

REPORT OF PROCEEDINGS BEFORE

**STANDING COMMITTEE ON NATURAL RESOURCE
MANAGEMENT**

**INQUIRY INTO DISINCENTIVES TO ECOLOGICALLY
SUSTAINABLE LAND AND WATER USE AND OPTIONS FOR
THEIR REMOVAL**

At Sydney on Tuesday 11 April 2006

The Committee met at 10.00 a.m.

PRESENT

Mr R. S. Amery (Acting Chair)

Mr G. J. Aplin
Mr I. M. Armstrong
Mr G. F. Martin
Mr P. R. Draper

LOUISE JANE BURGE, Chair, Conservation and Resource Management Committee, New South Wales Farmers Association, P.O. Box 642, Deniliquin, affirmed and examined:

ACTING CHAIR: I note the apologies of the Chair of the Committee, the Hon. Pam Allan, who has a medical appointment today. Ms Burge, you have been issued with a copy of the Committee's terms of reference and also a copy of the Legislative Assembly's Standing Orders 332, 333 and 334, which relate to the examination of witnesses; is that correct?

Ms BURGE: Yes.

ACTING CHAIR: In what capacity do you appear before the Committee?

Ms BURGE: I appear before the Committee on behalf of myself as a farmer from the Riverina region of New South Wales, and also as Chair of the New South Wales Farmers Association's Conservation and Resource Management Committee. I will advise the Committee on which representation I am speaking.

ACTING CHAIR: We have received a submission from you. As you have indicated, you will mention to the Committee when you are making a personal observation or an observation of the New South Wales Farmers Association. Do you desire to make opening comments with regard to your submission? Committee members will then ask you a number of prepared questions, which understand you have been provided with, and perhaps further questions that may arise.

Ms BURGE: At this stage I will be speaking in my personal capacity. I have had a strong background in Natural Heritage Trust [NHT] delivery and natural resource management [NRM] issues. For the last 10 or 12 years I have been increasingly concerned that one arm of government process is counterproductive to the delivery process for incentive-based programs for natural resource management. In particular, I think the regulations and the legislation over the past 10 years have been instrumental in creating adverse conditions for people to come on board with incentive programs. In particular, the threatened species legislation and the native vegetation legislation have led to a situation where both are considered liabilities, not assets. Until we can turn this process around, I think we will not be able to move forward to achieve genuine NRM outcomes on private property. I would also like to suggest that I hold very strong views on methodologies to achieve conservation on private land. I share the goals on achieving good outcomes on private land. However, I think the current approach endorsed by both environmental groups and government legislation will not achieve those outcomes.

I would like to submit a number of documents today, and in particular point to the issue of invasive native weed management for the western parts of New South Wales. I was in Cobar last week to help launch a document that has been put together by well-respected vegetation and soil experts for that region. I think it would be extremely helpful if the Committee could review these documents. There is the Cobar vegetation management plan for managing invasive native species in the Cobar Penplain and there is also the central west best management practice. I would like to take the opportunity today to try to highlight what I mean about where we have gone in the last 10 years and where we can move forward.

ACTING CHAIR: Would you like to make reference to the farmers' situation before we start asking a few questions?

Ms BURGE: I think I can chop and change as we go through. I have submissions I would like to present as we go through the questions. There are a number of background papers I would like to show the Committee, and also some photographs, to give you a greater appreciation of the issues. I would like to explore opportunities beyond land care. I noticed that in the written questions there seems to be an emphasis on land care providing the necessary solutions. I would like to suggest that land care is a valuable tool in providing only one aspect for NRM delivery on private property, but I think there is a lack of awareness, generally in the urban areas, about the incredible works that are happening. There are some pretty positive community collaborative partnerships happening, and unfortunately again we are seeing some of those impacted by aspects of legislation.

ACTING CHAIR: The criticisms of those two pieces of legislation are well documented. They were probably seen as a solution to a problem that we were trying to address more than 10 years ago now. Do you believe that, 10 years ago or 12 years ago, or more, the situation had reached such a level of non-participation in natural resource management that some instrument of legislation, whether effective or successful, was needed? I am trying to take you back in time to the mid 1990s, when we were confronted with these challenges regarding. I recall one claim at the time that we were clearing about the same land mass as the ACT every year. I do not know whether the claim was accurate, but such claims were going around. Whether government has got it right with the remedies, do you believe there was justification for legislative intervention?

Ms BURGE: I think in any society we need some legislation to ensure that we deliver good outcomes, in whatever field we are talking about. However, at the time of the introduction of SEPP 46, and then following the native vegetation legislation of 1995, particularly with regard to SEPP 46, I think farmers were very much in the mood of collaboration, even way back then. The early days of land care, the early days of people being aware of the necessity for trees and on-farm vegetation, very much was occurring. It was rather unfortunate that at that time the legislation came in; that was really the start of the angst and confrontation.

ACTING CHAIR: I refer to question 1. Many submissions, including yours, say the Native Vegetation Conservation Act, now repealed, was complex and penalise farmers who were good environmental managers. Given the recent amendments, have these concerns been addressed, or do the underlying issues still prevail? In other words, do the new changes respond to a lot of the concerns you have had over many years?

Ms BURGE: I think the changes in the 2003 legislation that went through Parliament, and then the regulations that were enacted in December 2005, have attempted to address a number of the issues that have been concerning rural communities for a long time. In doing so, there were some key areas that we saw from the Farmers Association as being still an impediment to change. One was the lack of socioeconomic recognition, of which it is an objective of the Act. However, the content of the legislation does not deliver or recognise socioeconomic issues, and that is a major flaw.

I strongly believe that if we are to get good natural resource management outcomes on private land we have to weigh all factors equally. It is not simply a matter of locking up a hectare of trees and then assuming that that will have an environmental outcome, when we could have achieved a broader environmental outcome right across the whole farm, including particularly weed management. I fear that often the focus of the legislation, both Federal and State, has been on native vegetation. I think that has done a disservice to looking at other issues, such as soils, weed management, and even salinity. With regard to salinity itself, native vegetation is seen as the only solution, whereas in fact we know that there are a lot more productive solutions beyond just native vegetation.

The basic framework of the reforms represents progress—for example, the catchment management authorities [CMAs], the Natural Resources Commission and the regrowth provisions in the Act. We know that there are some significant issues, particularly with the property vegetation plans [PVP] developer tool and the environmental outcomes assessment methodology. I would like to table the submission that New South Wales Farmers put to the Native Vegetation Review Committee. I think that will specifically outline the details.

Mr GERARD MARTIN: In your submission you make some fairly strong comments about the scientific committee, particularly the view that government agencies use regulations to lock up private land and devalue private property, which leads to the prevention of the collection of accurate scientific data. You also say that publishing lists of threatened species does not encourage private land owners to improve habitat values on their land, and you recommend that the New South Wales scientific committee be told to opt out of private land. Could you elaborate on these issues?

Ms BURGE: In relation to the first question, I would like to highlight these newspaper articles showing one catchment with two farmers at different ends of the catchment, both roughly at the same time. One farmer's son is saying, "Dad, when are you going to stop planting trees?" At the other end of the same catchment, he is penalised for conservation. I think if you read those articles you will get a feeling for where I am coming from, which is that those who have not been impacted by

legislation are still very enthusiastic participants in natural resource programs. Those who have been impacted have now withdrawn and are very unwilling to participate. They are happy to do their own programs or work with industry-based groups, but they are very reluctant to be involved in government agencies or what are seen as agencies.

In regard to the scientific committee, my concern is that by listing species almost on a weekly or, say, a monthly basis we are actually cheapening the whole process of protecting threatened species. People become immune to it. It has lost its credibility. The scientific process listing is extremely onerous. The process itself for listing is easy, you could do that with a 50¢ stamp, but the process after that can be very onerous. I would like to submit a copy of a couple of cases where this example can be very much highlighted. One is the Plains-wanderer Recovery Plan. Landholders allowed people to come onto their land maybe 10 or so years ago. Information was taken during those visits, which was then passed back to government agencies.

Consequently, landholders in the Riverina affected by Plains-wanderer have been fighting an eight-year battle to get some common sense in regard to the Plains-wanderer issue. A coalition of five councils has been supporting the community. I would like to submit the original Plains-wanderer Recovery Plan, which is a document that is well worth reading. It highlights the inadequacies of the recovery planning process. There are some major issues with the science contained within the plan. There is also a draft letter to Minister Debus in regard to further issues with that plan.

Mr GERARD MARTIN: Who developed or prepared that plan?

Ms BURGE: The original plan was developed by Dr David Baker-Gabb. The communities have spent a huge amount of resources for five years fighting this plan, as I said. It has been a signal. Because it is such a well-known proposal it was like flying a flag up a flagpole of how poor process delivers negative reactions. If there were a way of turning back the clock and starting that recovery planning process again I think we would not see the concern and fear with threatened species that what have seen. There were some significant problems with the way the planning process was done and the community consultation. Also there were concerns about the running of the recovery plan. I can also talk about what happened with our particular property. I would like to submit my copy of my submission to then Director General of the Department of Land and Water Conservation, Bob Smith, in regard to the superb parrot.

I passed around some information about being penalised for conservation. We have a strong environmental ethic. We have retained our timber belts. We are 100 per cent cropping, but we have maintained our areas of natural bush. We like it. We do not believe we should be punished for it. We should be recognised for the efforts we and previous generations have made. But in doing that, under the Western Riverina Vegetation Plan, we had high conservation put over our entire property because of a bird at least 10 kilometres away. There was no scientific process. Again, like the Plains-wanderer, it said to every other farmer in the district, "Don't do what we did", which was retain our trees "or look after your species because there is a penalty, not a reward." I am not looking for a financial reward, but instead of focusing on the punitive approach it should be a recognition approach.

Mr GERARD MARTIN: Even though you made reference to the scientific committee opting out of private land, I get the impression you think it would be no loss if it were done away with completely, is that correct?

Ms BURGE: Absolutely. I think it is counterproductive.

Mr GERARD MARTIN: What do you see filling the void, if anything at all?

Ms BURGE: In regard to threatened species I think there still could be a listing or an educative process on the needs of threatened species. But instead of listing one every month and then expecting communities—it is a huge cost to put in submissions almost on a monthly basis. There is a new one coming out, a preliminary listing of old man salt bush, which I think is going to be challenged. New South Wales Farmers has employed a consultant to verify independently the science on the Coolabah black box listing, and I believe that the information has gone to Government to review. I would like to submit that document as well. I will give you an example. There are many ways that farmers can have adaptive, flexible management on their farms if they are aware, through

education processes, what the requirements are of threatened species. I know that there will be occasions when legislation is provided if it is a critical habitat of certain species, and I think that is fair and reasonable.

What I do not see as fair and reasonable is this notional listing of almost everything that can crawl and walk, both flora and fauna. As I said, it cheapens the whole process. It makes people anti-threatened species. I think we should concentrate on the critical listings and then, for vulnerable and endangered we look at education programs and try to build those into the genuine collaborative partnerships that exist already. I can give you an example in the Murray irrigation region of the southern Riverina. They are having wildlife surveys on farms. Farmers have been very frightened to enter that process because of the fear that the data would then be sent on to government agencies. However, through their irrigation company assurances have been made in regard to the protection of personal information. Reports for the region will be made on a more regional basis so that people can go into that process knowing that their data will not be misused.

Mr PETER DRAPER: I am interested in the management of regrowth, which your submission also touches on. You stated that farmers are being prevented from both thinning of the regrowth and being able to retain it as future timber for harvesting. Can you expand on your concerns in that regard? Did the new regulations assess or address your concerns, or does more work need to be done?

Ms BURGE: Could you tell me what number that one is?

Mr PETER DRAPER: Yes, it is No. 4.

Ms BURGE: That comment really relates back to the early 1995 Act and State environmental planning policy [SEPP] 46. Why were people encouraged to remove vegetation at the end of the 10-year program when, if you left it, people would then have choices about saying, "I will leave that for a timber belt. I might harvest it or I might remove this other bit of timber." To me it takes away the notion of having this fear driving change when in actual fact if there were more flexibility people would then have options. The 2005 Act does not resolve the private native forestry issue. Currently they are working on a code of practice with the New South Wales Farmers Association. We have major concerns that, despite assurances from earlier Ministers that the process would be similar to private native forestry [PNF] as it exists today, the impact of threatened species on the future viability of private native forestry is a major issue. The code is yet to be released. We would like to have had more involvement. That does not seem to have appeared in more recent times, since mid last year. We really are in the dark as to what the final outcome will be with PNF.

Mr PETER DRAPER: I have always held concerns that if you put a time frame on it you force people to make their decision and do not encourage them to look further down the track.

Ms BURGE: The other issue with the private native forestry code is that it will be required to do a property vegetation plan [PVP], which has a life of only 15 years. I can speak about our forestry issues. We do red gum harvesting every 20 or 30-year cycles. It is perfectly sustainable. You would not know where we have been. We selectively log individual trees, which has proved beneficial during the drought. We logged prior to the drought and, therefore, the competition has allowed existing trees to not become overly stressed or die. If we were to engage in thinning programs and invest money in thinning programs, I really cannot see that having a 15-year PVP is going to give me the security for a 20 or 30-year forestry cycle.

Mr GREG APLIN: Just as a lead-in to one of the notified questions, going through your submission, which raised concerns expressed in July 2003, I was aware at that point that the CMAs were not fully operative and they now are. Can you give us some examples? You have already mentioned the red gum regrowth and the superb parrot, but can you give us some examples of what has occurred since the operation of the CMAs in relation to your submission and your forecast of what could be potential disincentives?

Ms BURGE: I would speak as the New South Wales Farmers representative on this issue. The issue with the CMAs that we strongly supported and requested from Government was that CMAs be given discretionary decision-making powers. That was seen as most important because it then

allowed the community and the CMAs to start building the bridges of trust. Remember, with this whole process in SEPP 46 we are actually 10 or 12 years behind where we could have been 10 years in front in terms of delivering on-farm conservation outcomes. I am not talking about conservation farming techniques, they are happening anyway, I am talking purely about conservation on private land. I think it has been set back an enormous amount of time. I am not saying that it was anyone's fault in particular, I am just saying I think it was a learning curve that perhaps we have gone through. We need to look at where we went, why we went there and its outcomes.

