

LEGISLATIVE ASSEMBLY



Standing Committee on Natural Resource Management

MINUTES OF EVIDENCE TAKEN

Inquiry into the Impact of Water Management
Arrangements on Salinity Management

October 2004

REPORT OF PROCEEDINGS BEFORE

**STANDING COMMITTEE ON NATURAL RESOURCE
MANAGEMENT**

**INQUIRY INTO NATURAL RESOURCE MANAGEMENT
ISSUES**

At Sydney on Thursday 4 September 2003

The Committee met at 10.05 a.m.

PRESENT

The Hon. Pam Allan (Chair)

Mr Gregory Aplin

Mr Gerard Martin

Mr Anthony McGrane

Transcript provided by Spark and Cannon

CHRISTOPHER ROBERT GUEST, Acting Deputy Director-General, Department of Infrastructure Planning and Natural Resources, 22-33 Bridge Street, Sydney, and

DESMOND MICHAEL CLEARY, General Manager, Water Management Act Implementation, Department of Infrastructure Planning and Natural Resources, 22-33 Bridge Street, Sydney, affirmed and examined:

CHAIR: Chris, obviously you are going to present, and then we will be asking you questions.

Dr GUEST: Yes. We have prepared a short summary outline of what we are about to say, and we are, obviously, happy to take questions as we proceed. It is probably best if people ask questions as they occur to them. You have supplied us with a set of questions to which we have prepared answers in this presentation. Before we turn to answer the questions you have put to us, it is useful, I think, to put the trading issue in context by talking very briefly about the changes that have recently been made in the legislative framework governing water management in New South Wales.

As you are probably aware, in 2000 a new Act was introduced—the Water Management Act—which replaced the old Water Act of 1912. For our purposes today, it is relevant to note two changes that were introduced by the Water Management Act. The first of those changes was to place a clear, explicit priority on the importance of managing water for achieving environmental outcomes. That previously had not been part of the formal legislative arrangements that governed water management.

The second element of the Water Management Act that is particularly relevant to our discussion today about water trading is that there are a variety of measures within the Act which are designed to, and will have the effect of, facilitating water trading. Of those, the first, and perhaps most important, is the separation of land from water. A critical element of the reforms in the Water Management Act has been to separate the ownership of land from water so that a person who owns water need not own any land associated with that, whereas under the old arrangements, in order to own a water access right, you had to own the land to which that water access right was attached. The consequence of that separation is that it will be much easier to trade water, because you can focus on the commodity of water for the purposes of the trade rather than linking the water to land.

One of the other changes associated with the Act which we believe will facilitate trading is the introduction of longer term licences. Under the Water Act, the access licence was for five years. Under the new Act, the access licence is for 15 years, so that gives greater security of access to the licence holder.

The third change is that water management will be governed through 10-year water sharing plans, and those water sharing plans specify the fundamental rules whereby decisions will be taken about the allocation of water between the environment and consumptive users. Previously, under the Water Act, decisions about water allocations were made on a year-by-year basis and could be varied at any time by the Minister, without there being any compensation entitlement by irrigation licence holders. Under the Water Management Act approach, the rules are fixed for a 10-year period. If there is a variation from those rules, then, if that variation is not contemplated by the water sharing plan, the impact of that variation is compensable for licence holders.

The next change introduced through the Water Management Act is the introduction of a set of State rules for water trading which specify the arrangements by which the decisions will be made about whether a trade can be approved.

The final new thing that the Water Management Act introduces which we believe will facilitate trades is the establishment of an access licence register, whereby there will be a public record, just as there is for land titles, which will show who owns the water licence and what its terms and conditions are. Having this public register will mean that there is a transparency about water access ownership and its transfers, which will make it easier for people to undertake transaction.

They are just some very brief remarks about the change in the operating environment that the new Act has introduced, and we will look specifically at what the impacts of those are as we go through the various questions for which we have prepared responses.

The first issue you have asked us to talk about is what was agreed at the Council of Australian Governments meeting last Friday, 29 August, in relation to water trading. As I am sure you are aware, the Council of Australian Governments [COAG] agreement from last Friday has been very positively received by all stakeholders and governments and it was endorsed by all jurisdictions. For our purposes, there are two critical issues in the COAG agreement that are relevant to water trading.

The first is that the COAG agreement delivers a commitment to taking steps to expand water markets, in particular to make it easier for there to be trade across borders. The way in which that is to be done is to ensure that there is as much compatibility as possible between the water management regimes of each of the jurisdictions. The objective is not to achieve a uniform water management framework. It would be, as we know from a history of Federation, a major task to get every State to have exactly the same rules and, we believe, unnecessary. What is required to facilitate trade is that we have regimes between jurisdictions that are as consistent and as compatible as possible so as to make trade easy, while at the same time allowing for differences between jurisdictions that reflect particular circumstances in those jurisdictions. So COAG is committed to taking steps to ensure the maximum compatibility of rules and access entitlements between jurisdictions so as to facilitate trade across borders. We should recognise, of course, that a large portion of trade is likely to be within a jurisdiction rather than between jurisdictions and, for that purpose, the responsibility, of course, lies with the individual jurisdiction to ensure that its own rules facilitate trade as much as possible.

The other element to the COAG agreement, which is a quite new thing and a very important step forward, is the agreement to provide \$500 million to fund a range of works for The Living Murray, which are to improve environmental conditions in the River Murray by increasing environmental flows, and New South Wales agreed to contribute \$115 million to that program. The purposes to which the money will be put have yet to be determined, but at this stage the position of the New South Wales Government is that our contribution should be directed to infrastructure works and that the Commonwealth contribution of \$200 million should be directed to industry restructuring assistance.

CHAIR: Where is that \$115 million coming from? Is that new money or reconstituted money?

Dr GUEST: It is a commitment to new money over five years, so we are looking at \$100 million in total from the program over five years. At this stage the commitment is to new money. There has been no argument about trying to get credit for existing expenditures or whatever. It is a very substantial commitment of money, for the first time, to address The Living Murray in particular.

Mr MARTIN: Is that \$500 million being matched by the Commonwealth?

Dr GUEST: No. The original proposition from the Prime Minister was that each jurisdiction—the Commonwealth and each of the states—would put in \$125 million. That was felt to be not enough of a contribution by the Commonwealth and, in negotiations at the Friday meeting, the original offer was modified such that the Commonwealth is putting in \$115 million and, from memory, Victoria is putting in a slightly smaller quantity again, South Australia a smaller quantity again, and the ACT \$5 million. It was a negotiated outcome which better reflected the relative capacities of the jurisdictions. The Commonwealth is putting in \$200 million, so almost half.

Mr APLIN: You mentioned that the New South Wales contribution would be directed to the area of infrastructure. What particular infrastructure is foreseen?

Dr GUEST: The intention is that the money will be spent on water savings infrastructure. That might involve capital works programs that aim to improve flows by removing choke problems, for instance. It might be works that involve improving on-farm water efficiency use. It might be works that involve covering channels so that you reduce losses to evaporation. In other words, it will be a variety of capital works that aim to either improve the flows within the river itself or that improve the efficiency of water use by irrigators, such that less water is required by them in order to undertake production. The next step will be to identify the precise capital works program that will spend that money, but those broadly are the kinds of things we are looking at.

Mr APLIN: Who is going to be the arbitrator as to how the money is going to be spent in

regard to the various things put up?

Dr GUEST: That is a good question. The expectation is that the Murray-Darling Basin Council, which meets in November, will need to agree on that mechanism. One option would be that the decisions are taken by the council. Another would be that a new body is set up with the specific job of receiving and assessing these capital works proposals. The Commonwealth has proposed that an environmental water manager be established to do that job. At this stage, though, it has supplied very few details about how that would work. The obvious issue, in thinking about setting up a new body of this kind, is what that would mean for the future of the Office of the Murray-Darling Basin Commission which, as you know, already sits there to do this kind of work. So at this stage there are no firm proposals about the way in which it would be administered but, clearly, decisions of this kind will need to be made quite soon because there is a quite considerable appetite and expectation among people that, having announced the program, the money should flow. Shall we turn to the next topic?

CHAIR: Yes.

Dr GUEST: From here on the questions relate to trade in particular. What are the trends in the number and volume of trades involving New South Wales since the introduction of water trading? What we have supplied to you on page 6 of the handout is a graph that shows the volume of trades—water transfers—in the year 1999-2000. Before we look at the graph specifically, there is one clear trend in water trading, and that is that since the early 1990s there has been a considerable increase in the volume of water trade. Essentially, the reason for that is that since that time there has been an increasing recognition of the value and the scarcity of water and the fact that it is an economic asset used for production, just like any other—just like land; just like seed, tractors, diesel fuel.

Before that, there had been a culture, when thinking about water, that it was somehow just part of a birthright, that it was part of the land that you owned and it was not a tradeable asset in the way that the other inputs to production are. There has been, though, since the 1980s, an increased recognition that water in fact is a production input that has a very high value in a dry continent and, therefore, as an economic asset it has a value in production that ought to be transferable. That has been associated with the first COAG agreement in 1994, which sought to provide a formal framework within which the recognition of water as an economic asset, having a value available through transfer, was underpinned.

