do that. Also I have been involved for quite some years in the acquisition, restoration and protection of wetlands as a National Parks and Wildlife Service senior officer. So that is about me. I would then like to make some comments about our submission. Under the terms of reference in relation to marine protected area science, today New South Wales has 6.7 per percent of its marine parks in fully protected sanctuaries. Our submission refers to an IUCN target of 20 per cent, that is, the International Union for Conservation of Nature in 2003. It was actually 20 to 30 per cent. Nevertheless, we have stated the fairly conservative end at 20 per cent in a fairly substantial document. We advocate 20 per cent of New South Wales waters be included in sanctuary zones in new and existing—

CHAIR: Would you identify the document?

Mr LOVE: The *Torn Blue Fringe*. We advocate 20 per cent in that document and we systematically identify how it can be achieved, that is, 20 per cent of New South Wales State waters be included in sanctuary zones within marine parks. Other groups have gone to 30 per cent. Quite a group of scientists are now even saying it should be 30 to 50 per cent in marine parks. I do have an interest in conservation criteria, as I said. Moving on our submission, we cite of the usual examples, I think, of the massive amounts of science supporting marine parks and sanctuary zones: the Australian Marine Science Association, European marine scientists from 24 countries, et cetera. There are quite a few studies there. We think the science is now overwhelming. There are still one or two holding out but, by and large, it is overwhelming.

Barely a week goes by when there is not a major article in the press about the plight of the fish stocks around the world somewhere or the effectiveness of marine protected areas. In preparing for this presentation I picked a few press articles from the last couple of weeks. Low and behold this morning in today's press there were three. I will just go quickly through them and table them. First, in the *Sydney Morning Herald*, "Scientists take the stick to blue tick that flags sustainable fisheries". The second article is, "Humane seafood label called—A labelling scheme similar to that for free-range eggs could be applied to seafood". The third article is, "Fish stocks recovering in Moreton Bay green zone". They are all out of today's press. I can table those. Before I came across those this morning, I pulled out articles in the last week. The first one was Robyn Williams from *The Science Show* where he interviewed Pavan Sukhdev, an international scientist. Sukhdev said:

I've been in Australia for the last five days and I read a lot in the newspapers about plans to scrap marine protected areas or to not do more marine protection. Well, that seems to be economically strange because there's a lot of evidence gathering now, especially submitted to my project team, which suggests that marine protection actually is a very good way of restoring fish stock. We have examples all the way from the developed world, like the Georges Bank area of the US where haddock stock was restored to a point where it could provide 70% of US catch, and that's basically all relying on a very simple biological fact that if you let female fish grow to twice the size, depending on which species they are and where they are, they produce 10 to 100 times more eggs, which is basically what restocks fish.

About two weeks ago, I got a report out of *Green Business* magazine. I suggest you do not put out a press release on this. It states:

Saving global fish stocks would cost 20 million jobs, say the UN—Report says 13 million fishing boats must be retired to replenish stocks, with money redirected to retain millions of workers.

That is an article on a United Nations report that is due to come out in mid-October. Many hundreds of scientists have been involved in it and it is saying that the fish will be gone by 2050 unless those sorts of measures are taken. I will table that. That stuff is coming through the press, Mr Chairman.

Mr LOVE: Getting back to our submission, I go to page 3, legislative arrangements. I have overviewed these in both the forestry reform and the marine conservation management area for some years. I think some steps move forward, some steps move back. Some steps can be clearly identified as moving forward, making progress; others moving back. I am a very strong supporter of the forestry regional forests assessment process. Right through, there were some strong personalities driving parts of that. It has resulted in a reasonable outbreak of peace in the forests in New South Wales for about 15 years now. It was a solid process moved forward.

I consider the proposed moratorium that is before Parliament will lead to a significant move backwards. One reason why I would say that is because it has forced the groups on either side to take up arms, dig in for the long battle. The environment movement interested in marine conservation has come together for the first time ever—38 groups at last count, with access to an email list of over 400,000 members, has marshalled out there to oppose that legislation and take up the fight. I think we can do a lot better. It is a risk of being a significant step backwards. There are some things that flow from that. I am involved in the Solitary Islands Marine Park rezoning. I have now got access to 400,000 email addresses to rustle up to get submissions on that marine park.

Being forced to mobilise, forced to assemble, forced to fight what we consider not a very forward-moving step is just digging the trenches deeper, putting the battlements up harder. I think there are some steps that have moved forward. Setting up the MPA was a move forward. Unfortunately, a lot of the political structures and process put around the marine parks really limit its effectiveness.