In regard to the CMAs, the association and I remain concerned that the CMAs do not have the necessary discretionary powers to build those breaches of trust between the communities and the CMAs. We have had a number of examples. A submission we put to the Native Vegetation Review Committee will outline in detail what our concerns are. For example, there was a property out at Cobar that has been through two PVP applications. This is to manage invasive woody weeds. We are not talking about clearing as in virgin country. We are talking about clearing to rehabilitate the land that has been degraded by invasive species.

I would like to pass around the photographs that will highlight this issue. This particular gentleman had 560 hectares. He could not use the invasive native species module of the PBP developer because it is impractical and the criteria too rigid. He then submitted a broad scale clearing application; that was his only choice. Of the 560 hectares that he wanted to rehabilitate, his offset ratio was 100:1. That meant that he was clearing 560 hectares to restore native grasses systems to the area but would have to offset 56,000 hectares, but his property size was only 14,000 hectares. As you can imagine the community was considerably upset by the outcome. The PVP application was done again. The gentleman who owned the property, Osterly Downs, revised his clearing application to 460 hectares. His offset ratio under the second application was still 100:1 and he had to offset 46,000 hectares on a 14,000 hectare property. That is more than triple the amount of land that he owns. The gentleman in question is a member of Landcare.

I would like to submit both the Central West Best Management Practice for Invasive Woody Weeds and the "A New Vegetation Management Plan for areas invaded by Native Trees and Shrubs in the Cobar Penneplain" that has been put together by experts in the field in vegetation and soil conservation. This comprehensive document outlines the historical and vegetation management requirements for the region. Clearly, there is a problem within some of the policy areas, where there is a lack of appreciation of the urgency and the need to address the issue of invasive woody weeds. In many urban areas it is incorrectly reported as land clearing. I think that has been a great frustration to the Landcare groups out there. For some areas in New South Wales Landcare will be about planting trees; in other areas it is about restoring native grasses to the system, and that is what these fellows and ladies would like to do. It has been an incredibly frustrating journey. The works of the authors of this are credible people with expertise in their fields. Many of you will be aware of the book *Plants on Western New South Wales* and if you look at that you will see that some of the authors of that book are authors of this particular document.

ACTING CHAIR: By way of supplementary question to Mr Aplin's question and the point you made that catchment management authorities [CMAs] not having discretionary powers—and, of course, you have given the Committee some examples—do you feel that there are a lot of situations in respect of which farmers and landholders would be happy with the CMA process if they were allowed to make decisions?

Ms BURGE: Yes.

ACTING CHAIR: You have said that the CMAs are telling farmers and landholders that a higher authority is telling them that they cannot approve it, so you must have some examples of that.

Ms BURGE: Yes. There is no doubt that in some regions where there is the odd, isolated paddock tree, the current system will work, but for other areas it will need significant modification. At the moment with regard to the CMAs powers in order to them to approve an application they have to be consistent with this document, which is the Environmental Outcomes Assessment Methodology. It dictates the terms and it is a quite complicated set of procedures. There have been some issues in regard to the science that underpins this document, particularly unpublished works that have not undergone, perhaps, the appropriate peer review.

In the case of Osterly Downs, where the CMAs were particularly aware of the invasive native species [INS] requirements, their hands were tied because of the contents of this EOAM document—also, the invasive native species module is contained in this. The criteria have been set from Sydney and unless we are allow for discretion by the CMAs then we are expending an awful lot of resources on processes that are not going to build those bridges of trust that I would see as vital if we are going to move forward on this issue.

Mr IAN ARMSTRONG: I apologise for my late arrival this morning. Thank you for your presentation—I caught the tail end of it. I would like to ask a couple of questions. You state there is conflict between the various departments who have an interest in this type of land management, in trying to get a clear and precise path as to how we manage these types of lands.

Ms BURGE: Yes.

Mr IAN ARMSTRONG: With so much satellite study being undertaken with regard to land clearing, do you think the science is there that can identify the foliage that is on the ground, be it turpentine, woody weed or another form of growth? Is it all being put into the one box and when a paddock is cleared it is generally decreed that it is prime ground, not woody weed, turpentine grass or whatever it might be?

Ms BURGE: I think one of the debates since SEPP 46 has been around the definition of land clearing. The definition of "land clearing" was somewhat inaccurate in the early days. For example, if you cleared one tree in 100 hectares it would be deemed as 100 hectares of clearing, not one tree. So the land clearing figures were grossly inflated, which led to urban misapprehension about what really was the state of vegetation clearing. We also need to strongly differentiate between land clearing of virgin, untouched ground—for example, rainforest, virgin bush and that type of thing—and land rehabilitation that is necessary for the management and restoration of native grasses.

In regard to the conflict in the departments, I think there is definitely an issue with one department wishing to be more powerful than the other. I believe that if we are going to move forward on these issues we will have to resolve that. At the moment in any application, and working through this Environmental Outcomes Assessment Methodology, in an application to restore land, and I use the example of invasive native species, where a clearing application is attempting to restore the native grasses system to what it originally was on the Cobar peneplain, biodiversity is non-tradeable. In other words, right across New South Wales you could have an application that would be addressing salinity, water quality and soil health but the application will be refused because of biodiversity or threatened species is not tradeable with those other environmental attributes.

Even though you are looking for soil health gains, water quality and salinity, if there is a biodiversity issue, which is controlled by the Department of Environment and Conservation, then that rules. The Native Vegetation Act quite clearly stipulates no more broad scale clearing unless it maintains or improves the environment. Even if applications are consistent with that approach, because of the biodiversity controls you are not looking a holistic approach to maintaining or improving the environment; you are really only measuring it by one attribute, which is either threatened species or biodiversity. It is not a realistic holistic approach to maintaining or improving the environment.

In the case of Osterly Downs, which is trying to restore native grasses back into the system as per the recommendations of that report, there were a number of reasons why it was stopped, butt one particular reason was because of a cockatoo that lived 160 kilometres away in a location that was completely different. It lived on the river areas 160 kilometres away, yet it came back up in the assessment methodology as being a species relevant to the area. There are a number of problems that we are going to have to address and the key issue is: How do we resolve the conflict between the Department of Environment and Conservation [DEC] and the Department of Natural Resources [DNR]? At the moment threatened species and biodiversity will impact on other environmental improvements, such as the potential to restore native grasses to a system, but somehow or other that has to be resolved.

Mr GERARD MARTIN: Given your comments about the Scientific Committee, there is no shortage of information—as we have found from what you have brought with you today—whether it be by way of submission, plans or scientific data, but how do we sort out the wheat from the chaff? We seem to be getting snowed under with a whole swathe of information, data and reports. There must be something we can hone in on and say that here is the critical data we should use or the measuring tools or what have you to go forward. Do you consider it feasible to do that?

Ms BURGE: Do you mean with threatened species?

Mr GERARD MARTIN: Threatened species or native vegetation.

Ms BURGE: The information is there but we have to work towards really getting good environmental outcomes and I think that means putting aside past prejudices and particular policies. The information is there; what is needed is the willingness to implement it. That report, the Central West Best Management Practice for Woody Weeds has been out since March 2005. It can be adopted overnight if the willingness is there. That is what the association is trying to do, get the current Government and the bureaucrats within the departments to understand that these recommendations are valid and that they will deliver good environmental outcomes. As I said, the departmental differences will always be there, until we can resolve this issue of DEC and DNR. At the moment DEC retains ultimate control and, therefore, delivering environmental improvements will not be resolved unless that issue can be resolved.

Mr IAN ARMSTRONG: In your submission you referred to salinity management, native vegetation and pasture management. You made the point that one is required by law to maintain farming land; that it be cultivated every 10 years, and that this ignores nature's non-cycles; that nature does not necessarily have seasonal cycles at all; and that we do not know what they are and probably never will do. Will you expand a little on the difficulty with that very bureaucratic requirement?

Ms BURGE: That particular issue related more to SEPP 46 and the 1997 Act, in respect of which there were specific 10-year periods. There were many examples of farmers absolutely frustrated by the fact that they had existing long cycles, particularly in the slope country. They would have had, say, six years of lucerne and at the end of six years the lucerne would die out and native grasses would come into the species. That cycle would continue for about 15 years and at the end of that 15 years they would re-sow lucerne, which would then operate six, and then the natives. It was a good system. Under the Acts, the SEPP 46 and 1997, they were forced to shorten their rotations, which is not what they wanted to do. That issue was incredibly difficult for people to get an appreciation of. They were farmers trying to do the right thing but they were hamstrung by the Act.

We do have the situation now where I believe that issue will not come up because of the 1990 and 1983 rule but there has been within pastures—we do have to preserve our native areas but we also have to look at many natives that can co-exist within productive farming systems. If there is opportunity to improve natives and keep them in balance I think they can be very effectual in delivering good outcomes. You will see in one of those photos there, there is a particular—I took this photo up at Coonabarabran where it is a monoculture of one type of grass. I am sorry, I probably have not got it.

You can get dense stands of native grasses that, instead of having the floristic diversity that they should have, they just become a rank and unpalatable stand of one type of grass. But that is not natural either, yet because it is deemed natives, it is deemed natural. So I think we have just got to put native vegetation into perspective. It has become very much that it was relied on as a tool for controlling salinity, and it may or may not be the most effective tool. It should be put in balance about its abilities to impact on salinity. There are varieties—Lucerne and other things—also can work in conjunction with native species.

Mr GERARD MARTIN: The New South Wales Farmers Association put in a submission about the conservation reserve program in the United States of America. Do you see that that model has any validity for us?

Ms BURGE: There were a number of models that the association was looking at. We have in our submission to the Federal NHT review talked about environmental services schemes. There is a

requirement. If governments in the wider community want farmers to turn part of their land into a national park type status, then I think in fairness, environmental services would need to be paid if that were to occur. I think there is great opportunity, given a flexible, sensible approach to legislation, that we can deliver a lot of these things as part of our productive farming systems, and over and above that, yes, environmental services. I think that needs to be explored further. I think a conservation reserve system is one valuable option towards that.

ACTING CHAIR: Before I close this part of the proceedings, are there any final questions from members? We just want to thank you for your submission. At the start I light-heartedly said that we will not be too tough on you, but I do not think you were too easy on us. But I think the submission is a very strong one and you have given us some fundamental areas of policy that the Committee should be looking at and discussing with our Ministers and departments and so on, particularly challenging about that rivalry between the departments and some issues there in relation the role of CMAs. You have given us a broad range of matters. I think we will ask for an identification of each of the photographs that you have tabled before you leave, or perhaps you could get back to us.

Ms BURGE: Could I send those to you later?

ACTING CHAIR: Yes.

Ms BURGE: Those are my only copies.

ACTING CHAIR: Okay. What we need is not only just the photograph but also about when they were taken and where. And the other thing is the number of questions on notice that you were given may not have been formally asked. We would ask, if we could, if you could look at those questions. I know you have answered many in some comments and also when elaborating on some answers. You have answered many of the other questions that have been tabled, but some that are not, if you could take them on notice and give us something back in writing on those?

Ms BURGE: Could I just comment?

ACTING CHAIR: Yes, sure.

Ms BURGE: I would just like to highlight that there are many, many good collaborative partnerships working out there with farming communities and agencies and also private industries. I think it is vital that we allow these to proceed. To give you an example: The Southern Mallee Plan was a document that was commenced way back in 1994 with the help and support of all the agencies, DPI, DIPNR, WWF as well as the ACF—I cannot remember when it was—and it talked about principles of sustainable delivery. It was an excellent plan that had strong community participation. It has been well recognised. That plan has fallen over because it cannot be implemented because of this environmental outcomes assessment methodology because the offset ratios described in this again are not compatible with this, the Southern Murray Regional Plan. This has received NHT funding. It is an example of where community spirits have come together to try and address and produce good farm outcomes. Every time these plans fall over it is basically another kick in the guts for the communities. What happens then is people are far more reluctant to enter a planning process. That is one of many. There is a whole range of them.

The other one was to give an example of positive roles: Murray Irrigation in southern New South Wales has been working with the wetlands working group to deliver private environmental flows to private wetlands and black box depressions. It is an incredible partnership arrangement where again people are not fearful of the process. They trust their irrigation companies. To date I think there have been 164 sites that have received environmental water. What happens is that the water is delivered through irrigation canals, channels, and it is through perhaps some little extensions here and there you are able to effectively deliver water with the minimum use of water but very good environmental outcomes. At the same time that was happening, we had a departmental process happening with flood plain management where this was an involuntary process as compared with MIL and the wetlands working group. People were willing participants. Parallel, and it happened on our property, we had a government planning process that tried to impose notional wetlands onto private land.

The obvious reaction was everyone got very offside. Personally we had to employ our own private wetland ecologist to counteract the department's process. Even at that stage, even Craig Knowles, when my husband showed Minister Craig Knowles an example of the wetland that they were trying to assess, he indicated his surprise because the photo and many of the supposed wetlands—I would call them just normal undulations within a paddock—they had been cropped for three generations. So the point in raising that is that one was a voluntary process, through wetlands working with Murray Irrigation that delivered results and one was an imposed process through a planning regulatory process. Both counteracted each other. The ones that have suffered the regulatory process of wetlands will now not go into the voluntary process of working with the wetlands working group. That is an example. There are just many, many examples of one arm of government working against environmental outcomes. I think it is a matter of educating people about how you engage people in NRM. At the moment, governments seem to have concentrated on this regulatory process where really I think I collaborative partnership does deliver the outcomes.

ACTING CHAIR: Thank you, Louise. Again, do not be concerned about there being many other examples. Please put them as sort of written submissions that react to some of the questions that have not been answered yet. Again, thank you very much. You have got one of the government agencies coming in right behind you. We will be talking to primary industries, and we will be talking to them about a number of these issues. Thank you very much. I look forward hearing more from you.

Ms BURGE: And hopefully we will work towards a good outcome.

ACTING CHAIR: We certainly will.

(The witness withdrew.)

SCOTT DAVENPORT, Director—Industry Analysis, Department of Primary Industries, Locked Bag 21, Orange, and

RENATA BROOKS, Deputy Director General—Agriculture, Fisheries and Regional Relations, Department of Primary Industries, Kite Street, Orange, and

JOHN ANDREW FISHER, Manager—Natural Resource Advisory Services, Department of Primary Industries, Kite Street, Orange, sworn and examined:

ACTING CHAIR: We come to the second submissions from the Department of Primary Industries. I thank all three participants for coming before the Committee today in this formal process. We are looking forward hearing your evidence and taking any questions today, and of course in the future to your responding to any that may be left unasked and taken on notice. I am advised that you have been issued with a copy of the Committee's terms of reference and a copy of the Legislative Assembly Standing Orders 332, 333 and 334 that relate of the examination of witnesses. Is that correct?