In parallel with that, irrigators have begun to recognise that it is something they can and should trade. The trend since the 1990s has been for an increase in the volume of trade. Within that, there is no consistently clear trend because the actual volume of trade varies hugely with the prevailing climatic conditions. In an average to dry year there will be a fairly substantial body of trade, as irrigators try to gain access to extra water. In a very dry year, as we have at the moment, there are simply extremely low allocations, so there is no water to trade in the first place.

High-security licence holders will have some water and there is some trade by high-security licence holders but, in general, the volume of trade is relatively low because the allocation is low; there is no water to trade. If you look at the records over the years, it does vary considerably over the past 10 years, reflecting the allocations that are provided in each year. It is useful, though, to look at this graph we have supplied on page 6 of the handout, which presents a snapshot of trades in the year 1999-2000, which was an average to dry year. We were moving into the drought at that time. What it shows are two things: the first is the relativities between permanent trades and temporary trades. You see from the graph that in each of the jurisdictions the volume of temporary trade is considerably greater than the volume of permanent trade—in other words, people are trading for that season to fill particular requirements that they have. They want to plant a larger area or they do not have quite enough allocation to water the area they have planted, so they buy an amount of water for that year, for that season. That is the first thing we notice from the graph: temporary trades dominate over permanent trades.

The second thing we notice from the graph is that the volume of trade in New South Wales is considerably greater than it is in Victoria and the other jurisdictions, and that the size diminishes quite markedly as you move from New South Wales down to Queensland, which has very few trades compared to the New South Wales position.

Mr MARTIN: Is there a particular reason for that?

Dr GUEST: My suspicion is that this partly relates to the particular rules that apply in Queensland, for instance, to make it much lower, and also the kind of irrigation that they undertake; it is a much smaller sector.

Mr CLEARY: It is also to do with the relative security of supply. Victorian water is relatively more secure than generally New South Wales water because of our historical development, as well as some climate regime. In South Australia there just is not much water; they depend a great deal on inflows from other states. Queensland is also in a development mode in some parts. They are still developing and building dams in most of northern Queensland, so there is no need to trade. It is only in a few of the systems where they are fully allocated that trade is very important.

Dr GUEST: Another trend to notice, which is very marked, is that the price of water has increased very substantially over the past 10 years. Price does fluctuate with conditions at the time but, very broadly, over the past 10 years the temporary trade prices moved from \$20 to \$200 a megalitre. Permanent trade prices moved from, roughly, \$180 a megalitre to \$2,000 a megalitre. If you had an access licence 10 years ago, it would have been much better than a superannuation policy of almost any kind that I know of—certainly better than mine. It has become an extremely valuable asset.

Mr McGRANE: Put there by the Government.

Dr GUEST: Like any licence, it creates a scarcity value attached to that licence. That had been little appreciated in the earlier times when, as Des described in the Queensland situation, the New South Wales situation was one where we had excess supply: you had plenty of water, the access right was not there and it did not mean a great deal. That was what we call the "mining period" when people were encouraged to increase their use of the water resource to underpin economic development. Through the eighties it began to be recognised that we had reached the limits of the allocation; that demand for use of the water had caught up with supply. As soon as you have the situation where you do not have excess supply any more, the right to access the water starts to have a scarcity value. That has increased substantially in the past 10 years and, I expect, will continue to increase as it is recognised that we have reached the limit of our available use. In fact, in a number of cases we will have to reduce our use in order to ensure the long-term sustainability of the water source. If we are reducing our use, those people who retain access rights have a licence that is of increasing value.

Mr APLIN: You have pointed out the difference between New South Wales and South Australia. To take the worst-case scenario, if a situation developed in South Australia where the water barons set up, would there be the possibility of an enormous amount of transfer of water from New South Wales to South Australia?

Dr GUEST: That essentially turns on the question of the kind of trading rules that we adopt in New South Wales, which review any applications for water transfers. One of the things we would be mindful of is that excessive amounts of water do not move to another jurisdiction.

Mr APLIN: That would be firmly regulated.

Dr GUEST: There is a capacity under a provision in the Water Management Act for the Minister to refuse a transfer. In coming to a decision about whether or not he or she approves that transfer, the Minister is to take account of the environmental impact of the transfer and the social and economic consequences of that transfer.

Mr APLIN: Given that water is essential to life, what controls will be exerted on the pricing structure for domestic consumption?

Dr GUEST: In urban areas?

Mr APLIN: Yes, particularly urban areas.

Dr GUEST: The present arrangement is that those prices for Sydney water, metropolitan

water, are regulated through the Independent Pricing and Regulatory Tribunal [IPART], which is required, when determining the price, to take account of two sets of issues, broadly. One is to ensure a sufficient commercial return to the provider, Sydney Water. The second is that there be no undue regressive impact on the price of water.

Mr McGRANE: I have another question on tradeability. Originally the supply of water from the rivers and dams was overallocated through irrigation licences to farmers. How do these "sleeping licences" affect the volume of trading now?

Mr CLEARY: You are alluding to the fact that the licence entitlement in many of these rivers is substantially greater than the amount of water that is typically taken out. That means that in some years, under our water sharing plans, we are looking at an average long-term rate of extraction which is below the licence entitlement. In the good years, when there is plenty of water, that allows people to take their licence entitlement; in the bad years, when there is not much around, they get a lot less. That means the farmers are recognising the implications of that for their long-term security. They might have a licence entitlement of 1,000 megalitres but regularly only ever get 800 megalitres. Then they enter the market to get the additional 200 megalitres that they need for their business. Recognition of that security and of the limits of water available means that will make the marketplace work more efficiently and effectively.

Mr McGRANE: Has there been any research done on the number of sleeping licences?

Mr CLEARY: Yes. We know that on the regulated rivers, from where there is 75 per cent of water extraction in New South Wales, there are very few sleeper licences left. Almost every licence is activated to a degree. On some of the unregulated rivers there is a large sleeper—dozer—component and the same in some groundwater systems. In the regulated rivers almost all of the water is being used.

Dr GUEST: Turning to the next issue, what are the trends in the source and destination of water in trades involving New South Wales since the introduction of water trading? This picture of New South Wales by the colour tries to show the movement of water between areas. The areas in red are those for which there is an export of water, a loss of water, and the areas of blue are the ones that gain the water that has been traded. There are two observations to make about the pattern of trades across land. The first of those is that, as a generalisation, trade tends to be from upstream areas to downstream areas—in other words, it tends to be from the people who are more likely to receive the rain in the upstream part of the catchment to those in the downstream who are less likely to get the benefits of that rainwater and so are more likely to want to buy water from the upstream users.

The second observation is that, in general, water trades tend to occur within a given local government area—in other words, they tend not to move out of a local government area. We say that on the basis of a study that we have done because this is a question that comes up a lot. We did a study of two river valleys—the Namoi and the Murrumbidgee—to see where the water did flow from and to, in terms of how far it travelled. Typically, the trades tended to be within a local government area—that is, the trade occurred within a relatively confined geographical space. It does not tend to occur over very long distances, and there are some reasons for that. That was the strong finding of the fairly detailed work we have done on that issue.

So there were two broad findings: one is that it tends to be from upstream to downstream users; the second is that those transfers tend to occur within a given local government area.

CHAIR: Are those reports able to be studied by this committee?

Dr GUEST: Yes, we are happy to provide our findings and the study reports on both of those, if you would like them.

Mr McGRANE: In the Macquarie we have a problem where the smaller irrigators—like the horticulturalists and those types of operations—around Narromine have changed and sold on to cotton growers. While I know a lot of it went to Trangie, which is in the same shire, the rest of them went to Warren. That is a bit of a difference. It has a detrimental effect on the Town of Narromine because the purchasing power in that council area has diminished. I know with free enterprise you can do this, but

that is one of the effects of selling on. The big operators—the cotton growers—tend to shop in a bigger place and not shop locally like a small irrigator or farmer.

Dr GUEST: To some extent that is probably like so many of these things and reinforces what is a strong trend within regions anyway: people vote with their feet. There are so many benefits by going to "the big centre"—for example, Dubbo. It is much easier to get there, access is good, and there are all the benefits of a conglomeration. The more people go to Dubbo, the more services are provided there and the more people go. To some extent, this is an overlay with that.

(Short adjournment)

Dr GUEST: We should turn now to question 4: what are the changes brought under the Water Management Act that support water trading and what is the current stage of implementation? I outlined some of those changes that the Water Management Act introduced earlier on, but we set out on page 8 of the handout what we think are the four key elements of the new Act which will facilitate water trading. The first of those is the separation of the access licence from land and also from approvals about use.

Under the old Act, there was a single licence issued; water access and use combined in the one licence. Under the new arrangements we have separated the licence into three different parts. One is a right of access, the second is a works approval and the third is a use approval. One of the benefits of that separation, apart from the fact that you can explicitly then make decisions about each of the dimensions of water, is that it is then easier to trade the access right per se because it is isolated as a single separated licence. The economic interest lies in the access right. Therefore, by separating that part off as a separate licence, the trade can focus on that access right alone.

The second element of the changes introduced under the Act has been to establish some statewide water transfer principles which establish the broad rules of the game. If I can characterise them very generally, the rules of the game are a presumption that water trade ought to occur unless it can be demonstrated that there are adverse environmental or social economic consequences.