The Hon. CHRISTINE ROBERTSON: What do you mean by "political structures"?

Mr LOVE: Up until now the National Parks Association has generally supported the process of establishing marine parks, but right now we are having a deep rethink and we think we might have to advocate other processes and other measures. From there I will go to expressing private views on that, if you do not mind.

CHAIR: That is okay.

Mr LOVE: With the marine parks the organisation was set up and it was a bit of an orphan. It was a very small organisation without much resource or capacity. It did not really have the support of the big departments on either side. It had this level of political control over the top of it—"We think this might blow up so we had better manage it. We are going to put the Premier's Department in there". It is keeping the lid on it and it has for a while. But the poor staff of that agency end up having a role of just going out without the capacity to do real science or real communication or really engage stakeholders in a meaningful way; they are just given the task of going out there and really trying to wash over everything and keep the lid on it.

The Hon. LYNDA VOLTZ: Which department are you talking about?

Mr LOVE: The Marine Parks Authority.

The Hon. CHRISTINE ROBERTSON: But that is not Premier's

The Hon. LYNDA VOLTZ: It is DCCW.

Mr LOVE: In recent years the staff have been put into DCCW but the main history of it has been that it has been sort of in the middle and to some degree it is still an orphan. If I could put forward an alternative model? That was a model for the first reform process set up in New South Wales. It has the Department of Planning as the independent umpire, and when they came on the scene they did not know much to begin with. They knew a fair bit about process. They were not game to call on science to advise them, and they ended up arbitrating a policy between the positions between the two major parties and coming up with conservation criteria, coming up with targets, with defining things like old-growth forests, with collecting the datasets, managing the negotiations.

They were independent, they did not have the heavy political leverage of the Premier's office over them, and they managed that process right through. I think it is a much better model. We have a lot of sympathy with some of the fishing interests. We can understand why they feel isolated from the process; it is not a very good process. It has not had the development of policy, the development of conservation criteria; the development process has not involved the key stakeholders in those situations. I could talk a lot more about those different structures and the strengths and weaknesses of them.

I think it is quite clear, in hindsight, why the Marine Park Authority Premier's department model has struggled or gone close to failure and why the other model did quite well. I think that is a really serious suggestion I put forward. I could go through even in more detail the steps the forest reform model went through and demonstrate how the marine park established model has missed some of those key steps, which has meant that a lot of the participants have not understood why we have gone forward with various processes.

CHAIR: Rather than us trying to ask a complicated question, we could simply ask you if the National Parks Association would be prepared to submit some of those ideas that you have expressed verbally today. Is the National Parks Association prepared to put some ideas down on paper for the Committee?

Mr LOVE: I prefaced that they were my ideas. The National Parks Association is at the stage where it realises that it needs to have a look at a new way. I think they would let me submit those ideas.

CHAIR: The scope that is allowed to this Committee is that we can ask you your personal view.

Mr LOVE: I am quite happy about that.

CHAIR: We might get the secretariat to craft a question to send to you which allows you to lay out your ideas. We would love to hear your ideas.

The Hon. CHRISTINE ROBERTSON: I have a question in relation to that and it relates to your perception that it was very effective as far as forestry. But I would indicate to you that that means you do not

live in western New South Wales where the same misinformation campaign has been very powerfully run in relation to the forestry, as has occurred with the marine parks. I am an advocate of the forests.

Mr LOVE: I was mainly involved in the coastal forest campaigns. I had limited involvement in the Brigalow Belt and virtually none in the Riverina red gum. I think the coastal processes were largely a joint Federal Government-State Government process and I think that even kept more lids on it. It brought more money; it brought \$100 million for information; it brought \$100 million for restructure. I think the commercial fishing industry is approximately equivalent in size and employment to the forest industry and the amount of time and effort that went into the forest industry. When you add the recreational fishing component I think the issue with fishing and marine parks exceeds that of forestry to a significant degree. I think, in hindsight, there was another statement that was made. We set up a small organisation with tight political control from the Premier's department—"We can manage this thing through without too much trouble"—and it is bursting at the seams.