ALL WITNESSES. Yes.

ACTING CHAIR: I do not know if you have given evidence to these committees before. In addition to the correspondence and submissions that have been sent in to the Committee, would each of you like to make any opening comments or comments about the role of not only your department but also particularly the units you are involved in as far as the issues we have written to you about and those issues upon which you have responded to the Committee?

Ms BROOKS: I might speak on behalf of all of us and just preface that by saying we directly represent a small part of the Department of Primary Industries [DPI] and we will try to answer the broad questions that might be put to us, but we may need to take some questions on notice where our expertise does not specifically cover them. Thank you for the opportunity for the department to again meet with your committee. Just to explain, since the last appearance of the DPI before the Committee I have taken over the role of Deputy Director General for Agriculture and Fisheries from Dr Richard Sheldrake. This is my first exposure to this particular inquiry.

Given the previous focus of the Committee, our comments primarily will be addressed to agriculture, but, as I have said, we are more than happy to take questions on other broader Primary Industries issues and, if necessary, provide answers in writing later. First up, I would like to congratulate the Committee on the comprehensive report produced in response to the terms of reference (c) and (d), better on-farm approaches to salinity and drought management. In the foreword to the report the Chairman said, "I suspect that many landholders are still confused by the messages promoting productivity and economy on the one hand and environmental protection on the other. The good news is they can have it both ways". That is something I very much agree with and consider it is very important to think of sustainability in terms of its three pillars: economic, social and environmental sustainability.

In addressing terms of reference (a) and (b), I think the Chairman's statement about confusion felt by landholders is also relevant. To assist in exploring this issue I think it is useful to think of the DPI's role as generating information and facilitating the uptake of new technologies, which minimise and complement the need for regulatory approaches and thereby lead to more efficient overall outcomes. Consistent with that role, the Minister for Agriculture's 2003 letter proposed in summary that the two main disincentives to adoption of more sustainable practices are lack of information that is relevant to an individual's farming situation and uncertainty about the benefits of any intervention, and these barriers can be exacerbated by the farmer's financial and managerial capacity or lack of capacity to implement changes.

Within the DPI we are very active in addressing all of these barriers. Firstly, the department has an extensive research program that includes on-farm research sites to develop and demonstrate technologies that are simultaneously more profitable and more sustainable, and hence have a spin-off of more sustainable communities. We work closely in collaboration with other research organisations and other agencies to ensure the best information is identified. We then extend that information not

just through our front-line extension staff but also through working with agribusiness, CMAs and other organisations that farmers go to to obtain information.

Because this is a very complex area and agriculture itself is very complex, presenting farmers with a single piece of technology is often not enough. The most benefit comes from a package of changes that can be fine-tuned to suit an individual farm environment and a farmer's capabilities. One of the things we are also doing to address the barriers is creating a set of training courses that we are currently marketing under the banner "Profarm", and these courses provide a structured way for farmers to identify and obtain the knowledge and skills they require. The financial barrier can be a bit more difficult to overcome, even for technologies that are simultaneously profitable. The DPI has participated in the delivery of schemes often funded by CMAs that provide an initial subsidy or loans so that the initial barrier of capital cost is reduced. The rural assistance authority, of course, also has a conservation loan scheme. We also support the concept of market-based approaches that provide a financial reward for farmers who provide an environmental service.

Again I note in the report that the diversity and complexity of agencies, programs and services was identified as potentially confusing to landholders. Our focus is very much on sustainable industry development, as I have said, and on our on-farm activities that meet farm business objectives. There are synergies between this role and the roles of the DNR and CMAs, which focus on achieving community objectives on a landscape scale, and it recognises that a sustainable landscape may require more than a collection of sustainable farm businesses, but the two do go together. We work very closely with other agencies and CMAs with the objective of providing farmers with consistent advice and trying to deal with that issue of confusion. One example of that co-operation, which Scott can elaborate on, if you would like him to, is the economic analysis of investment and regulatory alternatives that the DPI has carried out for management of salinity and water by the DNR and the CMAs. In conclusion, the DPI's vision of a profitable and sustainable Primary Industries building vibrant communities really captures the essence of ecologically sustainable development.

ACTING CHAIR: Scott, did you want to elaborate in respect to that?

Mr DAVENPORT: Probably not. We are essentially working with CMAs in the sense of land use change and evaluation of new on-farm technologies, greater perennials and so forth. So we do have a program there of working closely with CMA's. There are several economists employed looking at various options that might help remedy some of those natural resources issues.

ACTING CHAIR: A previous admission argued that CMAs should have more autonomy in making decisions and there was a concern about higher bodies and so on. Your role with the CMA is only as a provider of information, you have no legislative power to direct them into any sort of course of action or decision-making process? I do not think they were pointing at your agency anyway, but if I could just formally ask that. You do not direct CMAs in any way, shape or form, you only provide them with information and support?

Ms BROOKS: Yes.

Mr FISHER: That is right, and we are keen to work in partnerships with CMAs as an ongoing discussion and we are actually developing memorandums of understanding with some CMAs so they know what services we can provide them and we know what their requirements are from us.

Mr GERARD MARTIN: The whole question of sustainable agriculture—I think in your submission there is reference to the dairy industry and the true costs, in that there are hidden costs in that. Are you suggesting that somewhere along the line we should be making decisions on what agricultural industries are done away with? Milk is a pretty basic commodity, is it not? But in your submission you open up the question about the fact that it is not viable because the social and ecological costs are not being built into the price of the product?

Ms BROOKS: Perhaps if I can answer that question in a couple of ways. I think the first thing you talked about was whether some industries are simply not viable, and I think it is important to think of agriculture as very dynamic. There are examples over many years of the amount of change that has happened in the way we approach agriculture. I heard a talk the other day where the example was given of the sugarcane industry, which went in a period of a few years from a highly labour-

dependent industry to an industry that fostered innovation of necessity and then went to a fully automated industry in terms of harvest. That was a massive change. That sort of thing has happened across agriculture, and that is not a New South Wales example, but it is just an illustration of the dynamism of agriculture.

So I think there are certainly practices within agriculture that we are looking to working towards alternatives and looking at developing better technologies that better meet the needs of both profitability and sustainability. But I do not think that means there is an argument that the whole industry is disappearing. The other part of your question was about meeting the costs of environment, and I might ask Scott to comment in a minute, but I think one of the things we are working on there again is opportunities to increase price where products can be identified as having particular characteristics in terms of social or environmental goods, if you like. For example, badging a product as being produced from a farm that has got a particular environmental management system in place.

Mr DAVENPORT: We probably all understand environmental regulation being some sort of social call of society out there, so to the extent that we have that vision, that view, then that is going to force the internalisation of some of those costs back into commodity prices right through to the consumer. So the consumer might end up paying, arguably, what seemed to be an efficient price. I think that is a helpful concept. Offsetting that, as Renata was saying, in terms of the dairy industry, there is some badging of product now, so that is working on the price received, among a whole raft of other things. I think we have got this environmental cost internalised into price. The industry obviously needs to maximise its returns to the extent that it can to offset those sorts of effects.

Quite frankly, we are seeing in the dairy industry now quite a lot of success stories in terms of restructuring and different arrangements and different market niches being met and so forth. It is a very sustainable industry, it is just simply operating now in a new environment, a new level; we are seeing quite a bit of productivity gain out of that industry. I suppose the DPI's role in terms of some of these cost pressures versus competition is, again, not to deny that social call but to facilitate our producers in working with that and finding these other productivity gains, higher returns and so forth, so that they can certainly move forward.

Ms BROOKS: I might just elaborate a bit further in terms of the dairy industry because I guess that was a case of pressures created by an environment when the industry was deregulated. What we did in NSW Agriculture then and have followed up in the DPI was to actually use that as an opportunity to work with farmers to develop their business management skills, to use the Commonwealth package that was developed at the time and tailor what we did in New South Wales to really get some benefit out of that by sitting down with farmers. We had a project called "Dairy Do It" then, which we have since further developed and we have recently released the Dairy Pathways project, which, again, is working with farmers to further develop their capacity to deal with some of these other areas of environmental requirements and business requirements. So I guess that is where we see our role.

ACTING CHAIR: It was the Pathways project, was it?

Ms BROOKS: Dairy Pathways. It was launched recently up on the North Coast.

Mr IAN ARMSTRONG: Just to follow on with dairy. I note in 2.4 of your submission you talk about lack of consumer support: "The Committee's belief in the desirability to change could also be inferred by consumer buying preferences", and then you talk about deregulation, et cetera, "and this has created an intensive profitability in production and a reduction in social, economic and environmental sustainability of dairy farms". Is it fair to say that since deregulation the number of cows being milked has increased production by about 40 per cent, but the actual cow production has gone from the top of about 26, 28 litres prior to deregulation, to now, with the improved profitability and new genetics coming in, many dairies milking over 2,000 cows, averaging over 38 litres per day? So we have actually seen a major increase in productivity, we have seen a major increase in very high-tech investment and there are companies doing major R and D in terms of a better product as far as the community is concerned, with a greater variation in profit ranging from those who want cheap milk to those who want high-quality dairy-based products. Is that a fair comment?

Ms BROOKS: Yes. I think what we have recognised is that there is a diversity of needs out there and a diversity of opportunities. As you say, there has certainly been some high-tech development. The DPI is investing currently with a number of partners in a project—I think that one is called Dairy Futures, but I would need to check that—which is looking at automated milking systems where cows come in and essentially milk themselves, and also very intensive production of forages over a smaller area of land and some of the sustainability impacts of that. We are looking very much at some of the high-tech stuff and the opportunities for the industry. But we are also working with the industry on some of the niche markets that may not necessarily be high-tech. So there are a diversity of options, and we are really interested in working with the industry to explore those options.

Mr FISHER: That response was written in 2003, and I think we have all been extremely impressed with how the dairy industry responded to the challenge.

Mr IAN ARMSTRONG: In 1.1 you say that the information overload is exacerbated by the declining number of farmers and the increasing number of properties being operated by one person. Spot on. You say farmers are often isolated from information and ideas, especially relating to natural resource management. In 3.3 you say that many farmers are not aware of the range of sources of assistance, and that, amongst other things, the complexity of the application process can be a disincentive, et cetera. Is one of the reasons that farmers are finding it harder to access information that there is, on behalf of governments per se, a lack of beef cattle officers, livestock officers, sheep and wool officers, poultry officers, economists, agronomists and so forth making on-farm visitations, as they did ten or fifteen years ago? Is it lack of that one-on-one contact that has now made it harder for farmers to get information, or have they themselves not adapted to the new technologies of emails and so forth as well as they should?

Ms BROOKS: The latter is certainly one of the issues. It is a very complex world that we are all operating in now, and we all have issues with information managing and dealing with information and using the best aspects of it—interpreting it and analysing it—and farmers are no different. In developing some of our workshop products and extension activities, we are trying to assist farmers with presenting that information in a way that is meaningful to them in their farm systems, rather than leaving them to collect all that information and have to deal with it themselves. But it is certainly a capacity issue for farming communities.

Mr DAVENPORT: I think it is important, though, to recognise that farming probably now does require more information because, for example, Gerard has commented about the social call now being made. So, if you are a farmer, it is not just about production; it is actually being able to comply with some of these other things. So it is important to recognise the information you need now to run a farm is increasing.

ACTING CHAIR: I think it is fair comment—as I think the Farmers Association made some time ago—that the uptake of new farm technologies is quite impressive. I understand that is coming along with generational change. That must be assisting with supplementing the extension work that the department is, historically, famous for.

Mr IAN ARMSTRONG: In the submission you use the word "sustainable" quite often. We have been waiting some time now for a template on lands subdivision across the State. Some have been released, and some are yet to come. Are you concerned about the hiatus that that is causing in investor confidence, as farmers are not too sure whether they are going to be able to build up because, if it is going to be a major subdivision requirement, they might have to spend a million or a million and a half to double the size of their properties? I am talking in particular about the Cowra area, where I live. We have just been advised that the minimum subdivision is going to be 400 hectares. In the shire, that will cost, on average, more than a million in today's market to build up. The average farm is only about 320 hectares. So their debts will increase by 50 per cent straight away. Do you think that will be a problem in sustainability, when we might be two or three years away from getting the final answer on that?

Ms BROOKS: I will let John comment on that. Two things occur to me. One is that we are very concerned to see retention of prime agricultural land, as that is important, and to develop planning frameworks that help minimise conflicts between different land uses, which is becoming more and more an issue as towns like Cowra expand. We are certainly working very closely with

Planning and other agencies on some of those issues. I think the other thing is that there is no such thing as complete certainty. One of the things that we are keen to work with farmers on is capacity to deal with an environment that does change, and to be able to update their business approaches to deal with change. But I will let John address that question.

Mr IAN ARMSTRONG: Actually, Cowra's population has gone backwards in the last 20 years.

Mr FISHER: We would have liked certainty sooner, but there is a real balancing act in this. Part of the reason that things have gone slowly is the need to let communities adequately engage with the process and express their ideas, and then be involved as things are refined. So there is a balance between doing it properly or doing it quickly, and sometimes I think it is better to go a bit slower and bring the community along—because, in the end, all these local planning processes have to deliver community outcomes. It is not really a State level outcome that we are looking for. The minimum lot size has been used as a way of trying to manage conflicts within predominantly agricultural areas as a tool to dissuade residential and hobby farm uses coming into primarily agricultural areas. We can argue about whether it is a good tool, but that was the sort of thinking behind the idea that we needed a larger minimum so that hobby farm uses would not result in the buying of agricultural properties.

Mr IAN ARMSTRONG: I guess it is pretty hard, when you are trying to treat all areas as a single entitle—so that, from Cobar to Currajong, and Dubbo to Crookwell, for instance, there are difficulties with having a common 400-hectare minimum.

Mr FISHER: I have been a little bit out of the planning game. I did not think there was the objective of having a common minimum lot size.

Mr IAN ARMSTRONG: It is.

Mr FISHER: Rather, they were developing a template, but then a council would have the right to change some of the numeric values within their area.

Mr IAN ARMSTRONG: No. It was made very clear last week that that is not the case with Cowra; they are locked into 400 hectares—and they go from 930 ft above sea level to 1800 feet above sea level.