The third element which we think will facilitate trade is the establishment of the water sharing plans, and the reason we think the 10-year water sharing plans will facilitate trade is that they provide a certainty about what will happen to water over the coming 10 years, which was not previously available. Markets work best the more certain people are about the future access rights and the future entitlement uses that the asset will provide. The more you know about what the asset will mean for you over the longer period, the more likely it is that you are going to feel comfortable and confident about buying and selling that asset. The more risky, the more uncertain, the ownership rights are, then the less likely you are to trade, and the higher the premiums people will want in order to reflect the risk.

The final element introduced through the Water Management Act is the establishment of the access licence register which, for the first time, will provide a public source of information about who holds which access licences so that you can quickly find out who the ownership of the licence resides in, so that if you are interested in a trade then it is easier to identify who that person is. It also provides a degree of security for banks in the sense that, by having a public register of the licence and that licence being a tradeable right, it is, for those reasons, more likely to be something against which people can lend money. In other words, it becomes a mortgageable asset.

The following question was: what is the process for approval? As I have already alluded to, all trades require departmental approval and, as we say, there is a provision in the Water Management Act which allows the Minister to refuse a transfer. Essentially, there are three elements to the decision that is made in relation to a transfer. The first is to ensure that the ownership of the right occurs, that the person who says they have the licence actually does have the licence—so that is a simple ownership verification check—and to ensure that that ownership transfer occurs.

The second is to assess any environmental or physical real water impacts of the transfer. In other words, will there be any adverse environmental or physical impacts as a result of the transfer? Generally, transfers that occur from upstream to downstream would be acceptable because that constitutes a transfer of water that would otherwise move downstream anyway. It is more problematic,

though, getting an approval to transfer water from downstream to upstream because that is water that will not be there, therefore we need to look more carefully at what the impacts and suitability of that transfer are.

The third issue is the approval of the use of the water. That goes to whether or not the new use of the water for irrigation will have any adverse impacts in relation to things like salinity, for instance. Is irrigation a suitable land use for this particular purpose in this area? An approval is required for the purpose to which the water is to be put, as a way of guarding against any adverse or undue consequences from the use of that water. They are the three elements to the decision that we take about whether the transfer can be approved.

Mr APLIN: This picks up on the question asked by Tony a little earlier, and that is the impact of, let us say, large trades out of some of the more remote regional areas and the impact on that community long term. As you indicated, there could be a detrimental impact in the short term. In the long term, if somebody wishes to establish a new enterprise, they are discriminated against initially because there is no water available without buying it at the prevailing price, and they may have a more efficient system. What role would the department play in encouraging regional development in that sense? Obviously, you do control the ability of businesses or enterprises to set up.

Dr GUEST: That is, arguably, a very complex, difficult political matter, but there are a couple of issues on which it turns. The first is that we would expect that, in facilitating trade, the trades that occur will move to uses that have a higher value, otherwise it will not occur. Unless someone can offer a price to a seller which exceeds the value of the use of that water to the seller, the transfer will not occur, because neither party has an incentive to do it. So, in a broad sense, if a transfer occurs it must be occurring because the water is transferring to a higher valued use and, as a higher valued use, it will make a greater contribution to economic activity, economic development, than it otherwise would.

Second, given that our experience so far and our expectation is that transfers can only occur between water sources that are hydrologically linked—there has to be a linkage between the systems—and given that transfers over long distances have a discount attached to them because there has to be account taken of transmission losses, our record of experience is that transfers tend not to occur over large distances. Transfers will tend to occur within a given local government area, which means that, although there might be some relocation of economic activity within an area, the economic activity will stay within that area.

The final factor is: what does all this mean in terms of the ability of new businesses to start up? What it means is that if a new business which does not presently hold a licence wants to start up, then it will need to purchase water. That is a sensible thing, because its use of water has a cost that ought to be reflected in the costs that the business bears, just like the purchase of land or the purchase of any other of the inputs or assets that it needs in order to undertake that production.

Mr APLIN: As you say, it becomes a political question as to whether the Government wishes to encourage that in the future.

Mr MARTIN: Are the criteria for establishing the higher value use laid down?

Dr GUEST: The test for the higher value use is whether the two parties are prepared to exchange. Our role is not to assess whether it is a higher value use; that is taken for granted. If the two people agree to buy and sell, then we assume that the seller has decided he or she is better off selling it for this price because it is more than they can make from it if they use the water themselves, and the buyer has decided it is worth paying that price because they can use it for that higher value use. Our role is to ensure that there are no adverse impacts from that transfer in relation to the environmental impacts of the transfer of the water from one place to another or in relation to the use of the water for the intended purpose.

Mr McGRANE: That sounds all right in theory, but in actual fact it is generally the case that the person who is buying has more money than some other person, he is willing to pay more because he has more money, more assets, and he has a bigger allocation existing that he can add that onto. Whilst what you are saying sounds great in theory, in actual fact it does not happen like that most

times, especially for smaller places. I am quoting the cotton industry again.

Dr GUEST: That is true. The flip side to the coin is always that the seller, in order to decide that he or she will sell, has to make the decision that there is more value to them, there is more dollar in their hand, if they sell than if they continue to use it, otherwise they will not sell. In that sense, they are better off than they would be without the capacity to trade; they can get more money for the water by going outside than by continuing to use it on their land, because, for whatever reason, their use on their land is lower value. If they do not believe that is the case, people can quite freely decide, even though there is an attractive offer, to reject it. It is like someone comes along and offers you a price for your house and it is more than you think it is really worth, but you are just not ready to sell, for whatever reason, and you do not sell.

In the same way, a licence holder who might not be getting, at this stage, particularly high value from their use of the water might decide not to sell for now, either because they would rather stay where they are, doing what they are doing, recognising that they are giving up some extra income, or because they might think in the long run they can do even better. In that sense, both parties are still better off. Both parties—the buyer and the seller—are still better off, because the seller will only sell if they think they are going to gain something from the sale. Sure, there will be the big buyers in the sense that there will be more buyers with deeper pockets than there are sellers, but that is a central feature of the market economy, where assets move to people who can get higher value for them.

Question 6: what steps is the department taking to remove barriers to water trading in New South Wales? We have answered this in a way that might look a bit odd, in the sense that we have provided here the arrangements in relation to the irrigation corporations. The premise for that is that our view is that, in adopting the water trading rules that we have statewide, in adopting the water trading rules that we have in the water sharing plans, we have essentially removed all the previous impediments to water trade, while retaining a system of decision-making that allows us to assess the impacts of those water trades.

The primary remaining impediment to trade in New South Wales with the Water Management Act being introduced is the rules that apply within the irrigation corporations which restrict permanent trades. The reason for answering the question in the way we have on page 10 is that our view is that, in all areas other than the irrigation corporations, the previous barriers to trade have been removed. The remaining barriers to trade now are the restrictions that irrigation corporations place on permanent trades out of their systems, and what this table shows is those irrigation corporations that have restrictions on permanent trades out. Three of the six do not allow any trade at all and the other three allow only very limited trade out.

This arrangement raises some quite difficult issues. The current understanding is that the New South Wales Government has, effectively, no formal power to change those rules adopted by the irrigation corporations. Each of the irrigation corporations is essentially a corporation formed by its member shareholders, who agree on the rules of that corporation, and one of the rules they have all agreed on is that there be either no trade out or only highly restricted trade out. We, as the New South Wales Government, do not have a formal power by which we can make those corporations change those rules. Those rules are ones that are properly made within the corporation and, just like a BHP might have a decision among its shareholders about who it votes to be its directors or what it votes to be its dividend policy and the New South Wales Government does not have a capacity to say to BHP, "No, that decision that you have taken among your shareholders is wrong," so we do not have a formal capacity, a legal right, to intervene in the kinds of rules that these irrigation corporations have established. There is increasing interest from all governments in trying to encourage the irrigation corporations to review these rules to allow more flexibility for permanent trade.

The following question is: do we anticipate an increase in the number and volume of trades in the next few years? The general answer to that, as we say here, is yes, but largely in the unregulated and groundwater systems. There has already been a quite substantial volume of trade in relation to the regulated rivers which, as Des has already said, constitutes the vast bulk of water use in New South Wales—75 per cent. There has been much less trade in unregulated rivers and groundwater. One of the impacts of the water sharing plans will be that, for the first time, there are trading rules which will allow an amount of trading in those sources. But, again, the volume of trade will not just depend upon

the fact that it will now be easier to do that trade. It will be very importantly driven by the impact of the current weather. If it is a wet year, there is no need to buy extra water, because God is providing it. If commodity markets are poor, then you have a reduced economic incentive to purchase water, because the returns are not there. If commodity markets are strong, then you do have an incentive. What we will be doing in relation to the unregulated rivers and the groundwater sources is that we will make it easier for trade to occur, but whether or not trade actually increases will very importantly depend upon the production circumstances of the irrigators themselves, and that is hard to predict.

The following question is: do we anticipate a greater distance between the source and the destination of trade in the next few years? As we say there, in general, no, we do not anticipate that there will be an increase in the distance of trade. There are a couple of reasons for that. One of them I think I mentioned earlier on: that there is a conversion factor applied to trade that reflects the distance over which the water has to travel. That, essentially, is a discount on the volume of water to reflect the losses of water through evaporation and seepage and so on as it travels its course from the point of a seller to the point of a buyer. So there is that disincentive.