The Hon. LYNDA VOLTZ: Could I just seek some clarification on that? You have spoken about the Premier's office and how they controlled and where people sit and the idea of how you engage people in the community, and you have also raised the issue of the bill that has been brought before the House in regard to a moratorium on marine parks. From a personal point of view, not having any drum to beat before I came to this Committee, everything I have heard is that possibly what triggered that bill was the document "The Torn Fringe", which I had never seen but every recreational fisherperson in New South Wales seemed to have hold of and seemed to believe that it was a submission by a government agency or in some way at the request of Government. When you are talking about these kinds of issues, which we know ignite the passions, quite often governments have to balance a range of groups in terms of what the community expectations are. I am just wondering when you are talking about how it was tightly held in the Premier's department—which I am not sure is true—the forest issue was, as it has been around Australia, a very emotive issue for people on both sides and for a lot of communities.

Mr LOVE: There are many points and I am not sure to how to respond. The *Torn Blue Fringe* report was commissioned by the National Parks Association because we felt that government was not doing that assessment job properly and not putting forward those parks properly in accordance with the broad national and international commitments that Australia has signed up to. We thought they were not doing their job. We put up our hand and did it—maybe naively. I believe that we did it very well. We put the maps out and we had very good scientists involved supporting it. We have had criticism from some very noisy scientists.

The Hon. LYNDA VOLTZ: Knowing of the original debate about marine parks, did you not think that would incite certain feelings in the community?

Mr LOVE: We significantly underestimated the response. This has led to one of those going-backward things. I am involved with a group of conservation people working on a position for the Federal East Marine Bioregion Project that is running at the same time. We have collected all our data, put it in a computer and drawn a map. That map gets locked up in a suitcase and dumped on Garrett's desk. We are never going to go public again with our conservation proposals because of the inappropriate response. The over-the-top criticism of this report, which was done because the Government was not doing its job, has put us back into the locker room. We pull out the map when we get to Garrett's desk. It is 40 per cent of that region and we are never going to show it to anyone other than Garrett.

Mr IAN COHEN: This is all on the record. You know me well enough. It is probably unfortunate, but the *Torn Blue Fringe* has acted as an inflammatory article or document. It has in great part stirred up a reaction. It has been able to be manipulated to cause a huge amount of absolute fear and reaction from all the user groups up and down our coastline to the point where it has had some extremely detrimental impacts. It does not mean it is right or wrong, but the way it has been put—the inflammatory and almost ridiculing nature of some aspects of it—has created a massive backlash and that is, in part, the reason we are here today.

Mr LOVE: As I indicated, that is not the way things are done now. We have learnt and we are much more secretive.

The Hon. LYNDA VOLTZ: That makes me more concerned. I would prefer to see you do what you have done with the *Torn Blue Fringe* than have people think that the Government is reacting to a secret agenda that is nowhere in the public domain on how we make decisions on conservation issues. Part of the concerns may have been that they thought there was a government proposal that they did not know about and this

document was in some way an understanding with the Government that there was a process going on. In fact, I would prefer to see a document out in the open rather than something in a briefcase presented to Peter Garrett.

Mr LOVE: So would we and that is what we did. It was the reaction or over-reaction to that document. It was the abject failure of government to show leadership on how it managed that document. It still has not responded in any way.

Mr IAN COHEN: The document has been a green rag to a bull. It has stirred up a lot of fears, and legitimate fears, in the user group community that has retracted into a massive attack on the Government. The Government has found itself very much isolated in promoting the issues in that document.

Mr LOVE: These are all examples of the Government's not having an appropriate framework or process. As I said, this report is at the conservative end—20 per cent—

Mr IAN COHEN: It is not the percentages. The fact is that a lot of other material has been able to be manipulated. It is a classic case of political manipulation. You mentioned good intent but extreme naivety. It seems that no political nous has gone into the strategies or campaign.

The Hon. CHRISTINE ROBERTSON: They should have given it to you.

Mr IAN COHEN: Some of the people who promoted that see it as a badge of honour to stir up the user group fishing community when, in fact, it does extreme political damage to the cause you are trying to espouse.

The Hon. CHRISTINE ROBERTSON: This is the second submission in which I have seen the suggestion that we have some sort of standardisation of zones within marine parks—that is, a standard pattern. Where has that idea come from and what is the benefit given the importance of communication and consultation at the local level?

Mr LOVE: I do not understand the point.

The Hon. CHRISTINE ROBERTSON: In your submission on page 3, paragraph 2, there is a suggestion that there be a standardisation of marine park zones. At the moment the process is to localise it to the biodiversity, structural and usage needs and the consultation processes. I asked this question of the last person who made this suggestion. Do you know where the idea came from?

Mr LOVE: Off hand, I do not. I do know there are a lot of regulatory—

The Hon. CHRISTINE ROBERTSON: Can you take that question on notice so that we can work out the rationale behind such a request?