Mr FISHER: I see.

Mr PETER DRAPER: It was interesting to look at Victoria's River Health strategy and how it identifies flow regimes and water quality. River health is one of the main characteristics, and water flow is one of the management tools. What is the situation in New South Wales with native fish populations? How do you negotiate with DNR to deliver the necessary water to make sure that the populations are viable? Does New South Wales have a strategy that is similar to Victoria's?

Ms BROOKS: I might need to refer to my notes on this one. The first point to make is that we consider in New South Wales it is better to deal with issues simultaneously at a landscape level, rather than hone in specifically on rivers. However, we do have an extensive involvement in the water area. Macro water plans are being prepared for unregulated rivers and groundwater in New South Wales, and they will include up to 28 surface water plans and 5 ground water plans. These plans follow on from the first round of water planning, which was for regulated rivers of course. These macro water plans are water sharing plans which apply to a number of water sources across catchments, or to different types of aquifers, and that has been a whole-of-government approach, which the Department of Natural Resources has led. That department can probably best answer questions on that.

The flows plans generally apply to catchments that have less intensive water use and which account for most of the remaining 20 per cent of water use not already managed by existing water sharing plans. The macro water plans will bring the benefits of recent water reforms to these catchments—such as healthier waterways, clearly defined entitlements to shares in available water separate from land ownership. Fish provide a good indicate of river health, and the Department of Primary Industries has developed a native fish index as part of the background work for these macro

water sharing plans. That index is yet to be peer reviewed. It was developed for a specific purpose, so it is not suitable for other applications at this stage. It has certainly been developed in that context.

The fish community integrity index is an assessment of the current status of the fish community within a sub-catchment, that is, the number of species present. That takes into consideration the number of species presumed to be present prior to European settlement, the number of alien species currently known or presumed to be present, and the number of native species currently known or presumed to be present.

There has also been a native fish strategy, specifically developed for the Murray-Darling Basin, and the Department of Primary Industries has certainly been involved in that. That is now publicly available. That includes a response to the key threats to native fish populations in the Murray-Darling Basin, and they range from flow regulation, habitat degradation, lower water quality, man-made barriers to fish movement, introduction of alien fish species, fisheries exploitation, the spread of diseases, and the translocation and stocking of fish. So we are explicitly addressing those matters in the strategy. The vision of that strategy is to ensure that the basin sustains viable fish populations and communities throughout its rivers.

Mr PETER DRAPER: It is interesting to me, as someone who lives on a river, that the perception in the city seems to be that there are no fish left in country New South Wales. The reality is quite different. I am speaking as somebody who has caught 14 Murray cod in the last month, on my property.

Mr IAN ARMSTRONG: Did you throw them back in?

Mr PETER DRAPER: Yes. I just take a photo. It might be the same fish! Speaking as someone who has had a long-term interest in fishing, and from speaking to people down here in the city, the very clear perception is that you only catch fish on the coast and that the money that people pay for licences, while in theory going to the land, is not delivering outcomes. Are you of the belief that we are getting the outcomes?

Ms BROOKS: In terms of recreational fishing licences, and inland areas?

Mr PETER DRAPER: Yes.

Ms BROOKS: Very definitely. I am happy to provide details of some of the programs that have been funded through that scheme. I do not have them today.

Mr PETER DRAPER: No, that is fine.

Mr GREG APLIN: I want to focus on paragraph 1.4, headed "Understanding regulation and policy". Your submission notes that farmers can be faced with conflicting economic and environmental interests and priorities. How are these conflicts best resolved? And are there primary industries that are simply unprofitable or unsustainable in the long term?

Mr DAVENPORT: To some extent we touched on this earlier. On the one hand, we have been given the example of competition policy forcing farmers to be very competitive. On the other hand we have this social call, which was raised. Like any regulation on you or on me or anyone else, what applies to farmers tends to force them to do things that they might not otherwise do. So it is a fairly simple analogy. Competition policy drives these types of outcomes, like environmental regulations and how they might change and cause behaviour to otherwise change. I think the Department of Primary Industries fits nicely into a role where we are trying to help farmers adapt to that more competitive environment, if that is what we want to call it, through information technology and so forth.

So, in a broad sense, I think that is the solution to it: recognise the regulatory provisions; and, if it is a competition policy issue, theoretically the benefits exceed the costs of the regulation, so it is something we are going to work with. Obviously, that is putting aside the whole debate about whether we believe in the benefits that were achieved, or whether they were achieved in the right way. Certainly, our Minister has been a great advocate of trying to drill down and question some of these

changes. But, conceptually, it puts us in a very good role to help facilitate change to some of the regulatory behavioural changes that are required.

CHAIR: I would like to bring you back to a topic that conflicts almost all local members. Question 11 is: What are the implications for sustainable food production of the loss of prime agricultural land to residential developments on the urban periphery? The other part of the question is the loss of agricultural land to all forms of development, environmental protection, national parks, and so on. The obvious question is: What is the solution to the problem? There are agricultural land studies and reports on which the department has, historically, been working with local government. Is that seen by the department as a major tool to prevent the loss of prime agricultural land? What really is the loss of agricultural food production to these many other competing interests, and how are you as an agency responding to that loss?

Ms BROOKS: There are pressures on land use. We are certainly engaging with other agencies to ensure a recognition of the need to retain prime agricultural land, particularly in areas where that pressure is intense. Of course, the other thing we are doing is working on new technologies and the adoption of those technologies so that the land that is available can produce more productively and sustainably. Again, it is important to emphasise that in many cases those things are not in tension; one can achieve profitability and sustainability at the same time. That is a very important concept. They are some introductory comments.

Mr FISHER: I agree. Reference was made to agricultural land reports. They are a very useful tool for us, because if we are going to negotiate with communities and councils about which areas should be protected then we need a solid basis. As honourable members are aware, agriculture has been through that process. Obviously, there are many demands on the landscape. It is up to communities to work out the balance. The Department of Primary Industries [DPI] is an advocate for agriculture. However, in the end, the decisions are made by communities.

We try to inform people about what are the benefits from agriculture; that is, the broad benefits, not only the economic production benefits but also the quality of life benefits, particularly in the Sydney situation. The contribution of agriculture to Sydney's lifestyle is more than the contribution of food; it is greenbelts, farmers' markets, tourism and it links into a range of opportunities. Obviously around Sydney there is incredible pressure as the city grows. There must be an ongoing information exercise to continually remind Sydney of the benefits. We work closely with the Department of Planning and councils to promote these benefits. We also have programs like Hawkesbury Harvest, which is a community-based exercise. We are working with farmers so that they can better promote what agriculture can offer. One product they have is a farmgate trail. Sydney people can drive around a series of farms, enjoy the rural lifestyle and buy some fresh product, which also improves farmers' incomes. It also demonstrates the value of agriculture.

Reference was made to other competing land uses, which occur more broadly through the State, national parks and a range of things. Again, DPI's role with that is to be an advocate for agriculture to try to explain what we might lose if the land ceases to be used for agriculture. On the other hand, we acknowledge that in the end some land will be diverted to other uses and communities have to decide where their best benefits lie.

Mr PETER DRAPER: Do you have any concerns about the current state of play in my local area, where investors from Sydney are buying prime agricultural land and not using it—it is an investment? On the weekend I was talking to some local landholders who have sons who want to go into the industry, but the price of adjoining properties is such that they cannot justify buying it given the return they would get from agricultural pursuits.

Mr FISHER: It is a major concern. Much of it is being driven by residential and hobby lifestyle uses. Hence our exploring what tools we have to manage that. We mentioned the minimum lot size, which I do not think is a particularly effective tool. Some other approaches are being used in America. However, it is a challenge for us to determine how we allow people to meet their lifestyle needs—and they are legitimate—but also maintain our capacity for agricultural production.

Mr IAN ARMSTRONG: Does it depend on the definition of agriculture, is it glasshouses for producing tomatoes such as the enterprise at Guyra, which will have one of the highest

productivities in the world when it is completed, is it breeding harness racing horses on 10 acres adjoining a town? These are all imponderables by definition. Many are outside investors who come into an area and do things that the normal farmer would not be game to try. They have the money to do it and they try growing flowers, mushrooms and so on. They are great experimenters and innovators in many ways. Is that a fair comment?

Mr FISHER: Very much so. I should have mentioned that increasingly in agriculture there are many enterprises that do not rely on the land, such as glasshouses, feedlots, poultry and so on.

Mr GREG APLIN: In discussing the costs of natural resource management for farmers, the submission states that farmers should not have to carry the full cost of implementing the practices that largely provide public benefit. What might those public benefits be and how might they be financially supported? Is it envisaged that there would be some type of stewardship role or payments for the provision of ecosystem services?

Mr DAVENPORT: It might be useful to talk about a market failure framework and government's role in correcting some of those market failures. That is the sort of situation in which we necessarily associate public benefits being created. Some examples are typically spill-over costs from resource use or whatever to the public more broadly. They could be to do with animal-plant disease. These benefits can flow in terms of the environment, where society is making a call that it wants more of something that is privately profitable to undertake, that is probably conceptually the key for the honourable member. That happens.

Society might want more biodiversity than it is in the farmer's interests to have; it might want cleaner water than it is in the interest of the farmer to have. There is any number of examples. That has become fairly widely recognised; the precedents have already been set in a number of areas. There is not one approach in terms of getting public funding. Certainly, it is not only out of the public purse; there can be private investors who can have a role in helping with that broader investment framework. Governments are certainly putting a large amount of funds into natural resource management by various arrangements involving Commonwealth and State funds. Governments are also experimenting and piloting market-based arrangements that might have governments involved in bush tender-type exercises.

There could also be market-based approaches where we try to attract private investment. There is a fair bit of colour and movement here at present. It is a matter of continuing to pursue that. I suppose some efficiency views on that would be that we should try, as far as possible, to get some private investment, not just the Government's saying that there is a public benefit so it will pay. If there are other people who might be interested in paying, we should be harnessing that. At the end of the day, certainly if there are residual benefits or residual social calls being made that are not in the interests of farmers to deliver, there is a role for public funding from various sources.

Mr GERARD MARTIN: A wide-ranging review of LEPs is occurring across the State in some hope of developing a template system. Given that Departments of Agriculture in the past have always played at least an advisory role in grading land from one to eight to give councils a guide in terms of subdivisions, are you playing a direct role with the department in the current process in relation to trying to protect the best land for agriculture, or is it just an ad hoc advisory process?

Mr FISHER: It is an ad hoc process, but we are a real advocate. We certainly come in at each stage of the LEP development, but we also come in before that to ensure that councils understand the benefit to their community from agriculture. We are working with the Department of Planning through this planning reform process.

Mr GERARD MARTIN: Is that in an advisory capacity, or do you have a more formal role?

Mr FISHER: It is an advisory capacity. Councils generally respect the advice and information that they receive from us. We usually have quite detailed discussions with councils when they are deciding to move zones and looking at opportunities, especially when they start thinking about future opportunities. They know what they have, but they also must consider how agriculture might change.

ACTING CHAIR: Part of the role of this committee is to examine natural resource management and how we can get farmers to get better outcomes. Before you came in today we had a hard-hitting submission from Mr Louise Burge, who was speaking not only as an individual landholder but also as a representative of the chair of the Natural Resource Committee of the Farmers Association. She was very critical of the demarcation between government agencies. As I lightheartedly said earlier, she did not name you. You will be pleased to hear that.

We also spoke about the role of CMAs and so on. Reference was made earlier to a number of programs that the Department of Primary Industries conducts, such as Prograze and FarmBis. Is that program still being run? It was jointly funded with the Federal Government. The Department of Primary Industries, being the promoter of agricultural production and so on, ran a number of courses to get a message out to the farmers. Are you satisfied that the content of those courses informs farmers about the requirements and challenges from those other agencies? Obviously, your role is not to resolve a dispute between two agencies or to clear up confusion and these courses must be helpful to farmers to pick up changes in legislation and so on. Is that part of these courses? Is there anything included in them that could be causing farmers to tread on the toes of some of the other agencies' requirements and so on? Are you satisfied with the natural resource component of courses?

Ms BROOKS: We are certainly working very closely with other agencies to ensure that in designing courses we are abreast of developments, particularly from a legislative perspective. There is obviously a need for government to regulate in some situations. We are endeavouring to complement regulatory approaches and hopefully minimise them to the greatest extent possible by working with farmers to voluntarily adopt practice change. That is consistent with the policy objective the legislation is trying to achieve. It is sometimes not so much the conflict but the fact that the legislation needs to be there in first place that can create some of the unrest and criticism.

Our course development is not a static thing; we do not have a suite of courses sitting on a shelf that we bring out as necessary. We are always developing new courses and we modify courses. We are not talking only about formal courses; we have workshop-type programs and a raft of different advisory approaches and approaches to encourage adoption of better practices. I am certainly confident that we are putting a lot of effort into making sure that we are developing consistent approaches with these other agencies that are working on these issues. Obviously now that we are under the same Minister with the Department of Natural Resources, that has only enhanced that working relationship, particularly with the Department of Natural Resources and the catchment management authorities.

Mr FISHER: Certainly on the legislation aspect, our normal quality control process for courses was to send material to the other agencies to get them to verify that it was correct. Even though we thought we knew, the safe thing was to give it to the agency responsible and get them to check the words. Whilst most of our courses do not deal specifically with legislation—in other words, they operate within the legislation but they do not really address it—we do have some courses that are specifically aimed at legislation, in particular the SMART train series of courses that have been developed with TAFE to train people how to use chemicals appropriately and to ensure that they fit in with the Protection of the Environment (Operations) Act and the other regulations of chemicals. It is just an example that we can develop and deliver things that are consistent with legislation.

You mentioned CMAs, Prograze, and things like that. With regard to a lot of those courses, which have a dual production and natural resource management outcome, CMAs have been involved at various stages in their development. In particular, we have a set of courses to do with managing dryland salinity, and they were developed jointly with CMAs. In fact, the booklets that go with the courses are co-badged. We update them for each catchment, and they go out with badges of the CMAs on them. The CMAs like a lot of our courses, and they subsidise the delivery of many of them, in particular Prograze and Landscan.

ACTING CHAIR: Is Profarm a different course?

Mr FISHER: Profarm is an umbrella title for a whole range of courses. We have 130 of them, and of that 130 there is a batch that is scheduled for delivery and there is a batch that, if people ask, we can put them on for them.