The second thing is that in relation, for instance, to groundwater and unregulated trades, part of the trading rules that we will introduce in the water sharing plans does restrict those trades to local areas. There are some quite complicated rules in relation to some of the unregulated and groundwater systems, and the intent of those rules is, in fact, to restrict the trades to local areas so that the water trade remains within the narrowly defined water source. That is particularly the case in groundwater. There are some quite strong physical restraints on people's ability to trade water within an aquifer.

We do expect though, finally, and particularly in the light of COAG, that there may be some increase—in fact, there will be some increase—in cross-border trades once the compatibility of jurisdictions is increased, and once a management system for cross-border systems is finalised then we do expect to see more trade between jurisdictions than there is now. The Murray-Darling Basin Commission at the moment is running a pilot trading scheme to work out the mechanics of what is required for cross-border trade and, once that pilot scheme is finished and a management system is adopted, we are expecting that there will be an increase in the volume of trades across boundaries and across borders.

CHAIR: Is there any interstate ownership now?

Dr GUEST: Yes. Not a great deal, though.

Mr CLEARY: It is less than, overall, about 20,000 megalitres, so it is a relatively small part of the overall trade. It was deliberately limited for the pilot scheme, so that, yes, we will allow some trades, but to a manageable level so that we can assess the overall impacts.

CHAIR: Have the South Australians stopped their polemic about "taking over our water"? Was that in evidence before COAG?

Dr GUEST: I was not at COAG. South Australia, I think we can expect, will continue to be strident, because they see themselves as being at the end of the line and being subject to whatever people up the line are going to do, and they are so critically dependent on that water. It is always a bad position for someone to feel themselves in: to be depending on something whose amount, volume and quality depends on what other people do who don't like you. So there is always going to be an edge to South Australia's position. I think, though, that may change a little with the COAG agreement and the joint agreement about funding some programs, where everyone is kicking in a quite substantial amount of money. Now that the Commonwealth and the other states—other than South Australia—are kicking in quite a lot of money, although there will be fights about where the money should go and all the rest of it, that might be a second-level issue and there might now be a somewhat more co-operative relationship, because there is a basis now of a working relationship to manage things that was not there before.

The following question—questions 6 and 7—is: are the environmental impacts of water trading monitored and what arrangements are in place to prevent water trading causing further salinisation? I think there is some confusion; there are two question 6's on the sheet. The simple answer is, yes, we do review, with each transfer application, the impacts of that transfer in relation to its impact on the

water source and its impact on the use of the water in relation to externalities like salinity. We have, as I have said, an approval made in relation to the transfer of the water and its impact on the water source, both from the exporting and from the importing side—the buyer and the seller—and we do assess the impact of the use of that water in the new use that the buyer intends to put the water to.

The other element to this, in relation to monitoring, is that there is a statutory requirement to undertake a mid-term, a five-year, review of the impact of the water sharing plan. One of the things that we will need to review as part of that five-year review will be the impact of the water trading rules adopted in the water sharing plans and the impact of the kinds of decision we have taken in relation to whether we approve or not approve transfers. There are two sets of monitoring arrangements. One is the decisions being taken specifically in relation to the transfers, and we obviously will build up a record of experience about what has happened as transfers have been effected. The second is the statutory requirement to undertake a comprehensive review of the water sharing plans at the middle of the plan itself, in year five.

The following question is: is the department planning any changes to arrangements, for instance in relation to a liberalisation of interstate trade? Essentially, the answer to that lies in the New South Wales agreement to commit to the National Water Initiative which was signed by COAG on 29 August. That National Water Initiative (a) aims to facilitate as extensive a water market as possible, and (b) will do so by seeking from jurisdictions the development of water management frameworks that are as compatible as possible—in other words, by trying to ensure that the water management arrangements within each jurisdiction are as closely aligned as is possible, to make it easy to compare one water product with another.

In order to have an efficient, competitive market, it is not necessary to have products that are absolutely identical. We are able to make choices between different kinds of products all the time. If I want to invest money in a financial asset, I can choose an asset that is high risk and low priced or I can choose an asset that is low risk and high priced. I can have a bundle of assets reflecting my preferences between risk and return. Likewise, if I am buying water, I can choose between water with different kinds of characteristics. It is not necessary in a competitive market to have products that are identical. Of course, most markets in the world do not have products that are identical, and people actually quite like the idea that you can choose between different forms of the same kind of product.

The commitment in COAG is not to aim for uniformity; that every water product in every jurisdiction has to be exactly the same. It is simply to aim for the maximum compatibility between water management frameworks so as to minimise the number of water products, but recognise that you might still wind up with some diversity of their characteristics, and accept that as being a reasonable outcome. In our commitment to COAG, we are committing to that trade liberalisation which will facilitate cross-border transactions, without sacrificing the need for each jurisdiction to have somewhat different arrangements within their jurisdictions to reflect whatever differences there are in those jurisdictions.

The following question is: what do you think are the advantages and disadvantages of the institutional model proposed by the Australian Bureau of Agricultural and Resource Economics [ABARE]? I must say, it was not clear to me, from looking at the ABARE material, that there was a single institutional model proposed by ABARE. ABARE has done a great deal of work looking at the impacts of different water management arrangements, looking at the way in which a water market would work, and that kind of research is obviously going to be relevant to the work that is to occur between now and the next COAG meeting in April which will develop an implementation plan for the COAG agreement. I expect that the ABARE work will be an input to that, and it may be useful if I say something about the way the COAG agreement from 29 August will be translated to real action.

The proposal is that, all jurisdictions having signed up to the National Water Initiative, there is then to be established, in the great tradition of these things, a senior officers group below COAG which comprises a representative of each of the jurisdictions. The role of that group will be to develop an implementation plan whereby each jurisdiction will have to set out what it proposes to do in order to meet the objectives that their leaders, their premiers, signed up to at COAG. That work is to occur between now and next April, when COAG will meet again.

CHAIR: It is not the central agency representative; it is the department representative?

Dr GUEST: It is the department, yes. It varies a bit between jurisdictions. In New South Wales the representation is me, representing the Department of Infrastructure Planning and Natural Resources [DIPNR], and a person from Cabinet Office. Some jurisdictions follow the New South Wales model; others have representatives from the natural resource agencies. But the lead role is taken by the natural resource agencies in each jurisdiction.

CHAIR: Which is entirely appropriate. The previous strategy for the Salinity Summit was supposedly co-ordinated by Cabinet Office, was it not?

Dr GUEST: Yes.

CHAIR: That has now been subsumed by your department?

Dr GUEST: That is right, yes. There was a specific job to be done in setting up the Salinity Summit which was carried out by Cabinet Office, but the baton has been transferred to this department over the last couple of years.

The final question is a group set of questions which follow out of an article by Mike Young and Jim McColl about the impacts of a variety of measures that might be used in the River Murray on the level of flows in the River Murray. I read very quickly the Young and McColl article this morning, and it is clear from the language that they use—in its guarded academic way—that the numbers they cite are pretty woolly guesstimates. They are pretty up-front about that, which is good, because that is honest. They are clearly themselves not confident about the numbers. That is the first point to note.

Our view is that their estimates of the losses to river flow are considerably overstated but, more importantly, what they fail to take account of is the management actions that the river managers might take in response to whatever changes occur. By that I mean the following. For instance, the first question asked here is: Young and McColl have estimated that if "water use efficiency savings are used to increase irrigation rather than river flow" there will be a reduction in flow of 723 gigalitres over 20 years in the Murray River system; what are we doing to address this?

Our central response to that is to say that it does not follow, if there are savings in water use for irrigation, that that amount of water will be lost to the River Murray, and it does not follow because the water management decision is: "What do we do with the extra water that's been saved by the adoption by irrigators of water savings measure? Do we allow that extra water to remain in use for irrigation or do we put some or all of that water back into the river?" The water management decision will be to decide how much water is required for environmental flows and therefore what portion of the saved water should go to those environmental flows.

It is quite conceivable, for instance, that water savings measurers are introduced on-farm which lead to a reduction in the amount of water required to maintain a given volume of output by 20 per cent. What happens to that 20 per cent? The premise in the Young and McColl article is that 20 per cent stays on-farm so, therefore, there is no gain to the environment. That is the management decision that is required, which is what do we as the river managers want to do with that 20 per cent? Do we want to put it into the river for the required environmental flows, or should some of it remain on-farm? It is quite conceivable that in these sorts of situations there is a win-win—there is a win for irrigators and there is a win for the environment—because the adoption of water efficiency measures can lead to there being more water available to irrigators and more water available to the environment or to the river. In very general terms, the error in the Young and McColl premise is to not take account of the management decision that will be taken about the way in which the water is to be used.

Mr McGRANE: From the irrigators' side, even though they get incentives to be more efficient in how they use the water and they save this 20 per cent, it is human nature to want to increase the productivity on the whole property. They are not wanting to give that away. Would it not be an idea to look at fifty-fifty?