Mr LOVE: Yes.

The Hon. LYNDA VOLTZ: What is the membership and charter of the National Parks Association?

Mr LOVE: We have 5,000 members and supporters. Our primary charter is to establish a comprehensive, adequate and representative [CAR] reserve system throughout all major terrestrial and marine environments in New South Wales. We support a CAR reserve system in wetlands, estuaries and marine environments.

The Hon. LYNDA VOLTZ: Is it a non-government organisation?

Mr LOVE: Yes.

CHAIR: Throughout the inquiry we have heard conflicting evidence about the economic and social impacts of marine parks. In your submission, at page 4, you claim that marine parks can increase tourism, be regional marketing tools due to their clean, green image and create job opportunities. Can you outline your argument as to the positive economic and social consequences of marine parks? If you have knowledge of only your local area, that is fine.

Mr LOVE: We refer there to a letter from the Coffs Harbour City Council to the Marine Parks Authority in 2004 and we refer to some recent studies in Batemans Marine Park. I would have to refer you to those. But, if I could make one point: If we look broadly across eastern Australia, first of all we have something like the 1,800 kilometres of the Great Barrier Reef Marine Park and coming a bit further we have the Great Sandy Marine Park in Hervey Bay. We have Moreton Bay Marine Park. We have Cape Byron Marine Park, Solitary Islands Marine Park, Port Stephens, Jervis Bay and Batemans. I do not think there is any evidence that those stretches of the coast are suffering economically or are less attractive to tourists, holidaymakers and fishers than any other stretches of the coast, or those stretches of the coast that do not have marine parks. I think that is my strongest response to that.

CHAIR: In your submission you recommend that an environmental impact study should be undertaken to determine the impact of recreational fishing on the environment. Can you please explain why you consider this course of action appropriate and who should carry out such an environmental impact study? That is, the recreational fishing industry or the Government, per se, or other people?

Mr LOVE: First of all I think table 1 on page 6 demonstrates the need for such an assessment. If you look at the commercial catch in tonnes as against the estimated recreational catch from the Fisheries resource document there have been about five environmental impact studies for the commercial catch tabled; none for the recreational fishing tabled, despite the quite enormous amount of fish harvested or estimated to be harvested from that source. If an environmental impact study were to be done I would like to see it being done as independently as possible, perhaps under the oversight of a body within the Department of Planning, as they are in an attempted neutral position between Fisheries and National Parks.

CHAIR: You are aware that that table you presented, which was also reproduced in the Nature Conservation Council's submission, does not exist anywhere in the documentation that it was taken from as a table? It was put together from data.

Mr LOVE: Right.

CHAIR: The second thing is that it only covers roughly 20 per cent of the total data that was put together. One point you might agree with, the fact that the data on the commercial side of the column is very concise and the fact that the data on the recreational side has huge ranges of variation would probably also indicate that the data is probably not there on the recreational side?

Mr LOVE: I guess that is another issue as will. We really need to know a lot more.

CHAIR: You obviously believe it is urgent that an environmental impact study be done?

Mr LOVE: I would not rank it as high as going back and having a fundamental review of the marine reserve planning program and seeking to join that up with the Federal Government's current marine planning program. I would rate that as more urgent and more important.

CHAIR: Are you familiar with the State Government's independent scientific review of the Marine Parks Authority's science?

Mr LOVE: I skim read it once.

CHAIR: You will note they clearly indicate that they believe that priority should be given to reassessing or redoing the science in the existing marine parks rather than necessarily creating more new marine parks. Would you agree, as part of that, an environmental impact study that could incorporate any data currently available on the efficacy of marine parks could be incorporated into one large environmental impact statement that could be done urgently perhaps? That would encompass your views, your feelings of priority, as well, would it?

Mr LOVE: I think the consideration of that committee—I interpreted when I skim read it—that it was given some steerage or direction towards focusing on existing parks rather than looking at expanding the reserve system because that was more where the direction of the Government of the day was going. I would like to see a series of regional assessments—they might just be North Coast-South Coast, they might be north-central south—covering both State and Federal waters, if that could be pulled off. There is really more argument again that the Federal Government be involved in sorting out the fishery industry, there is more argument for that,

fisheries, than there ever was for forests. Yet, they do not come together at all effectively in any way. They have their buyout fund; New South Wales has its buyout fund, and the processes are not integrated. The tremendous amount of resource the Federal Government can bring to collecting information and scientific work does not come.