ACTING CHAIR: Obviously not all the questions we have tabled have been asked or answered here today. We would ask that the remaining questions be taken on notice, so we can consider the information contained in the answers in our deliberations and incorporate it when we are making our recommendations. Also, if you think we should make recommendations about certain aspects of natural resource management or farm production, please feel free to do so by way of a written submission to us.

(The witnesses withdrew)

THOMAS GROSSKOPF, Director, Vegetation and Land Management, 23-33 Bridge Street, Sydney, affirmed and examined,

GEOFF FISHBURN, Executive Director, Regions, Landscapes and Catchment Management Authority Support, Department of Natural Resources, 23-33 Bridge Street, Sydney, and

DAVID ANDREW HARRISS, Executive Director, Water Management, Department of Natural Resources, 23-33 Bridge Street, Sydney, sworn and examined:

ACTING CHAIR: I am advised that you have been issued with a copy of the Committee's terms of reference and also a copy of the Legislative Assembly's Standing Orders 332, 333 and 334, which relate to the examination of witnesses, is that correct?

Mr FISHBURN: That is correct.

ACTING CHAIR: The Committee has received your submission. We will ask you questions of which you have been given notice, and there may be questions arising from that. Do any of you wish to make an opening statement or comments to the Committee?

Mr FISHBURN: I would like to make some opening remarks if I may. We have a prepared statement, which I will refer to. I will not be fulsome in going through the entirety of it; I will table the statement as part of a suite of documents that I will refer to later. The New South Wales Department of Natural Resources [DNR] is pleased to have the opportunity to appear before the Committee today. Our statement addresses the Committee's first two terms of reference: (a) current disincentives that exist for ecologically sustainable land and water use in New South Wales, and (b) options for the removal of such disincentives and any consequences in doing so.

Your Committee Manager, Ian, has also indicated to me some of the issues you may be interested in specifically, and I will cover these issues generally in our statement, which I will table later, and leave time for you to ask more detailed questions, as you suggest. As you would be aware, the Department of Natural Resources is a very new organisation, so I would like to begin with a brief description of the role of the DNR as the lead agency for natural resource management in New South Wales. I will then move on to provide the Committee with an update on the DNR's progress in implementing the Government's reform agendas for water catchment management and native vegetation.

In implementing the Government's agenda, the DNR is very mindful of the key issues of concern in the Committee's terms of reference. In fact, three of the core principles to be detailed in our first corporate plan relate directly to the Committee's terms of reference. Firstly, incentives. The DNR fosters and encourages the use of incentives to conserve and manage natural resources in the use of market signals to promote sustainable production systems. Secondly, certainty. The DNR strives to create secure access to natural resources and clear property rights to give business greater certainty. Thirdly, compliance. The DNR ensures land-holders understand their rights and responsibilities under natural resources legislation, and takes appropriate action on proven breaches.

As I said, the Department of Natural Resources is the New South Wales Government's lead agency for the management and protection of the State's water, soil and native vegetation, and coastal and floodplain resources. The DNR's main role in water management is the allocation of New South Wales water resources to various users, including industry, utilities, communities and the environment. Native vegetation, soil health and salinity management are also among our responsibilities.

A summary of what DNR did to achieve our results in these areas is provided in, what I would refer to as, the results logic diagram, which I will provide to the Committee. Briefly, the services outlined in the logic diagram include issuing licences, developing market-based instruments such as water trading, undertaking natural resource management planning, monitoring and evaluating natural resource condition, ensuring compliance with natural resource legislation and providing scientific, technical and financial assistance to the department's partners. In addition to providing these natural resource management services DNR provides corporate, regulatory, and monitoring and

evaluating services to many agencies, including all catchment management authorities [CMAs]. In terms of water, New South Wales leads water reform and natural resource management in Australia.

This is demonstrated by the facts. Just under 57 per cent of the Murray-Darling basin is in New South Wales, and New South Wales uses approximately 56 per cent of the basin's water resources diverted for consumptive purposes. By comparison, Victoria constitutes 12 per cent of the basin and uses approximately 32 per cent of the basin's diverted water resources. More importantly, New South Wales water policy promotes efficient water use, which is better matched to natural year-to-year variability. The facts as reported by the Murray Darling Basin Commission independent audit group are that in the past six years of drought—between 2000 and 2005—New South Wales water used in the Murray Valley has been more than 1 million megalitres less than that used by Victoria in the Murray Valley during the same period, which is more than two times the volume of Sydney Harbour. This is a direct result of good policy. It means that the flow variation in our rivers more closely resembles their natural flow pattern, which is what our rivers need most.

New South Wales water policy reform has been under way for more than two decades. It included the 1994 Council of Australian Governments water reform framework and a raft of policy and legislative initiatives culminating in the Water Management Act 2000. The Water Management Act established an entirely new framework for water management in New South Wales that gives a certainty and security to water users. That framework is based on water-sharing plans to set the rules for the allocation of water between users, and between users and the environment for the next 10 years. Also it clearly defined perpetual access sharing entitlements, which are legally separate from land titles and which can be traded and borrowed against. It also established a register to record access share entitlements. As a result of this new Act New South Wales is a world leader in water management. The Act has enabled New South Wales to be the first State to implement the Council of Australian Governments National Water Initiative [NWI].

As shown in the comparison with other States that I will provide to the Committee at the end of this presentation, New South Wales is the only State that already has met all its NWI commitments, including legally separating water access licenses from land title thereby expanding the trade of water within New South Wales and interstate, independently setting water charges through the Independent Pricing and Regulatory Tribunal, implementing water-sharing plans for 80 per cent of all the water used in New South Wales, introducing perpetual access share entitlements, and extending opportunities for water trading, including opening up permanent trade out of the irrigation corporations in the southern Murray-Darling basin. Due to our reforms we now have a system of incentives for sustainable water use. We will access rights to create an incentive for water to be traded to where it generates most economic value. The volume of water available in each water source is limited to what we call the sustainable yield. Significant Government investment is enabling projects that result in water savings, water efficiency and river health to be developed.

Moving onto catchment management reforms, in October 2003 the New South Wales Government announced that natural resource management in his State was to undergo a series of historic changes, following recommendations of the Native Vegetation Reform Implementation Group chaired by Ian Sinclair. These reforms signalled a fundamental shift in the way land is to be managed with a move away from punitive measures to incentives to help farmers and other land managers. The reforms are sought to protect native vegetation and other natural resources, while making it easier for farmers continue our routine agricultural management activities. They include over \$436 million provided by the New South Wales and Australian governments for regional NRM programs under the National Action Plan for Salinity and Water Quality, the Natural Heritage Trust, the New South Wales Sustainability Trust and New South Wales Land and Water Management Plan programs. A key part of the NRM was helping to meet the challenge of managing native vegetation in New South Wales.

The Native Vegetation Act 2003 and the native vegetation regulation 2005 came into effect on 1 December 2005. They delivered the Government's commitment to end broad-scale clearing and thus it improves or maintains and environmental outcomes. In addition to the initial \$436 million and the creation of local CMAs, recently the Government has committed an additional \$37 million for a specific socioeconomic assistance package to help farmers adjust to new land clearing laws. The three-year native vegetation assistance package starts on 1 July 2006, and it includes \$15 million in sustainable farming grants, \$12 million in exit assistance for farmers and \$10 million for offset pools. This new system for native vegetation was needed to change our approach. I will leave it there and

thank you for allowing me to make that statement. I will now leave the Committee with a copy of a series of documents and our statements. The documents refer to natural resource management in New South Wales.

ACTING CHAIR: Is the statement you read from part of those documents?

Mr FISHBURN: It certainly is.

Mr GERARD MARTIN: I wish to ask a specific question about the Macquarie Marshes. We have had the Macquarie Marshes Management Committee before the Committee, who expressed concern about the fact that they have not had reasonable flows for so many years, which is having an environmental impact on the marshes as well as their grazing sustainability. Professor Richard Kingsford told the Committee that red gum forests in the Macquarie Marshes are dying and water birds are not breeding because they are not getting enough flows. He is talking about needing 200 megalitres every year. How is the department approaching this, given that the Macquarie Marshes are a significant wetland and environmentally very important?

Mr HARRISS: I appreciate that the Macquarie Marshes, like many areas of the Murray and the Murrumbidgee valleys, are suffering a lot of red gum decline primarily as a result of drought. In the Macquarie Marshes, for example, 2001 to 2004 was the driest three-year period on record and 2002-03 was the driest 12-month period on record for the Macquarie Marshes. I do not think there has been too much let up with the drought. All parties around the Macquarie Marshes are concerned about the lack of water going to consumptive use and for the environment. The water-sharing plan developed for the marshes provided for an additional 12.5 per cent of the water used in that valley to be diverted to the marshes. Unfortunately, you do not see the benefits of that during a period of drought because the water simply is not there. The water-sharing plan is providing the answer to that. If we got back to normal circumstances or wetter circumstances we would be able to see the benefits of that.

But over and above that, New South Wales also is committed to a wetland improvement project and is investing, I may stand corrected, maybe \$13.5 million into a series of structural works as well as water recovery for the marshes and other wetlands throughout the State. We have initiatives such as Riverbank, managed by the Department of Environment and Conservation, which also is looking at the recovery of water for the Macquarie Marshes. Unfortunately, it is not a system that is unique in New South Wales. We really are suffering the consequences of one of the longest droughts on record. We have had to invest in immediate red gum recovery works in the Murray Valley. We have extensive areas of the Murrumbidgee in decline. We do not have the typical spring wetting profiles that we have had over the last few years.

ACTING CHAIR: The Committee was quite surprised by the concern expressed about the Macquarie Marshes, which, for many years, has been held up as a great success story balancing the wetlands with the needs of irrigators and so on. When we received that evidence we were expecting a glowing progress report. It set us back a bit. I do not think he attributed all of it to drought. He was concerned about policy areas. We recognise that there has been a drought.

Mr GERARD MARTIN: I think they were critical specifically of the allocation to downstream irrigators at their expense.

Mr HARRISS: The allocation to downstream irrigators is consistent with the water-sharing plan, which is a statutory plan for 10 years. The plan makes provision for additional water to the environment, but, unfortunately, the benefit of that is received mostly in normal, if you like, or wetter years. Generally speaking, one of the issues about providing water for the environment is that you really cannot set aside enough that is going to have a fantastic environmental outcome in its own right. You have to add on top of the environmental allocations on top of moderate to good flows. Unfortunately, we have not had many of those moderate to good flows, which means that you do not get the incremental benefits you get during a dry year.

If I can use by way of example the Murray, with which I am familiar and with which Mr Aplin certainly is familiar, we have put a substantial volume of water into the Barmah-Millewah forest, which again is an icon site of the living Murray. We were putting in 275 gegalitres from New

South Wales and 250 from Victoria, which is a significant volume of water. When we were putting that on top of the high spring flows, which had the channel full, it was providing fantastic benefit. When demand reduced and we had to release that water to fill up the channel and then to go over bank and into the red gum areas we were using a lot of water for very little return. You really get the maximum benefit by piggybacking on flows, which, unfortunately, no areas of New South Wales and Victoria have seen for the past 87 years. The Lachlan probably is one of the worst areas.

Mr IAN ARMSTRONG: Good point. I am always intrigued that in the last, give or take, 100 years we have changed things drastically. In the Federation drought and even before we were told that the inland rivers just did not run and that would be the case now if we did not have the impoundment of water on the Wyangaas, the Burrinjucks and so forth. Inland New South Wales would not have had any water for the past two years. We have changed that. We have created an expectation not only by itself but also by nature that we have continuous flow. Is it fair to say that we are still learning how to manage that and that we really have not achieved a management practice?

Mr HARRISS: I think there has been a change in the thinking over the past 10 or 15 years, which recognises that impounding water and keeping a constant flow, which certainly suits the social and economic development in inland New South Wales and was a panacea to everything, is probably now no longer the best environmental outcome. What we need is variable flows, but, unfortunately, we cannot live with no flow in the rivers for two years. For example, in the Darling around Wilcannia in the Federation drought you referred to I think the river stopped flowing for somewhere between 361 and 364 days.

We have had nine-month periods in the last five years when that river has stopped flowing and we are still managing as if we are in the most critical drought on record. The environment can tolerate that. In fact, it provides some significant benefits. If I can give the example of salinity, which can be incredibly detrimental in parts of inland New South Wales, what would happen is that during dry periods that would actually come back into the river. Then, when you get a wet spring, it would be flushed out. Unfortunately, with the regulation we no longer have that, so we have lost that capacity to manage. The two larger of the Menindee Lakes have been dry now for four years. As they dry out all the bugs and grubs get into the bed of the lake and, when we have the next flood, they are washed out. That is a huge food source for the environment.

It is a bit of a balance. We have lost some of the good parts environmentally, but you cannot have all environment-all production. We have learned over the last 10 or 15 years that there has to be a balance. Everyone's perception of balance differs, but we are always striving to get a balance that maintains our regional communities and maintains the environment, not so much for the water birds and so on, but to maintain our capacity to produce so that we are not forever decreasing our productive capacity.

Mr FISHBURN: It is probably worth mentioning by comparison that the Macquarie Water Sharing plan returns some 12.5 per cent, if I can simply state it, of irrigation water to the wetlands. I think the nearest plan to that in the regulated rivers across the State would be 7 per cent in the Gwydir. If I compared it with the Murrumbidgee, I think that would have been around about a 4 per cent return from irrigation water to the environment.

Mr PETER DRAPER: I am a critic of this process, just to be up front. I was listening very carefully to your words about New South Wales being a world leader in water management. From the statistics you were quoting it seems like New South Wales irrigators are paying the price for the inefficiency of Victoria at the moment. It would appear the balance is tilted over the border somewhat. One of the main aims of the reform process has been to move the water from the lowest value to the highest. There is a school of thought that should be meeting environmental as the utmost priority. How do you determine the value of environmental water? Where does the efficiency of water use fit within the notion of long-term sustainability? Will moving water to the highest value result in the environment outcomes you are seeking?

Mr HARRISS: If I can lead off, through our water sharing plan process we adopt the principle of ecologically sustainable development and we do give environmental water priority—that is, basic environmental water to make sure we can continue to produce. It is very difficult to value environmental water in a dollar-per-megalitre figure although we can value water in dollars-per-

megalitre in terms of what you get off a rice crop or what you get off a citrus crop. What we do through our water sharing plans and other initiatives, such as the Living Murray Initiative or the Snowy Initiative, is set objectives and targets, which are there to maintain the environment so that it is a sustainable environment, and we measure our water use against that. It is very difficult to do it in terms of dollars per megalitre.