Dr GUEST: Yes. I think that is exactly the sort of thing that will need to be negotiated. One of the critical issues—and it goes to human nature again—will be who pays for these on-farm water efficiency measures? If the public purse pays for all of them, for instance, then I think the public has a

fair right to say, "We've paid for them. We ought to reap the benefits." If the farmers share some portion of the cost, which might be appropriate—recognising that the farmers are going to gain some benefits out of this—then the farmers could quite rightly say, "Well, we've paid for some portion of this. We ought to be able to retain some portion of the savings." That will be a political process that will be needed to settle what the distribution of costs is and, therefore, what the distribution of benefits will be.

The central point is that we need to recognise that whether or not the introduction, the implementation, of water efficiency measures yields a benefit to the environment is entirely a matter of the management arrangements we adopt about how we use that water. That is a comment that applies to each of these issues. Indeed, it would have been useful if they said this, but you cannot predict what the outcome will be. For instance, I was in Wagga last week talking to community representatives about this kind of issue. This was exactly the discussion we were having: to recognise that there will need to be an arrangement, a process, whereby the distribution of costs and benefits is resolved, but that it is conceivable that if we do this program sensibly, there is a win for both sides.

There is a win for the community because we will ensure the sustainability of production by ensuring the long-term survival, the long-term availability, of the water source, and there is a win for the environment because the way we do that will be such that there is the collateral benefit of freeing up additional water which can be left in the river. It is very rare that there are win-wins in life. There usually is a trade-off; someone wins and therefore someone loses. I do not think it is naive in this case, though, to think that there is a win-win, but it will depend on how sensibly we can introduce measures that lead to more efficient water use on-farm and how we then negotiate the distribution of those benefits between the farmers, between the irrigators, and the river. It is conceivable that there is a win-win for both sides.

Certainly in the long term, we believe, just as we have argued locally in relation to things like the groundwater system, that unless we do these kinds of things, unless we begin to rein in the aggregate amount of water that is extracted, then that water source will not be there in the long term and the industry will not be there. Industry itself recognises that. In groundwater, for instance, that is well recognised. The argument is all about, "Okay, how do we best distribute the costs and benefits of getting to that position of having a sustainable level of extraction?" In this case, now that we have the \$500 million on the table, we have a very substantial pot of money available to get out there and spend money to find water savings which we then can distribute between the users and the environment.

CHAIR: Did you fix the urban salinity problems while you were there, Chris?

Dr GUEST: No, that's tomorrow.

CHAIR: Presumably that money would not be able to be used for things like that.

Dr GUEST: No, it will not. It is to be allocated for The Living Murray, for environmental flows and industry sustainability.

CHAIR: They will not be very happy about that, will they? They have major issues. We addressed them in our previous committee. I am well aware of them, and I am sure you have had lots of representations about them as well. What happens to issues like that, now that we are moving on to another section of the debate? Dubbo has some real problems.

Dr GUEST: Yes. There are two things here: one is that we are undoubtedly seeing something of the ebb and flow of headline interest in issues. The headline at the moment is all the River Murray and is less salinity. However, sitting below that headline ebb and flow is a continuing commitment through the National Action Plan on Salinity and Water Quality to the \$1.4 billion for water quality and salinity, which includes as part of the local action an urban salinity focus. That is unchanged. In fact, following the announcement that the Government made at Country Labor in Tamworth in early July, whereby the New South Wales Government has proposed a change in funding arrangements under the National Action Plan [NAP] and Natural Heritage Trust 2 [NHT2], the expectation is that the purpose of that change in funding arrangements is to allow local communities a far greater discretion about the way in which they spend those two sources of funds, which will give them the

discretion to devote money to things like urban salinity in Dubbo or Wagga where it is a big issue; Werriwa. There are lots of towns where it is a big issue; western Sydney. People allow those communities to make those decisions.

In a way there are two things that come together. There has been considerable frustration about the incredible complexity and bureaucracy that has grown up about the decisions being made about how to spend the NAP and NHT2 money. The New South Wales Government's response to that is to say, "Look, we need to cut through this system that's grown up like Topsy and get back to basics. This is money intended to go to local communities to be spent on the things that local communities judge to be important." In those towns and regions where urban salinity is an issue, then the communities will have the capacity to decide on that priority.

CHAIR: It is also part of the responsibility of your department as well, is it not?

Dr GUEST: That is right. As the department responsible for the salinity strategy—and an element of that is urban salinity—then it is our responsibility.

CHAIR: Do you still have the Western Sydney Salinity Unit?

Dr GUEST: Yes.

Mr McGRANE: Three or four years ago the Government of New South Wales announced there would be a lot more money for salinity. To me, a lot of that money has not been spent.

Dr GUEST: That is right. That is a source of frustration. The National Action Plan was announced in October 2000 as a seven-year program with \$1.4 billion—50 per cent from the Commonwealth; 50 per cent from the states and territories. Two years on, almost none of that had been spent. Three years on—in October 2003—still very little of that has been spent. Why? The reason is that in the great history of Federation the arrangements that were settled through Commonwealth negotiations have wound up being incredibly complicated. It has meant that there has been a very wide funnel, if you like, with a very narrow neck and it has taken a long time to get the money through. It is for that reason that the New South Wales Government at the Country Labor Conference said, "We've had enough of playing along with this Commonwealth game."

Communities are very frustrated—as you are saying—that the money, although promised in October 2000, is not coming out. We need to cut through this and have a very simple system, whereby prima facie a substantial chunk of money out of these programs will just be allocated direct to the local community, with none of the filters of Commonwealth-State officials reviewing and assessing these things. You remove the filters, you allocate the money direct to the local community through the Catchment Management Board—or its later equivalent, the Catchment Management Authority—and leave them with the discretion to make the decision about how they want to spend the money. This will mean (a) it all happens much faster because you remove all intervening layers; and (b) it happens in a way that ought to better reflect what local communities want, because the decisions will be made locally.

CHAIR: That is interesting. I still think that is a problematic approach as well, in terms of perhaps the ultimate strategic goals of a department like yours or what we are trying to achieve in a national approach, if we are just going to let local communities make all the decisions. Basically, that is the model in WA and South Australia. We have been to both places on previous occasions and we have talked to them. While I think that it certainly does empower communities, they still have a lot of issues that do not get addressed in the process. Where does it leave your extensive bureaucracy? You have the residue of Land and Water Conservation, have you not? You have the people who have been at the forefront in the past in trying to deal with the issue. Where does that approach or commitment leave your staff?

Dr GUEST: There are two things about that. The first is that I should have said in my answer that money will be allocated to the local body and they will be free to spend that money, providing it meets certain statewide criteria. There will be a framework, I should say, to balance up that answer; it will not be a matter of a complete discretion to spend.

CHAIR: It would be pretty scary empowering the Country Labor Conference completely.

Dr GUEST: The discretion to spend will be that it occur within published guidelines. Those guidelines essentially will say things like the program must be directed to addressing salinity or water quality; it must be cost effective; it must be thoroughly costed in terms of the way in which the process of selection occurs. There will be two elements to the guidelines. One is what it is they have to spend the money on and they will have to reflect the priorities of the program. The second is that there will be some rules about the process whereby they (a) come to the decision and (b) then project manage the money itself. So, yes, there will be statewide guidelines.

That then leads into a response to your second question which is, what does that mean for the role of DIPNR? The role of the department will be that of providing and developing the statewide policy and regulatory framework for natural resources management in New South Wales. That will mean withdrawing from some of the local level involvement we have had previously through the close work we have done with the old catchment management boards, devolving to them more discretion, and taking the role of establishing the framework within which they operate. There is a devolution to local level decision-making and, accompanying that devolution, there will be a matching shift of responsibility on our part out of working with the Catchment Management Board by being on the board itself, to withdrawing from that and having the job of developing the guidelines and the framework.

I should add that, if and when catchment management authorities are established, we expect that they will have roles and responsibilities to do things which catchment management boards do not have—they are only advisory groups. Catchment management authorities would be empowered to do certain things and to spend moneys and to project manage those moneys. They will need some full-time staff. If this proceeds, some of our staff will be transferred from the department to constitute the secretariat and professional support required by the catchment management authorities. So there is a shifting of the department's role in two ways. One is that some of our staff will transfer to the new catchment management authorities, so those people will move to work directly for the catchment management authorities. The second is—and it is the matching change—that the role of the remaining department, which will still be the vast bulk of people, will be to establish the framework within which these catchment management authorities operate. The intended role, broadly, of the department is that it becomes a strategic regulatory policy-making body, defining a set of decisions that are then made at the local level within that framework.

Mr McGRANE: What about organisations such as the Dubbo group under Ken Rogers, where 14 councillors all got together and now they have a separate entity to the council's? Will they have a right to be able to come to your department and get money? Do you know the group I am talking about?

Dr GUEST: No, I do not. If catchment management authorities are set up—and obviously the Government has yet to take a formal decision on this—then I expect that one of the groups or interests represented on the catchment authorities will be local government, so that local government will have a formal role in the catchment management authorities.

Mr McGRANE: This group is made up of local government, but it is outside local government now because they wanted to take the parochialism out of it.

CHAIR: I think you are going to have to do some tick-tacking with the Minister, because there is going to be a lot of lobbying about appointments to these things. You are really going to have to have some exchange with him.

Mr McGRANE: Yes, fair enough. I am sorry, I thought you knew more about it.

Dr GUEST: No, I do not know much about the Macquarie just yet.