CHAIR: Can you please tell us what evidence you have had to support the claim on page 5 of your submission that recreational fishers can benefit from a spill over from marine park sanctuary zones?

Mr LOVE: I cannot off the top of my head but I believe a lot of the scientific reports—and there were 140 or something, relating to the benefits of sanctuary zones—would touch on that issue. Again, I can take it on notice.

CHAIR: Can you take that on notice, to tell us where that assertion came from, which particular scientific reports were relied upon?

Mr LOVE: Yes. Can I make one comment? I attended most of the hearing at Grafton, your hearing up there. I also listened to your radio interview the following morning—and I have a copy of the transcript but I did not bring it with me. I think you said something to the effect that the issue between recreational fishermen and marine parks paled into insignificance or relative significance compared with the issue of protecting habitat and water quality. You referred to the catchment management authority's program to conserve 30 hectares per annum or restore 30 hectares per annum of coastal wetlands, and you said it should be increased to 300 and then maybe 3, 000.

CHAIR: I think what I said was, because I did not want to pre-empt the findings of the Committee, that we had had a lot of evidence that suggested by far that the most common piece of evidence put to this Committee by all sides, if one could call it that, was the fact that not enough work was done on the protection of the quality of water and/or things like sedimentation, chemicals, inflows into not just marine parks but the whole coast?

Mr LOVE: I absolutely agree with that sentiment. When I worked with National Parks up until almost three years ago, I was involved in putting together a submission for money for wetland acquisition restoration, a program which is now in its eighth year, I think. It is about \$1 million a year. Over that period we were able to purchase about 300 hectares per annum of wetland area on the North Coast and there are some pretty successful programs—the one in Wallis Lake. There have been over 21 programs and a lot of money came from other sources as well. Cattai Swamp is turning out to be a successful program.

CHAIR: Lake Cattai?

Mr LOVE: Cattai River, the tributary to the Manning River, Yarrahapinni Swamp near Kempsey are turning out to be very successful programs. Unfortunately, there is not much leadership coming from the State Government other than the money. Those programs have taken off because of the enthusiasm within either council staff or a particular councillor. They are real flagship programs.

The Hon. CHRISTINE ROBERTSON: Do you think it is owned locally? Do you think that might make a difference to its success?

Mr LOVE: It is happening in those places where ownership has been taken locally.

The Hon. CHRISTINE ROBERTSON: Thank you.

Mr LOVE: If we go back to the coastal national parks that were set up in 1980—that was a State initiative, very clearly and firmly led by the State over the top of some strong opposition from councils at the time. In my work with National Parks I did an assessment of the amount of wetland that should be acquired on the North Coast of New South Wales and restored as wetland habitat and we came up with about 100,000 hectares of what we call priority one, 50,000 hectares of priority two. That is 150,000 hectares, in my view, that should all be acquired over time, if possible. There are many willing sellers out there. How many years do you do it over? If you did over 30 years, that is 5,000 hectares a year. We were buying at about 300. You mentioned possibly going to 3,000. That was pretty much on the money, from my point of view, and I strongly support it.

CHAIR: Are those programs funded out of the environment cost?

Mr LOVE: Yes, there is a coastal wetland acquisition fund.

CHAIR: We heard evidence earlier today from the DECCW people, I think it was, that over 40 per cent of the coastline is adjacent to terrestrial national parks; 40 per cent is what they said.

Mr LOVE: Yes.

CHAIR: Most of that would be concentrated on the far South Coast, the far North Coast and then a couple of dribs and drabs in between.

The Hon. CHRISTINE ROBERTSON: Jervis Bay.

CHAIR: Jervis Bay, Bouddi and those sorts of areas. From your experience of working in that area, do you believe that there is an underrepresentation in those reserves or elsewhere of coastal wetlands?

Mr LOVE: Absolutely. I can produce figures of the level of reservation of wetland ecosystems from studies that were done about six or eight years ago, and it is about 18 per cent or 19 per cent of those communities represented in reserve systems.

CHAIR: It is 5 o'clock. I understand you are in a hurry to catch a flight home. I would hate to see you having to stay in the stinky city overnight. Thank you very much for coming all the way down here to stand in for the original author. Would you be agreeable to receiving further questions on notice?

Mr LOVE: I would be only too pleased.

CHAIR: If so, could you endeavour to have them back within 21 days.

Mr LOVE: I will do that.

(The witness withdrew)

(The Committee adjourned at 5.02 p.m.)