We are providing for the environment first by determining the objectives and measuring them against the water sharing plans, and task will be undertaken by the Natural Resources Commission. Coming to the second part of your question, simply allowing water trade to the highest priority uses will not necessarily provide an environmental dividend. It possibly will provide an economic dividend; the markets will make sure of that. I have just been talking to an agricultural group that asked pretty much the same question. It is very difficult at any time to say what is the higher value crop. Three or four years ago when we got into the Living Murray Initiative, the National Water Initiative stated we should move to higher value crops. That was when wine grapes were bringing \$1,500 per megalitre. They are currently bringing \$350 or less, which does not meet the costs of production.

In New South Wales we are opening the markets, removing the barriers to trade and allowing the market to determine where the water is best moved to provide the highest economic return, but we have a few caveats. That is consistent with the Council of Australian Governments [COAG] principles of 1994, rearticulated in the National Water Initiative, that you allow it move to the highest area and remove the barrier to trade, but you have to be consistent with two principles: that there is no adverse environmental impact and there is no impact on third parties. Other than that the water can move to where the market determines.

Mr PETER DRAPER: I have a supplementary question. When the separation of land and water was put in place was consideration given to the impact on farmers who had loans secured against the value of their property, that they no longer have that collateral base?

Mr HARRISS: I thought it was the other way around. I stand corrected here, if I may, but I thought the separation of land from water enabled the financial institutions to recognise the true value of water, which would actually provide a greater security.

Mr PETER DRAPER: No. It is the other way around. The value has been taken away from the farmer and many are being forced into renegotiating loans with a substantially reduced collateral base.

Mr HARRISS: I might take that question on notice and provide a formal response, if that is okay?

ACTING CHAIR: Certainly.

Mr FISHBURN: Mr Draper talked about the percentages that I quoted, and I would just qualify those a little. Those percentages where I compared consumptive water use against the area of the basin in New South Wales and Victoria relate specifically to the Murray-Darling Basin Ministerial Council cap on diversions, when you look at the way the rivers in the different States were capped, with regard to where we were at with historic diversions up to and including the 1993-94 water year. That set the baseline and we have moved down from the baseline in New South Wales with our environmental flow suites.

Mr PETER DRAPER: It just seems to me that we are leading the way in implementing reform and we are—"paying the price" is the wrong terminology, but we are in a situation where, by leading the way, our farming communities are being impacted on more significantly at the moment than those in other States.

Mr HARRISS: Could I answer that question? There may be that perception, and it is driven by the media. Perhaps we have not articulated as well as we should have done where we are in New South Wales as against the other States. Mr Draper made the point that we have introduced a number of initiatives under the National Water Initiative—and we do lead the way. New South Wales was the first Government to separate water rights from land rights. It was a direction of COAG. We did that in

legislation in 2000. Victoria only recently legislated, with that legislation to be implemented on 1 July 2007, and South Australia has still not indicated when it will do it. We are ahead of them in that field. In 1997 we established the Independent Pricing and Regulatory Tribunal [IPART] to determine the cost of water. Only recently has Victoria introduced a similar process, but South Australia is nowhere near it. We have met all our obligations to the National Water Commission. Most importantly, with the development of water sharing plans we recover water for the environment prior to establishing the remaining water and allowing it to be available for consumptive use.

We took the initiative to recover water for the environment prior to any other State and we say that in New South Wales, on the full implementation of our water sharing plans, we would have recovered 200 gegalitres for environmental water across New South Wales. That was well before any of the other States had even thought about doing this. We do not get the benefit of having done that. In fact, that makes it more difficult for us to recover further water under the Living Murray Initiative and the Snowy Initiative, because we took the initiative. That is one of the issues we have—and we believe New South Wales is leading the way—that we have led the way in respect of this and people are following us, whereas it would have been more beneficial for us to have shown no initiative, to have sat on our hands and wait for someone, say, to do this as a collective. But that is not leadership and that is not providing the outcomes we want to maintain our productive environments or maintain our irrigated agriculture.

ACTING CHAIR: The statistics referred to are very interesting and obviously starting to focus our attention on some progress. Imagine you had been here 10 years ago giving those statistics, what would be the situation? Have we gone further ahead in that regard? This is a positive statistic, a positive report, you have put to the Committee but have we turned the situation around from what it was 10 years ago and outperformed the other States? Is that something that has always existed? Was that always the case?

Mr HARRISS: The statistics were provided by the Murray-Darling Basin Commission, through River Murray Water. It was from a presentation it made last year on average diversions. Because the New South Wales approach in allocating water is based on water availability at the time, whereas Victoria and South Australia have a high security product which they get all the time, you will find that New South Wales use has been well below the figures that Mr Fishburn explained. On another point you made, the independent audit group of the Murray-Darling Basin Commission has identified that over the past six years in the Murray Valley alone, the water use in the Murray—which includes the Edward and Wakool rivers—by New South Wales users is one million megalitres less than that used by its Victorian equivalent—the Murray, the Kiewa and the Ovens rivers.

That is because our policy is to ensure our high security, of which we have about a 10 per cent profile, and the rest is general security. That is more opportunistic, although the users can virtually dictate their own security of carrying over unused entitlements, trading the water, not trading the water or not using the water. Effectively, we have established a better system of property right where the users have the capacity to determine their own level of reliability. That is not the case in the other States. Victoria does not allow sales of water until it has guaranteed everyone's product the following year. New South Wales policy uses less water in the dry years. Of course, it would be less over recent years because we have been going through a pretty horrendous drought.

Mr GREG APLIN: I would like to get the department's response to a view put to the Committee that government needs to decide whether it wants to regulate and risk losing the co-operation and support of rural people, or institute a process of change whereby government can regain the trust and co-operation of farmers to undertake revegetation works. That view was expressed particularly in relation to conservation values and the achievement of paper targets, which are seen as extremely restrictive on farming practice. In other words, the department, through the CMAs, is seen as imposing unrealistic targets that lead to unsustainability, rather than the other way around.

Mr GROSSKOPF: Mr Aplin, could I ask a clarifying question in relation to the paper targets?

Mr GREG APLIN: They can be high conservation value, land clearing or the 10-kilometre zones. In fact, it is not applicable only to farmers, but also to urban councils, in terms of clearance of land and restricting growth opportunities in country areas.

ACTING CHAIR: To be fair to the witnesses, this point was made fairly strongly only this morning by Louise Burge, who reiterated that view. She is the chair of the Natural Resource Committee of the New South Wales Farmers' Association.

Mr GROSSKOPF: I might start my response by saying that the key target to which the department and the regulations under the Native Vegetation and Conservation Act apply is the Government's overall position that it was to end broad scale clearing unless it improved or maintained environmental outcomes. That sets up the specific framework in which we operate. There were no specific targets of a percentage of retained vegetation in location—although the PVP developer, the computer-based decision support tool, supports the assessment of proposals by landholders to clear vegetation on their properties and does have within it a set of thresholds that establish whether that impact does improve or maintain environmental outcomes. To that extent I think the targets that Louise might be referring to are probably the thresholds within those tools. The response to whether or not a clearing activity can in fact take place is a balance. There is the opportunity to balance the impact with the use of offsets.

As a result, there is no specific target that says we have reached a particular threshold and therefore no further clearing could take place. What there is, is a method of balance, and if that balance is not found in terms of both the impact on a specific site and its relationship to the locality, then a red light occurs within the PVP system. So I hope that deals with that broad issue of standards. In relation to the urban expansion, the Native Vegetation Act does not apply to urban lands. It applies to rural lands. Lands of an urban character are excluded from the provisions of the Act, and so orderly expansion of a town or city based on a plan is through the local environmental plan which rezones land, and then it removes those provisions from that area. So ordinarily expansion of urban centres is still quite capable. In addressing two elements, I guess I would like to take on notice the specifics of your question in relation the perceived targets within the system, though, because I think it is one of perception of the way the system works.

ACTING CHAIR: I think that is fair enough to take that on notice.

Mr GERARD MARTIN: I have two questions. The first one is just a follow-up to the criticisms of the CMAs. Most people think they finally have an animal that most people are reasonably happy with, given the false starts in the past, but there is still this question of local autonomy being raised and that they are having to look over their shoulder—I presume they mean at you gentlemen, or your organisation—in delivering practical on-ground solutions. They believe that there is not enough autonomy. Do you have any response to that?

ACTING CHAIR: And you do not have the right to remain silent.

Mr FISHBURN: I have had a lot to do with the CMAs since their establishment. I guess I have seen them evolve, as new organisations do, and I guess the one thing that I have tried to instil in the CMAs and also in our regional staff is a partnership model whereby we are helping the CMAs to do the job that they have to do on the ground in implementing, in effect, government policy, not the least of which is the property vegetation plans under the new Native Vegetation Act. I think they are still feeling their way but I really believe that local decisions are being made but also in concert with the Act. What we are trying to do I guess from DNR's point of view is assist them with any changes that need to be made to the PVP developer software that might be required. It is almost brand new. Pretty obviously there will be glitches with it and we have tried to help them out with circulars with regard to parts of the Act so that their ground-based activity is more easily carried out.

Mr GROSSKOPF: If I might just add one element to that with specific reference to the native vegetation issues: The PVP developer system which is there is a decision support tool. It is not a black box in which somebody enters some data and an answer comes out and that is the end of it. There are in fact both opportunities to exercise local judgment and discretion in terms of the results of the assessment using the developer tool. So what do I mean by both judgment and discretion? There can be judgment as to whether or not a particular threatened species habitat is in fact in the locality. There is a judgment made while the PVP developer provides information about a vegetation type expected in the locality.

The officer that goes out there and looks at that landscape is trained in vegetation identification and he will go out there and confirm those results or put something different into the tool and say that the support tool is incorrect here, so I will enter new data. I can enter data both about the vegetation type, its condition, its extent, et cetera, changing the results dramatically by putting those things in. That all requires local judgment and local discretion to make those kinds of judgments along the way. So there is flexibility there to ensure that the outcomes that do come out of the system are practical on the ground. Most importantly the CMAs have a very specific role in working with the landholder to negotiate an outcome which works both for the farmer and to meet the provisions of the Act, which is to end broad-scale clearing unless it improves or maintains environmental outcomes. So they should be exploring the options to bring about practical workable outcomes on the ground and explore the options.

You know, if the initial proposal was around here, if we look at that proposal in the context of the property management planning kind of concept, are there other ways to achieve that result? Could we look at the remnant vegetation up on the hill and perhaps put some conservation options in there which would increase your offsets and allow more clearing or the clearing that you are proposing, some scattered trees or whatever it may be.

Mr GERARD MARTIN: There have been a number of submissions to the Committee that have been critical of the science involved in regional vegetation management plans, saying that they are basically not scientifically based. There have been criticisms of the Scientific Committee. Is it possible to get to the stage where we might be bogging down over the right science or who has the holy ground to say what science is right?

Mr FISHBURN: Minister Macdonald just recently set up a ministerial review committee which comprises Mal Peters, John Williams, an eminent scientist, Jeff Angel, and a CMA chair, Rob Gledhill, and Tom Parry chairs it currently. The idea of setting up the committee was to actually take on board practical views from the ground in terms of where solutions were not seen to be appropriate or they seemed to be miscuing on the ground and taking those parts of the problem back through this ministerial review committee to ensure that there is some form of peer review with regard to the science surrounding maybe a new way of doing things with the PVP developer so that we are getting more appropriate outcomes on the ground. I really believe that is probably a fairly practical committee that is trying to move things forward rather than bog things down in science.

The chairman has just passed me a series of clippings. I take it that Louise Burge left them with you this morning. I am just noticing—I do not know how old the clippings are but there are two things that come out of the article, " Penalising the conservation, ". Louise, or her husband, Andrew, is referring to the Western Riverina Regional Vegetation Management Plan in not being able to cut a fence post from a stand of black box. Under the new Native Vegetation Act we have clauses that relate to routine agricultural management activities [RAMAS]. That would not be an issue under the new Native Vegetation Act.

ACTING CHAIR: You mentioned some new changes that were taking affect on 1 July.

Mr FISHBURN: No, no, 1 December last year. The second issue that is raised here relates—perhaps it is an issue that obviously this Committee raises—the disincentives that relate to having pristine vegetation on your property. I guess there are two things I would say in regard to that. We have concentrated mainly here today in answering that question on clearing PVPs. This goes to the heart of incentives property vegetation plans where there are incentives that can be put in place and there is a stated \$120 million out of the \$436 million that I referred to in the opening statement that has to go on ground in incentives to farmers, particularly in relation to native vegetation incentives.

I guess as we move into time we will also look very carefully, which we are trying to do at the moment with our environmental services scheme pilots, at a market in environmental services where there can be credits given for those sorts of management activities on a particular property, looking after pristine vegetation, looking after wetlands, driving salinity down. It might take some time, I think. I think we are probably at the coalface with regard to this but I think also as we move into the future, with future funding for CMAs, they will also be at the forefront of trying to get some solutions on ground with environmental services.

ACTING CHAIR: Just so we are not hitting you with questions that were only raised with us this morning, what we will be doing also is sending you a copy of the submission that was given to us only this morning—we have to analyse it ourselves, of course—along with the Hansard evidence and give you an opportunity to take things on notice—obviously in the non-political area, just responding to some of the mechanical things. Also I would certainly been inviting you to help us out with how many of the criticisms are now being addressed by a number of the changes in regulations that you have referred to already that will be implemented over the next number of months or period of time. So if you could do that, that would be good.

Mr IAN ARMSTRONG: Just question for clarification, so you can now cut and split fence posts out of native timber to use on your own property for fences. Is that right?

Mr FISHBURN: Yes.

Mr IAN ARMSTRONG: Without permission?

Mr FISHBURN: Yes.

Mr GROSSKOPF: Correct.

Mr FISHBURN: We will actually provide the list of what we have referred to as RAMAS, the routine agricultural management or maintenance activities.

Mr GROSSKOPF: Management activities.

ACTING CHAIR: Tom, I cut you off.

Mr GROSSKOPF: That is okay.

ACTING CHAIR: Old habits.