CHAIR: He's the good soldier.

Mr APLIN: What is the time line on establishment for the catchment management authorities? I understand some are already in existence but not all of them have been fully funded. Is

there a time line?

Dr GUEST: No, there are no catchment management authorities yet. Again, I can only speculate, but I would expect that a good time for them to start might be 1 January.

CHAIR: But there has to be legislation, does there not? The last bill was pulled, was it not? We have not actually got a current bill.

Dr GUEST: It will need legislation to change from catchment management boards to catchment management authorities.

CHAIR: So there will be debate. It will be in the next session, I assume.

Dr GUEST: That will need to come through in this session, the spring session.

CHAIR: This session. This is it.

Dr GUEST: Yes. If it goes through successfully, then a good time for them to start would be 1 January.

CHAIR: It sounds as if we should talk to the Minister about when he is bringing it forward. Thank you very much, Chris and Des. We are going to be around for four years, so we appreciate an ongoing relationship with you. We know that you are in a process of evolution yourselves and obviously it is a challenging time. We would very much like to keep that relationship going. Do we liaise with someone in the department? We did write to you about that. Could you give that some consideration?

Dr GUEST: I will pursue that and respond formally.

(The witnesses withdrew)

(The Committee adjourned at 11.40 a.m.)

REPORT OF PROCEEDINGS BEFORE

**STANDING COMMITTEE ON NATURAL
RESOURCE MANAGEMENT**

At Sydney on Friday, 5 September 2003

The Committee met at 10.00 a.m.

PRESENT

The Hon. Pam Allan (Chair)

Mr G. Aplin
Mr A. M. McGrane

Transcript provided by CAT Reporting Services Pty Limited

DOUGLAS MIELL, Executive Director, New South Wales Irrigators Council, Level 6, 139 Macquarie Street, Sydney, and

JACQUELINE KNOWLES, Policy Analyst, New South Wales Irrigators Council, Level 6, 139 Macquarie Street, Sydney, sworn and examined:

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

Mr MIELL: Yes.

Ms KNOWLES: Yes.

CHAIR: Would you like to do a presentation and then we can deal with some questions?

Mr MIELL: Yes. Madam Chair. I am relatively new to this position, so I will just give a brief overview of changes since our submission was made and then hand over to my colleague to speak to the submission. There is no change that we wish to make to our submission and I do have a copy of our submission that I wish to table before the Committee.

The major change to the circumstances in which the industry operates is clearly the continuation of the precarious nature of water resources and the availability of water that is going to impact on the industry. Notwithstanding the recent rain, there is obviously still a long way to go before allocations are anywhere near what the industry would like to guarantee its production base, but significantly the COAG decisions, the National Water Initiative that was announced in COAG meetings last Friday, do give a major change to the policy thrust that is going to impact on this sector and a lot of the issues are being addressed by your terms of reference here.

We see the next six months leading up to whenever the next COAG meeting is held as being a very active time for policy development and industry development in this sector. That is going to be guided by the four working groups that we understand COAG is going to implement: water rights, access to water, trading regimes, urban water. They are the focus of that committee. They are going to touch on obviously a lot of issues that are already in play, the water sharing plans that Minister Knowles has put on hold until 1 January next year, so we do not really know yet how that might impact with COAG, and obviously the Murray-Darling Basin Commission. The ministerial council had proposed, or still has proposed, to make its first position statement some time in November, so we do not know yet to what extent COAG is going to come across the top of those initiatives and perhaps put those on hold.

The good thing is that water is very, very much on the policy agenda of all governments, so we are very pleased with that. It gives us, as an industry, a chance to identify that it is a \$10 billion industry critical to regional development and community development and that the issues of environmental sustainability and the ongoing productivity base are very important to everybody, so we welcome the opportunity to be part of that debate and congratulate governments of all persuasions for coming together and making it such an important policy issue.

With that, if I can table our submission and hand over to my colleague to speak to that, thank you.

Ms KNOWLES: I think if we could have questions and answers today it would be good, but I note that the Committee has sent us a series of questions that you would like us to address today.

CHAIR: Yes.

Ms KNOWLES: They are quite detailed and complex questions that you have raised and, in light of where COAG and the National Water Initiative are going, I guess they are questions that will be thrashed out in the working groups and those sorts of things over the coming months, but they are issues that have been identified and need to be dealt with.

I note specifically that you have asked a question regarding the trade in and out of irrigation areas and districts such as the irrigation corporations in New South Wales. While the Irrigators Council represents those corporations, they have indicated to us that they would be pleased to present evidence to you directly of exactly what their rules are and why they are in place because there are complex reasons for those rules and when people say, "Oh, you have trading rules and we need to remove those trading rules so that we can have free and open trade", the generic response is that there are reasons why we have these rules: They are to protect the environment, they are to protect the supply of our existing customers and they are to protect the integrity of our companies, and if there are other mechanisms that can deal with the issues, then we are happy to look at them, but we cannot just remove these barriers or remove the rules that we have got and have nothing to replace them with because there are good reasons why they are in place. So the Irrigators Council has a policy that trade is good and trade needs to be developed, but community impacts, environmental impacts and third party impacts need to be addressed as part of the rules of trade. So I would encourage the Committee to receive evidence from people like the Murray Irrigation and Murrumbidgee Irrigation, because they are more than willing to present the more complex arguments for the rules that they do have in place.

CHAIR: Some of those may have made submissions to us, but would you object if our secretary contacted you directly to get their approach?

Ms KNOWLES: Yes, certainly, that would be fine. They are very keen to participate. When they heard that we were doing that, they said, "We would like to do that too".

CHAIR: Okay, we will do that. These issues are fairly detailed, I must admit, these three questions. If you do not want to address them today, we are happy for you to take them on notice. What would you prefer?

Ms KNOWLES: I think probably if we could take them on notice that would be good, because over the coming months those sorts of issues are going to be fleshed out in more detail. So it would be good to follow that debate.

CHAIR: If you could do that, we would appreciate that.

Mr MIELL: Do you have a specific time line?

CHAIR: No. Mr Aplin, have you got any issues you would like to raise?

Mr APLIN: Not at this stage. I will come back to it.

CHAIR: Mr McGrane?

Mr McGRANE: No, I am right.

CHAIR: Can I just ask you what are your member's responses generally at the moment to the changes that have been mooted by the Government and how they perceive the COAG reforms?

Mr MIELL: COAG improvements, very good, very supportive, but most of what is in COAG is what the industry's long arm would call water title, guaranteed access, et cetera, but the devil is in the detail. In the communicate there are a number of issues that we need more explanation of. It is just the detail that is the principle, so obviously getting down into the detail to clarify some of the statements there, because certainly on one hand, there are some statements there that in the generic form without explanation could actually trade off some of that security. So we just need to get into the working groups and just get the devil out of the detail and work through industry positions I think, but in principle very supportive and we have indicated that to Minister Knowles, Minister Anderson and to the Prime Minister.

We have requested seats on the Ministerial working groups. Minister Anderson says yes, that will happen, but whether or not it does remains to be seen. We are continuing to push so that industry is not locked out of the development processes, because basically we see it as the threshold of the development of the industry for the next decade. I can say across the industry it is very supportive.

Ms KNOWLES: We have got a couple of documents that we would like to table for the Committee's information. They relate to some of the key points of the COAG decision that was made last Friday. One of those is the principles surrounding water trade; and the other one is a little bit more detail on what we believe secure access rights are. If I can table those for the Committee's information as well.

Documents tabled.

CHAIR: You are having the dialogue, you are suggesting, with the acting Deputy Director General of the Department of Natural Resources. Obviously, there are a lot of changes that are being signalled for the organisation of policy which affect your members. Are you involved in that process and are you receptive to those changes and are you looking forward to those changes? How do you feel about them?

Mr MIELL: Certainly, yes, we are involved and we have had meetings with them, yes, they are ongoing. We certainly want to be involved at every level, so we welcome the opportunity to be able to present the initiatives. We do have very good working relationships with the appropriate departments, right down through the regional areas, and with Minister Knowles' officers as well. So from that point of view we are not put off by the fact of what is happening, so long as industry has an appropriate amount of time to respond and that obviously fits into the parliamentary schedules and all that sort of stuff.

With this point made, particularly with COAG, and even through Minister Knowles, the industry would be not very happy if we were given a bureaucratic position paper say at the end of January or early February that had to be responded to by April for the next sign-off with COAG. So because the changes impact on just more than the industries, there are entities out there as well, that is our only concern, that we do get enough time to be able to run meaningful communications and consultations with our members and the broader community, so that they can have confidence in and come along with the process, rather than being given the feeling that they are locked out.

That is the critical element, because the industry is under stress at the moment with the drought, with a lot of people being very much concerned about their survival and their limited or lack of water access. So major reform on top of them feeling locked out is not going to be conducive to getting good industry agreement. That is the message we continue putting to the Ministers. We have our policy statements, which have been around for some time, and we continue to make sure that people are aware of those at every opportunity, and we have good dialogue with the Federal Government as well. So we have good access and we hope that keeps going as processes are developed.

Ms KNOWLES: I think the key component of the departmental reform was the direction that Minister Knowles seems to be taking, which is the development of catchment management operators and that sort of thing. The Ian Sinclair led group on that reform, its implementation apparently addressed some of those catchment management issues.