Mr GROSSKOPF: I might just make two quick comments. One is that this article which relates to the regional vegetation management plan relates to the arrangements under the Native Vegetation Conservation Act which ended in December last year. That was one of the criticisms. As a result we have made those changes. The other point I wanted to make was in relation recognising and valuing prior good practice. Geoff has mentioned there the elements around the opportunities for incentives but the other aspect that should be kept in mind is that if a landholder is looking to undertake some clearing activity, the presence of that vegetation is actually an asset to them in regards to the offsets and the opportunities for offsets. For what they can do is, if they have an area of remnant vegetation, say, along the river bank, if they wanted to take out one or two scattered trees to put in centre pivot irrigation or something of that order, the offset can be found within the remnant vegetation and by saying, "We will fence that out", or, "We will only strategically graze it to managing weeds and the like". So gaining a benefit from having those elements still in the landscape can be won by farmers that have those sorts of assets on the farm.

Mr GREG APLIN: This will probably be a question Mr Harriss but I would like to pick up on what Tom said about the flexibility of approaches, the judgment and the discretion that can be exercised and pick up on something topical, and that is the sustainability or the sustainable yield in particular relationship to ground water and the determination of that. In terms of what you said about flexibility, if a determination is made that that sustainable yield is at X amount as at this point, what happens in a good year, as you said, when there is substantially more flow? What happens to the excess water, and who benefits?

Mr HARRISS: The recharge of aquifers is an enormously difficult concept and it depends on the kind of aquifer you are in. Alluvial aquifer is the kind that we look after in the Murray and are probably largely fed by rivers over a long, long period of time, so I do not think you are going to get the immediate response in the improvement in the aquifer level from one, or two, or three periods of rain. In other areas of fractured rock, if you get three or four substantial years, then you might get that kind of benefit. But it is very difficult to see the aquifer respond over a period of time, and it is three dimensional, unfortunately. I do not want to bog you down with science but what we are likely to see

in the Murray, for example, which you will probably be familiar with, if we go back to a sequence of wet years, you will probably see a substantial rise in the shallow aquifer and that might bring in water logging and salinity to the surface that we used to have 10 or 15 years ago that we have not witnessed as a consequence of a series of dry years and improved practices. But that will probably have very limited input into the deep aquifer from which most of our irrigators get their water.

What we are seeing over the last 10 years in the Murray is where the extraction of ground water is concentrated, particularly around the Deniliquin area, we are seeing substantial decline in the pressure levels, and those pressure levels have built up over thousands of years. I do not think you are going to see a recovery of that in an immediate short period, which will enable you to change the access arrangements, if you like. What we are doing though is establishing a series of property rights, an absolute entitlement which is your proportion of the estimated sustainable yield, and in a wet year if someone else chooses that they do not need to have as much ground water as possible, then they may be able to go on to the market and purchase that water to supplement their activities.

So it is a matter of marketplace mechanisms we are introducing there too within the water-sharing plans that identify sustainable yield, that is always going to be subject to better available science, and we will make adjustments, but then the entitlement process will mean that an individual will have a proportion of that entitlement. That may change with reaffirmation of sustainable yield but in wet years and other years they may be able to go onto the market to supplement their licence or trade their water, as they may see fit. Again, it comes back to that principle of we are establishing entitlement that a particular user might use, choose not to use or trade or even carry it over, to provide some sort of protection against the following year if conditions remain dry.

There have been some calls to adjust the available water determination, if you like, to say if we are consistently using below the sustainable yield, is there the potential to increase the determination so that user might use 125, 140 per cent of their entitlement? That has been mooted. We have not really resolved that issue yet. What that really does is to say that if one person is not using their entitlement then the State makes it available to another, and that is a bit contradictory to the principle of property right where if that person wants it they go onto the market to get it. So we are grappling with that with a lot of users seeking that that be one of the mechanisms to be used, but it is really parallel or opposed to the principle of setting the entitlement and allowing the market then to determine where the water is used.

Mr GREG APLIN: That, of course, has the reverse also operating in that a determination is made at a period following considerable drought, so it could be argued that the sustainable yield is actually based on a lower than normal level. That still does not answer the question as to if there is sufficient recharging—and not necessarily talking short term, we could be talking 10 years—what does happen to that extra water?

Mr HARRISS: What I am saying is that the recharge in the areas that we are most familiar with, being the six major aquifers in inland New South Wales where most of the over extraction is, they are typically recharged by river and river flows going in over a fixed period, it does not really matter how much, there is very little variation; I understand, that that changes. So we are getting reasonably confident about the level of sustainable yield and we do not believe that is going to change markedly over a period of wet or dry years over a short-term period. If that answers the question.

Mr GREG APLIN: As you mentioned, the possibility of salinity rising to the level is certainly there for the shallow aquifers and you would take steps, obviously, to mitigate that?

Mr HARRISS: Yes. Can I also get back to the original question about the science—and this is relevant to the numerous claims that the science is appropriate, is not good and "our scientists are better than your scientists", and that sort of thing. To try and overcome that, the department has established a science board, which is headed by Dr John Williams. It includes, from memory, Professor Peter Cullen, Professor Kath Bowmer from CSIRO Land and Water, and that is almost like a standing committee for the department. We also involve different groups of scientists.

For example, in determining the macro plans, the water-sharing plans for 20 per cent of the water sources that are not covered by the existing water-sharing planning process now, we are having the science behind those peer-reviewed by a group of eminent scientists, which includes John

Williams, again, Professor Kath Bowmer, Dr Terry Hillman, who was the previous director of the Murray-Darling Freshwater Research Centre, and Jeff Bennett, an economist from the ANU. So we are trying to overcome that "our science is better than your science" kind of argument that we have had for a while, by bringing in quite pragmatic and well-respected scientists in the international field.

Mr IAN ARMSTRONG: In talking about the six major aquifers in New South Wales, do you think we have got 50 per cent of the knowledge, 80 per cent of the knowledge or 10 per cent of the knowledge of those aquifers, one, with the mapping of where they are; two, the character; and three, nature's management—on a percentage basis?

Mr HARRISS: I would have to take that question on notice because I am not that familiar with the other aquifers.

Mr IAN ARMSTRONG: It is fundamental.

Mr HARRISS: I understand it is fundamental, and we are quite comfortable in that we have as much, if not more, information regarding the aquifers in New South Wales than they have in other jurisdictions. Again, it is not my particular area of expertise, although I have been in this position for four months now, chairing the Groundwater Adjustment Committee, but I will take that on notice.

ACTING CHAIR: I thank you, gentlemen, for coming along. I think we could have spoken to you all afternoon crisscrossing both political debate with technical debate. The questions that you have been asked and you have not answered today, we would ask you to take on notice. Secondly, we probably unfairly hit you with a couple of comments that were given to us only a couple of hours ago. We will be giving you a copy of that submission and we would like you, certainly from a technical point of view, to respond. We would be particularly interested in what criticisms are seen as fair criticisms and are being addressed by the current changes that are happening. There were some well thought out arguments put to us earlier on and the department's reactions to those would be very helpful.

Mr FISHBURN: We would be happy to assist you.

(The witnesses withdrew)

(Luncheon adjournment)

COLIN ANDREW CAMPBELL, Executive Director, Land and Water Australia, 89 Northbourne Avenue, Canberra, affirmed and examined:

ACTING CHAIR: I am advised that you have been issued with a copy of the Committee's terms of reference and also a copy of the Legislative Assembly's standing orders 332, 333 and 334, which relate to the examination of witnesses. Is that correct?

Mr CAMPBELL: Yes.

ACTING CHAIR: We do not have a formal submission. I understand you will table a publication that you authored. Is that right?

Mr CAMPBELL: That is correct.

ACTING CHAIR: We would appreciate it if you would make a presentation to the Committee.

Mr CAMPBELL: Land and Water Australia is an Australian Government research funding body. We do not actually do any research; we fund, manage, organise and manage it, and we do much of that work collaboratively. For this financial year we have an appropriation from the Australian Government, through the Agriculture portfolio, of about \$12.8 million, but our investments will total somewhere between \$33 million and \$35 million. We achieve that through a whole range of partnerships, predominately with rural industries, in areas of research such as grazing systems, climate variability, irrigation, environmental water allocation, tropical rivers, native vegetation, biodiversity and so on. So we have a range of natural resource management research programs and about 30 co-investing partners in those programs, which is why we are apparently investing more than twice as much money as we receive from the Government.

Importantly, as one of the research and development corporations—just like those involved with grains, meat, wool, sugar, cotton, and dairy—we are not really purely one of the research funding bodies; we are fundamentally interested in research that will be adopted, that makes a difference on the ground. We do not fund knowledge for its own sake. We fund it in order to change behaviour, in order to improved production, in order to improve the sustainability of Australia's rural industries. We are not curiosity proven; we are application driven. We need to ensure that the research makes a difference. We have been in existence since about 1990.

So the perspective that I bring to the Committee is that of someone charged with investing in the knowledge that we need in order to manage natural resources more wisely for the benefit of Australia's rural industries and the community as a whole. We are not a policy body, and we do not profess to make policy; but we do fund research in order to generate new knowledge that might inform policy or inform activities on the ground done by farmers, water authorities or anyone managing natural resources.

ACTING CHAIR: The Committee has had a lot of evidence, as well as some questions from our members, regarding the conflict of science, the availability of research and so on. How do we get around this problem raised in political debates that "We should not be doing this because the science on it is not 100 per cent", or, "We should not be going down this path because a lot of data is required on this area"? For example, in native vegetation, there is a big scientific debate; and certainly in water allocation there has been a big scientific debate. Your organisation has been around since 1990. Does your organisation have any role in trying to achieve one standard of data from which all government agencies can work?

Mr CAMPBELL: That is a very interesting, and difficult, question. Traditionally, science advances by disagreement. The best theories since the Renaissance have nearly always come at the expense of the theory that was accepted before it. Usually there is a battle of ideas that is fiercely contested, and through time, through peer review, through experimentation, and through the collection of more data, new knowledge prevails over the preceding wisdom.

The trouble with the natural resource management debate is that, when you hear scientists arguing in public about whether this particular theory is correct or this other theory is correct, that can be quite confusing and disturbing for the community as a whole and can be seen as a reason for inaction or for not progressing things. We do not have the luxury of being able to say, "Well, let's not do anything until the science is completely definitive." However, science has well tried and proven methods for sorting out what is rigorous and repeatable and defensible and as theoretically sound as current knowledge can allow, and those are the processes of peer review and so on. We certainly try to ensure that anything we fund will stand up to those tests.

Mr IAN ARMSTRONG: Andrew, you mentioned research being done into grazing systems. I suspect that all departments of agriculture, plus many of the major companies, such as the Twynam Agricultural Group, also would be undertaking projects. What vehicle is used to ensure there is not duplication of such trials? Also, how is that combined information is distilled?

Mr CAMPBELL: We are funding two major programs in that area. One, which is focused on the wool industry, is called Land, Water and Wool. The main one is called Grain and Graze, which is in collaboration with the Grains Research and Development Corporation, Meat and Livestock Australia, Australian Wool Innovation and Land and Water Australia. So four research and development corporations are jointly funding a program aimed at the mixed farming country—sheep and wheat—where a very large number of farmers pay levies to two or more of Grains, Meat and Wool and a number of farmers pay levies to all three. In the past, they have not necessarily got an integrated product from paying three different levies to three different corporations. So now, through Grain and Graze, one of the mechanisms for avoiding duplication is to line up the investors in one program so that we are jointly investing in work. In the past, the Grains Research and Development Corporation had excellent cropping systems trials, and Meat and Livestock Australia had excellent grazing systems trials, but for mixed farmers those bodies were not necessarily working together on their own properties. So that is how we are trying to deal with the duplication issue.

The reason my board was generous enough to give me time off to go and do this piece of work was to enable me to look at the broader issue of the fragmentation of our research and extension systems, and to look at what mechanisms would have to ensure we are not duplicating work, or repeating work that has already been funded elsewhere, and asking the question: How would a punter somewhere in Australia no whether or not a project had been done on this somewhere else, in another State, by another industry or consultancy firm, or whatever? I believe there is plenty of room for improvement in the way in which where share information across organisational, State and industry, boundaries, and that is what this piece of work tries to map out.

Mr IAN ARMSTRONG: I am probably more concerned with other governments, as in State governments and State government agencies. Over recent months the Committee has been briefed by a number of State organisations, many of which are doing trials on grazing. For instance, about 15 years ago, the CSIRO, New South Wales and Victoria were doing exactly the same trials into the wire trellising of cherries, but they were not speaking to each other.

Mr CAMPBELL: There are such instances still around. But I think the communication is now pretty good. Certainly through Grain and Graze, we are working very closely with State departments in all of the jurisdictions where we are working, and we are also working with the new regional bodies, the catchment management authorities in New South Wales and their equivalents in other States, to try to make a better link between the regional targets that we see in catchment strategies and what farmers would need to do on the ground, and what that means for a farming system, and vice versa. It may be that in some of the regions the work being done through Grain and Graze will lead the regional body to think that the target needs looking at again.

Mr IAN ARMSTRONG: So there is an exchange of information?

Mr CAMPBELL: Absolutely.

Mr GREG APLIN: Andrew, I would like to ask a general question first, then lead into something specific and ask you to give some personal examples to indicate the way forward. What do you see as the factors or forces that generally contribute to unsustainable land and water use in Australia? You are quoted as saying that you believe we need to reinvent our approach to agriculture

and that small towns—obviously in country areas—will need to reinvent themselves. Can you combine an answer addressing those two elements?

Mr CAMPBELL: I think the broad factors contributing to the present situation are the signals being given to land users—and I will concentrate predominantly on farmers managing for commercial purposes. The rewards for "doing the right things" are pretty weak, and the sanctions for "doing the wrong things" are either weak or not enforced. If you go into a supermarket and buy a product off the shelf, not much of a signal goes back to the producer from that product on the supermarket shelf as to how it was produced. A fundamental cause of that is that in many areas we lack practical and profitable options for farmers to adopt. We have been finding that some of the things that we have been recommending that farmers do over the past 20 years simply do not make enough money for them to be adopted on a wide scale. If you take as an example lucerne for salinity control, if it is adopted by a handful of people in a catchment, that is okay, because they can sell at a good price. But, if everyone were doing it, the price would crash, and so the economics would fall over.