I think that there is an important step that needs to happen between now and the formation of those catchment management authorities, and that is engagement with other stakeholders, people who have not been involved in the Sinclair group, in what the new structure should look like and how they should be able to interact with the community and that sort of thing.

Contained in our submission were extracts from a discussion paper that we put together in May 2003 for the Sinclair group. It was a document titled "Integrated Catchment Management and the Community", and again I have got a full copy of that document to table with the Committee.

New South Wales Irrigators Council discussion paper May 2003 "Integrated Catchment Management and the Community" tabled.

Ms KNOWLES: A lot of what is contained in that document is about the push for regionalisation which Minister Knowles has indicated he is very keen to do; and what is the makeup of those catchment management authorities, how should they be resourced; what responsibilities should they have and how does that fit within an overarching State-wide framework for natural resource management, because our council has identified the key issue with the resource management planning that we have had in New South Wales is the lack of connection between the regional planning processes and an overarching State-wide process that has not been there at the start or is still not there and so committees have not had a

direction or a framework within to work, and then when they have finished their community planning processes, Government has come in and said, "Well, hang on, we have got a new State-wide framework now and what you have done does not fit with that". A lot of it is about having the roles and responsibilities and the framework in place and then communities being able to make decisions within those frameworks.

Mr APLIN: You do in your submission include a diagram which leads to outcomes. In the current climate, given the access to water tenure and the current climate of change, what outcomes are currently in place with the composition of your irrigation group? I am looking more at the social, economic long-term planning.

Ms KNOWLES: I guess that is one thing that has been missing. Particularly the water sharing planning process has been that there is this amount of water research or potential social and economic impact of the plan. We welcomed the Government's announcement just prior to the March election for there to be an ongoing investment of \$0.5 to one million per annum in the assessment of water sharing impacts. So that is something that we hope will be in place, but I agree it is something that has really been missing and the resources for the community to do that work have been minimal, and the time that they have been given to do that has been quite reduced as well. In relation to what are the social and economic outcomes, for example, of the water sharing plans, most people would shrug their shoulders and say, "We are not sure. We are just going to have to wait and see."

Mr APLIN: In that regard, would you look to playing a role with the Catchment Management Authority?

Ms KNOWLES: We see that the new Catchment Management Authorities need to be more connected with the individual. I will take a step back. Essentially now we have got water sharing committees and native vegetation committees and catchment management boards, and while there is cross representation, there seems to be a lack of linkage between them. So what we have proposed in the diagram that I assume you are looking at there is an overarching catchment authority, with expertise for water planning or native vegetation planning or whatever might happen feeding into that catchment management authority, so that there is a connection there at the regional scale, because we have had three different types of plans essentially being drawn in isolation from each other. The connectedness is not really there.

Mr MIELL: We had a community advisory committee meeting with the Murray Darling Basin Commission (MDBC) a couple of weeks ago and the issue of social impacts came up and was addressed by a doctor from one of the universities in Queensland. He was really saying that it was very involved, very time consuming at the consumer level to do it properly. That is an example of what MDBC is doing. They have identified a need for that, but it is very time consuming and it cannot really happen until a decision has been made that you can take to the community and say, "Do you like this little pink box?" So it is talking probably 12-18 months to do the process fully. It can significantly slow down the process, but it is a critical part of it as well, as is the economic side.

At what stage do you introduce those processes in the policy development? You have got to inform the process with a policy direction of some sort, but, as you have seen with the Murray Darling, they are keen to move, their council is going to make a decision in November. Their scientific reports are only just out. The economic and social impacts, of course, will not be out before they have made their first stage decision. So there are some real conflicts there from the issues point of view of how you can bring the broader community input in when there is a fairly time consuming element of the process.

CHAIR: Thank you very much for your presentation. We will certainly look at the documents you have tabled and we would be happy to talk to your constituents if you can encourage them to make a submission. We will contact them directly and ask them to come.

Ms KNOWLES: If I can add just one more thing before we close, Madam Chair, I would encourage you to explore, for example, with the irrigation companies the programs they have in place, the land and water management plans about how they are dealing with issues like salinity and trading within their areas and to explore those in more detail with them, because there is good work being done on the ground.

CHAIR: We are certainly interested in that. Perhaps you could also give the Committee secretary some suggestions. We were actually thinking of going and inspecting one or two of them.

Ms KNOWLES: We can organise for that to happen, for you to see some of the good work that is happening on the ground.

Mr MIELL: We did ask them for comments prior to coming here, "How would you like us to approach this issue", and we talked to them. So I think we could probably impress on them the opportunity and the value of the opportunity as well.

CHAIR: I have flown over one near Menindee Lakes.

Mr MIELL: Tandou farm.

CHAIR: Yes, I have flown over that enough over the years, but I have never actually had a look at it and I am not sure whether that is the one to have a look at or there are others.

Mr MIELL: It would depend exactly what you want to see. That is a good one.

Ms KNOWLES: The MIA is a very good example of where they are, through their land and water management plans, redeveloping horticultural development, for example, and minimising drainage and implementing best practice on farms and also in the delivery of water to the farm gate. They have got programs that are addressing things like salinity and waterlogging and native vegetation management and all of that sort of thing. That would be a good example for you to see on the ground I think.

(The witnesses withdrew)

(The Committee adjourned at 10.30 a.m.)

REPORT OF PROCEEDINGS BEFORE

STANDING COMMITTEE ON

NATURAL RESOURCE MANAGEMENT

At Sydney on Wednesday, 17 September 2003

The Committee met at 10 a.m.

PRESENT

The Hon. Pam Allan (Chair)

The Hon. R. S. Amery

Mr G. Aplin

Mr A. M. McGrane

Mr G. F. Martin

Mr D. L. Page

MICHAEL JOHN KEOGH, General Manager Policy, NSW Farmers' Association, 255 Elizabeth Street, Sydney, and

ANDREW HUCKEL, Senior Analyst, NSW Farmers' Association, 255 Elizabeth Street, Sydney, sworn and examined:

CHAIR: We have received your submission. Is it your wish that that be incorporated into the minutes of the meeting?

Mr KEOGH: Yes.

CHAIR: We would like you to present to that submission and then take some questions.

Mr KEOGH: We certainly thought we would make some introductory comments. We have received a series of questions from the Committee and we are happy to work our way through those, if that is appropriate.

By way of introduction, thank you for the opportunity to talk to your Committee today. I suppose it is no secret that farmers in New South Wales and our association have for some time been looking for better ways to have Government and the farm sector manage natural resources. We certainly welcome what we perceive to be a concerted shift in focus towards what might be broadly termed market based instruments as part of the mechanisms of achieving better economic and environmental outcomes from the use of resources such as land and water. We have long held the view that those sorts of instruments are better ways to achieve outcomes that match the requirements of the whole community and end up with equitable outcomes and ones that can benefit the environment as well.

Water reform has certainly been an ongoing issue in Australia. I think if you go back virtually to Federation, debates about water have been a very important part of the national political fabric at different times. Certainly the most recent phase of reform started in about 1992 and resulted in the COAG water agreement in 1994. It actually makes interesting reading to go back and have a look at that 1994 COAG agreement because most of what was agreed in that agreement, most of the principles and most of the issues that were dealt with at that stage, are still in the process of being implemented, even though that agreement suggested that they would be in place by 1998, and in fact that 1994 COAG agreement really talks about the issues that we are talking about today: Separation of title to land from title to water; the introduction of markets and trade ability in water entitlements; the allocation of a dedicated volume of water to the environment, and the whole range of measures that really are in play now in terms of both State and national politics and are starting to be progressed.

In that respect, we certainly welcome the COAG agreement that was reached in the last couple of weeks. We welcome the approach that the New South Wales Government and the Commonwealth Government have taken to that and that really has been a fairly important step in working towards a stronger national institutional framework for water management. We note that the four task forces that have been set up under that agreement and which we assume will report back in the first or second quarter of next year deal with a lot of the issues that are the subject of the questions here today. In many respects the questions are very timely and very much on the subject of the moment and will be feeding in, I presume, to that national agreement that might be forthcoming by about the middle of next year.

The other point we would be keen to make is that, whilst there has been a perception that farmers oppose a lot of these environmental measures, I think the practical reality of the situation is that that is not the case. I think in many respects they have been uncomfortable with some of the processes that have been applied in coming to these decisions and I think we would reinforce a message that, in getting to decisions on these issues, a balanced approach should be taken which incorporates consideration of detailed and rigorous science coupled with formal socioeconomic analysis of the likely impacts and, from that, looking at best fit solutions rather than blanket

regulatory measures. That is going to apply particularly to water in the future because more and more we see that those who do most to improve their water use efficiency and maximise their output will be the ones who might be penalised if the approaches taken in future are blanket regulatory approaches such as mandatory percentage cuts to their allocations. The people who have invested money in infrastructure and precision irrigation systems are the ones who are probably most impacted by that blanket regulatory approach whereas the inefficient users who are perhaps just using water for pasture can accommodate those sorts of changes, so I think more and more we are heading into an era where that sort of consideration needs to be taken into account, particularly the socioeconomic consideration, in getting the best fit solutions for those sorts of issues.