We have not thought through sufficiently well sustainable farming systems which are practical for people to adopt and which are simply a lot more profitable. One of the profound drivers of unsustainability is that the current systems do not make enough money for enough people. The other big driver is that we have a pretty wide distribution in most industries—it is narrower in some than others—between the best operators at one end, the average in the middle and the less good managers at the other end. That spread is pretty wide in some industries, and closing that gap is very important. If you go onto the best properties, they are in very good condition, they are good enterprises and they are looking after the natural resources with a high degree of management skill. That is not where the problems are coming from.

If you look at the whole spread of managers, there is a big gap between the best and the average, and in some cases between the average and the tail. Often whole industries are getting a bad name because of the actions of a few. That comes back to improving extension systems and the way in which we help people to look at management practices on the ground. Of course, there are the external factors over which farmers have no control, such as the inexorable cost-price squeeze, which is likely to get even steeper now with rising energy costs and our highly variable climate, which is getting even more variable. That variability is becoming more extreme.

They are the fundamental drivers behind sustainability issues in rural Australia. Those are both the cause and the effect of some demographic problems. If you look at the demographic data, the loss of the cohort, particularly of females between the ages of 15 and 24 years, from many rural districts is a fundamental social problem for the future of those communities. When talented young people leave the land and rural towns, there will be great competition for talent, and agriculture will be in that competition against other sectors. That competition will only get more and more sharp in future, and agriculture must be able to offer the combination of lifestyle, reward and advancement that other sectors can offer, because the number of entrants into the labour market will be going down every year for the foreseeable future. They are the big issues in my mind that we need to be wrestling with them.

Mr GERARD MARTIN: Do you have a view on the best science available in resource management? I note your organisation is about resources and development.

Mr CAMPBELL: About funding it.

Mr GERARD MARTIN: We have had conflicting views. There seems to be an argument about which is the best scientific approach to take, whether it be natural vegetation management or whatever. Do you see that being resolved, is it a matter of picking the right stuff, or is it still a nebulous area?

Mr CAMPBELL: We have very good science for particular issues in particular places, so it is difficult to generalise. There are some areas in which Australia is world-class and we have some of the best scientists, but there are others where we lack capacity and where we need more top-class people. As I said, the methods for establishing whether something is a good piece of science are very well understood. It is about peer review and being able to be contested, verified and, in particular,

people being able to have their methodologies repeated by others and coming up with similar conclusions. Those quality checks on good science are well established. There is no reason why they cannot be applied in natural resource management areas as they are in medicine or designing aeroplanes

ACTING CHAIR: You are a primary producer in Western Australia; is that right?

Mr CAMPBELL: No, western Victoria.

ACTING CHAIR: Are you familiar with the land clearing controls in New South Wales? I direct you to some of the criticisms that our legislation can be somewhat of a disincentive. Are you aware of any stark contrast between the Victorian experience and any other State's experience with land clearing controls? Is it more of a disincentive here for natural resource progress than in other States?

Mr CAMPBELL: I am not aware of the New South Wales situation in any detail, so I do not want to comment or attempt to make any comparison. The institute is jointly funding a study at the moment to look at what best practice regulation of native vegetation would look like in Australia. We are funding a project to do that comparison across all jurisdictions to try to identify which are the best bits from the different States or elsewhere in the world and how to put that in a package. The premise behind our funding that project, without commenting on any particular jurisdiction, is that there is a lot of room for improvement in the way we design regulations and enforce regulations around native vegetation. In Australia, we have a 25-year history of having a crack at it across different jurisdictions, so we believe there are some lessons to be learnt, and this project is about pulling all those together. I think that by the end of this year we will have some preliminary outputs from that project.

Mr GREG APLIN: My question relates to your private operation, the types of changes occurring on your property and the caution on a number of grounds, including the lack of an environmental master plan for tree planting, the use of mono-cultures and some ongoing clearing. Can you give the committee more details of your concerns and how they might be addressed?

Mr CAMPBELL: I was not expecting to talk about my own property, although I am happy to do so.

Mr GREG APLIN: We can extrapolate over a wider area.

Mr CAMPBELL: I come from a fifth-generation farming family in western Victoria. It is predominantly wool country, but we are in the green triangle region and, like many landholders in the region, in recent years we have gone into farm forestry. We have 80 hectares of Tasmanian blue gums and 20-odd hectares of pines that I financed myself. The blue gums are leased to a Japanese pulp company. We also have a lot of environmental planting and long-term furniture planting. My comment about the broader plan is that in the green triangle region there has been a very large and rapid increase in blue gum plantation area through the managed investment scheme developments.

The irony for me is that the local catchment management authority has a vegetation strategy for that region, but you can plant tens of thousands of hectares of blue gums without any reference to the vegetation strategy because blue gums are exempt through particular exemptions in the planning controls. It seems very strange to me that we can be revegetating large areas without any connection to the regional vegetation strategy.

I left a significant area around the boundary of my property, specified that no dead trees were allowed to be bowled over and said that there had to be some environmental revegetation in the middle of areas that were too swampy to plant and so on. Because you have big machinery coming in anyway to do the commercial plantation, the marginal cost of doing some environmental planting while you are there, around the edges, in the middle or whatever, is 1 or 2 per cent maximum. Yet, when those trees are clear-felled for pulp, which they will be every 10 years if the companies meet their projections, in my case you will hardly be able to see it from the road because there will be environmental plantings all around.

It strikes me that there has been a very big missed opportunity where companies have been trying to maximise their area because they have targets to meet. They have cleared right down to the creek in certain cases, have knocked over dead trees because they were in the road, despite the fact that they are critical habitat, and have then planted fence to fence. That will be fine until they come to cut them all down and it will look like a nuclear bomb has hit it. It would not surprise me to see a lot of community concern that could have been avoided with more sensible design up front. I am a professional forester by training, and I have been disturbed at the lack of some slightly more sensitive design in the initial establishment. I was able to force that on my own property, but I would like to see that more generally applied.

It raises the broader point about lining up our planning arrangements between local government, catchment bodies, state bodies and, in the case of the national action plan, the funding that is going into the regional planning through catchments management authorities and so on. I can understand why landholders might be confused by this hierarchy of plans cascading on them.

Mr GERARD MARTIN: Do you agree with the view that the whole regulation and legislative framework in this area is too complex and that is a disincentive for farmers and rural people, or is there a happy medium? We do not seem to be able to find it.

Mr CAMPBELL: Frankly, I would. I do not want to go into any more detail than that, but there is more than a prima facie case that there is considerable room for streamlining and for taking a more integrated approach. Now that Australia is implementing these regional bodies—called different things in different jurisdictions—

Mr GERARD MARTIN: They are catchment management authorities here.

Mr CAMPBELL: Yes, catchment management authorities in New South Wales. It seems to me to be an ideal opportunity to pull some of this stuff together in a cleaner way that makes more sense from a landholder's point of view.

Mr GERARD MARTIN: Are they structured in Victoria on distinct catchment areas?

Mr CAMPBELL: Yes, broadly.

Mr GERARD MARTIN: We have heard criticism of our system that there is not enough local autonomy. What is the Victorian experience?

Mr CAMPBELL: I am not an authority on the Victorian bodies, but they have been around a bit longer. Broadly, in Victoria they map pretty well against social regions. People come from the Wimmera or north west or north central. Those catchment authorities map well against the football leagues, for example. So people identify with that as being the district they come from.

However, I would not say that Victoria has sorted out the relationship with local government, for example, very well yet, or even with local Landcare groups for that matter. However, for the committees that are doing a good job in those areas, it is a lot easier for local landholders to wander into a local district and talk about those issues knowing that there is a board comprising community people, many of whom they know very well. They can get things on the table of the board of the CMA pretty easily. That model of making decisions as close as possible to where the management action is happening is a good one.

Mr GREG APLIN: You said that the wheat-sheep farming systems we have are fundamentally incapable of managing water and nutrients balances on a landscape scale. Are some agricultural activities incompatible with this environment? If so, how could this incompatibility be resolved?

Mr CAMPBELL: I think we need to be very wary of saying that particular land use or a particular management practice is unsuitable. In the hands of a very good manager, or in a good season, it could be completely benign and in fact not a problem at all. In the hands of a poor manager, or in a very bad season, the same practice could be causing significant problems. So I do not think it is

sensible, except in the broadest terms, to try to draw lines on maps or colour in maps and say you cannot do this here or you cannot do that there. A lot of it comes back to management skill.

I think that regional approach through catchment bodies is the best way of resolving where you have an inappropriate mix between land use or land management and the resource base. Most catchment bodies should be able to identify the hot spots, where they either have a lot of erosion happening or a lot of nutrients getting into creeks, or whatever, and zoom in on those hot spots and say, "What changes do we need to make here", and get some extension resources on the ground to work with the land-holders in that area or industry to fix it. I do not think blanket prescriptions are particularly helpful.

Having said that, we know that in the wheat-sheep belt we have significant subsurface drainage, that systems based on annual plants are not effective at using water all year round, and that we need to get more perennials into that system. But I do not think there is a single prescription—and some of the ones we have developed to date are not sufficiently attractive on economic grounds, and often they are a lot more complex for land-holders to implement than what they are currently doing. In my view, the researchers still have a lot of work to do in working alongside farmers to come up with systems that farmers can adopt, that make more money and use more water at the right times of year and can be scaled up without sending everybody broke. There is no point identifying a product that is fantastic for the first 1 or 2 per cent of people who adopt it and that crashes if 60 per cent of people adopt it.

ACTING CHAIR: This inquiry is about disincentives to ecologically sustainable land and water use. You have tabled your comprehensive booklet. From the Committee's point of view when we are drawing from this information in order to make our recommendations, what is the central message we can glean from this report?

Mr CAMPBELL: In my view, it is time for a rethink of research and extension in Australia, in particular how we organise it nationally—when I say nationally, I mean the Commonwealth and the States and Territories—how we organise it across different industries, and how we get it onto the ground. The Primary Industries Standing Committee to the Primary Industries Ministerial Council, which comprises all the State and Territory primary industries Ministers and the Federal Ministers, is currently trying to develop a new national framework for research, development and extension. I think that is a really important opportunity for us to work out what the States will fund, what the Federal Government will fund, what industries will fund with their levies, and how we will organise it, and in particular how we will ensure that extension does not fall over. That is something that I am very concerned about.

ACTING CHAIR: You are referring to publicly funded extension?

Mr CAMPBELL: Yes. There has been a recent study by Gordon Stone in northern New South Wales and southern Queensland of the role of agribusiness in delivering extension services. That study found that agribusiness is doing a very good job in delivering extension services for the sharp end of the farming community, to put it crudely. They are doing a good job in delivering extension for the top operators. But there is no money in it for them trying to deliver extension services for people who do not want them.

So we need to think about the role of government, but to make sure that we do not have overlapping State and Federal systems or industry systems, and that we work out where we will roll out a program to achieve what objectives, in what regions, and funded by whom, and to work with industry and farmers to make that happen. I think this booklet is about trying to identify some of the ways in which we could be working smarter than we are currently. I am not talking about more money; I am talking about using existing resources in a better co-ordinated way.

ACTING CHAIR: What is the name of the study you referred to?

Mr CAMPBELL: The study, by Gordon Stone, is entitled "Agribusiness Role in Extension, Education and Training—a Case Study". In my view, that is a very significant area that needs to be sorted out. Similarly, across all those organisations—all the State departments, all the industry bodies, all the Federal departments, the CSIRO, all the universities, and all the co-operative research

centres—there is a big job to be done to ensure that the farmer anywhere in Australia, or a catchment management authority or a water authority, can find out what research has been done anywhere by any of those organisations without having to log on to 80 different web sites or interrogate each State's database. In the days of the Internet and modern technology, we have a big job to do to clean up all our information systems so that people can search very quickly and find everything. We are doing surveys of regional bodies that show that people feel there is no shortage of information; they feel buried in it. They are completely intimidated by the mass of information potentially available, and they do not know where to start, so they default to what they already know.

ACTING CHAIR: If the University of New England or Charles Sturt University wanted to do a project, whether it be on natural resource management or any part of agriculture, is there a central log-in place for them to ascertain whether such a project had already been done in Western Australia, for example?

Mr CAMPBELL: That is the question I am asking.

ACTING CHAIR: If the university wants to do a project on whatever it may be, it needs to find out whether it has been done before. Unfortunately, we do not have that information centrally collated, is that what you are saying?

Mr CAMPBELL: We do have one database that each State and most of the rural industries are jointly investing in. It is called Australian Agriculture and Natural Resources Online [AANRO]. But compliance with it is becoming a bit patchy, and so it is not necessarily as comprehensive as it used to be. But Australia is still ahead of many countries in having that facility. Fortunately, recently all the relevant agencies have agreed that we need to spruce that up a little and that we have a good framework there that we can build on. The short answer to your question is no. The average researcher does not have a single point to plug into and make sure where their report goes. That is what we are trying to achieve with this. At the moment what we have is mainly for the research community.

The average farmer or the average consultants working with farmers have never heard of this stuff, and we need them to know about it too. Given the rate of increase of Internet usage, we have to make sure that these tools are available for farm consultants, agribusiness, individual land-holders, community groups, and so on. Some recent work suggests that some of the members of voluntary community groups are more systematic in their Internet searching than are agency people, who generally have a library. They can ring up and say, "What have we got on this?" Whereas, some of the community people, particularly those with broadband access, are now accessing a much wider range of information than they ever were in the past.

ACTING CHAIR: This booklet is about driving that agenda, is it, and about how we can centralise—

Mr CAMPBELL: Not necessarily centralise. With the latest technologies you do not need to have it all in one place. You can have quite distributed approaches, where you are not coming through one bottleneck at all. You do not even have to do it through one single web site. You can have it so that the databases in the background are talking to each other, without your even needing to know. That is what we are trying to get to. But, yes, that piece of work is about how we can have a more joined-up system, to use some of the jargon.

ACTING CHAIR: We have provided you with a number of questions which obviously have not been asked or answered. Would it be possible for you to take those questions on notice and provided a written response?

Mr CAMPBELL: Yes.

ACTING CHAIR: It may be useful to have incorporated into today's evidence the booklet you have tabled, entitled *The Australian Natural Resource Management Knowledge System*. It probably sums up the goal you are trying to achieve and the recommendations you are putting to the Committee. I might say that if that goal were ever achieved, it would cut across probably about half the evidence that has been given to this Committee over the last couple of years. It certainly underpins everything we are trying to achieve.

(The witness withdrew)

(The Committee adjourned at 2.30 p.m.)