With those introductory comments, we are happy to take questions, or however you would prefer to proceed.

CHAIR: We have got those questions in front of us which we provided to you. Are there any other more general questions that anyone wants to add before we get onto these?

Mr AMERY: Just generally, with the Farmers' Association and the Irrigators' Council, I always find there is a lot of agreement in principle and a lot of dispute about the detail. Are the Farmers' Association and the Irrigators' Council now more as one?

Mr KEOGH: Yes, certainly.

Mr AMERY: Because you have got that great dilemma of irrigation farmers as opposed to non-irrigation farmers.

Mr KEOGH: No, certainly, that seems to have resolved itself over recent times, I think more particularly as well in that this issue has moved to some degree to a national stage and I think irrigation groups and farmers are realising that getting decent outcomes in these issues is going to depend on a concerted focus rather than perhaps two groups taking shots at each other and trying to win points. I think more and more we are certainly working very much hand in hand with the Irrigators' Council and with the National Farmers' Association and national irrigation groups to try and make sure sure we all get a common understanding.

Mr HUCKEL: If I could just add to that, the New South Wales Farmers' Association is actually a member of the New South Wales Irrigators' Council, and we do have two farmer representatives on that council.

Mr PAGE: In relation to the private responsibilities of farmers to enforce sustainability in the interests of the public, interests in making sure that we have sustainable outcomes on all land, both public and private, the issue of duty of care has been debated a lot. The farmer has a duty of care, and beyond that it is the Government or the public at large who should assist in outcomes. Have you had an opportunity to clarify that concept in national terms or come up with a proposal that will actually enable governments to distinguish between where the private farmer's responsibility finishes and where the public responsibility starts?

Mr KEOGH: This has been the subject of quite considerable debate and discussion within the organisation. We endorsed the concept of a duty of care as association policy about 18 months or two years ago. The practical application of that gets interesting, because I guess conceptually people see it as drawing a line in the sand and saying up until that level of responsibility it is the farmers', beyond that it is the Government's or the public's, if they want to achieve those outcomes.

In broad principle, I think we do not have any problems with that and certainly we support that, but I think in practical terms drawing that line in the sand is often quite difficult and I think farmers would like to see a situation evolve where there is a much more comprehensive and longer term approach to incentive based schemes. Richard Amery, when he was Minister, introduced the Salinity Training or Environmental Services Scheme which is working through its pilot stage at the moment. Certainly, we believe that the dilemma of where the line in the sand is drawn can in fact, in a practical sense, be fairly well delineated by those sorts of schemes, because if they operate with market principles inherent in them,

then you will have, for example, a farmer who is prepared to do so much but then might go a bit extra if there is an incentive there, provide a very cost effective bid, if you like, to provide that service. Whereas, if you do it by trying to define it in a regulatory sense, it will be very difficult to do.

Dryland salinity is a classic case in point. If the farmer happens to be in a recharge area, you are going to have a great deal of difficulty trying to enforce the regulation or trying to even dream up a regulation that would say your duty of care is to make sure there is no salinity in 50 years, 50 kilometres downstream. However, with an incentive based scheme that says, "All right, we want you to reduce the leakage of run-off or leakage of water through your property to groundwater", the farmer may well be down the track of doing something along that line and a bit of marginal incentive would in fact encourage it. So in a practical sense you can use those sort of market based instruments to tease out where that line in the sand exists without necessarily having to define it in black and white terms.

Mr HUCKEL: Just if I could add, in relation to our submission, you would have seen a section in regard to the US Conservation Reserve program and the use of the Environmental Benefits Index (EBI). That could be assisted where you use that EBI as a proxy for a duty of care standard, and an EBI is more flexible and you do not necessarily have to draw that line in the sand.

Mr MARTIN: I have a question in relation to the Australian Bureau of Agricultural and Research Economics (ABARE), who put in a submission. A Mr Mues made some comments about the potential of the water trade to exacerbate salinity, and particularly talking about the Murray region. Would you like to address your comments on that and from your point of view the credibility of the ABARE statistics? Is that something that you people accept?

Mr KEOGH: We had a good look at that ABARE paper and we were a bit disappointed in it. Normally we have a fair bit of respect for the information ABARE produces, but I think what they missed in the paper was in fact the issue that was addressed in a much more comprehensive manner in the paper "Robust Separation" by McColl and Young.

I think what they missed was we are talking about a number of separate instruments in dealing with water, and I think Richard would be familiar with this in terms of the New South Wales arrangements. You have your entitlement, which is your piece of paper which says how much of a share of the resource, if it is available, that you can extract; then you have your allocation in the water authority saying there is this much water available; but then the third bit, which we think ABARE has almost neglected, is your water use licence or approval, and that is the instrument that looks at the potential impact of your use of water on a particular area of land. So the water use approval is specific to an area of land, and it is the instrument that looks at impact on salinity, impact on soil types, impact on a whole range of different things.

Now, I think McColl and Young were much clearer in their understanding that the issue of salinity, for example, should be dealt with by the water use approval and it should be the instrument which looks at if we irrigate here will we exacerbate salinity, etc. Mr Huckel is involved in a peak stakeholder reference group that has been looking at substantially enhancing and changing how those water use approval systems work, and certainly that is where that focus should be. So we were very disappointed that in a sense ABARE looked at an example, and just one example, of moving water from a low salinity impact area to a high salinity impact area, but ignored the fact that you cannot just move that water and apply it, but in fact you depend on having the water use approval in place before you can apply it. In a sense they seem to be complicating that issue with the issue of just the simple entitlement itself.

Mr AMERY: I am pleased to hear your comments because ABARE's assessment is a bit like carrying out an exercise. Obviously there was an impact, an assessment done and in the meantime trade from one farmer to another. I did not understand where they were coming from until I realised that they seemed to assume that when you are trading from one valley to another, from low impact to high or vice versa, that the agency concerned does an impact assessment on the approval process. So we are pleased to hear your comments on it. Obviously, if you do make any representations it will be to oppose or certainly to be strongly critical of the ABARE assessment.

Mr KEOGH: Yes, as you said, they seem to have ignored the fact that you have got two

separate instruments; one is your entitlement and the second is your water use approval. Just because you trade your entitlement, does not ignore the fact that before you use that water you have to have your water use approval. The water use approval is the instrument that is specific to the site and is the mechanism whereby the impact is assessed.

Whether ABARE did not understand that, and certainly that is not exactly the case that applies in other States, so whether ABARE looked at it from a national perspective and did not understand the stage of development in New South Wales as far as separating those different things or not - I was also disappointed that they only looked at one specific example, that is moving water from a low salinity impact area to a high salinity impact area. You could have equally looked at the reverse and said trading will be wonderful for salinity. So it was a bit of a very narrow single example, rather than a perhaps more comprehensive look at the issue.

Mr HUCKEL: Some of these scenarios have been discussed within the peak stakeholder reference group on water, of which I have been a member, but yes, as Mr Keogh was saying, ABARE missed the point that basically the water access licence does not entitle the holder to actually use their entitlement. The use of water is regulated by water use approval. So it will mitigate those situations where poor quality water in terms of salinity is applied to country of high salt content.

Mr MARTIN: You mentioned Young and McColl. They make comments basically I think along the lines that if irrigators were to be able to use their water savings to increase irrigation, that is going to impact on river flows and so on. In comparison to what they were talking about and ABARE, have you got any general comments on that?

Mr KEOGH: Yes, I think that is a bit of a heated issue and one that is going to have to be dealt with, and that is that if irrigators do make big savings in efficiency, there can be a double impact. It can be a fact that there are less return flows going back into the river, and so who owns those return flows, and that is an issue that is dealt with, but also it may mean that the irrigator can expand the operation and in fact grow more acres of product using the same amount of water.

Now, some have suggested that that efficiency gain that allows the irrigator to have more water, or irrigate more area, should in fact be turned back to the river flows. I think we would argue that that is going to kill a lot of the incentive for that increased efficiency, and that the more appropriate way to do it is to say all right, if you are going to make those efficiency gains then a trust, or whatever the vehicle is to hold the environmental flows, can be in the market place and buying some of that water back for the environment as it is required, and that is a more equitable way to do it than hinting to someone if you make an efficiency gain we are going to pinch that efficiency off you, which is going to disincentivate moves towards that efficiency gain. We think it is probably cleaner to do it the other way.

Mr MARTIN: It is a bit ridiculous.

Mr HUCKEL: And obviously within the COAG working groups this will be an issue which they will be looking at and also in regard to the environmental water trusts possibly purchasing that water which has been gained through increases in efficiency.

Mr KEOGH: It is interesting, we note, that in the US water trading systems a water trade is the net water, not the gross water. So the US system makes an assessment of the amount of return flow, that is the amount of water flowing off that irrigation site and back into the system and only allows permanent trades of the net amount of water, rather than the gross amount of water. They are issues which have not really been dealt with up until now in Australia.

CHAIR: What about some of those other questions?

Mr KEOGH: Yes, the reason that irrigation schemes constrain or do not permit out of scheme permit trade, I think really it comes down to the issue of they have got their infrastructure in place and if they have not got sufficient volumes of water going down that infrastructure it all gets less efficient and more costly. I think the spectre of water barons and huge shifts in where water is used and all those sorts of things that potentially flow from a stronger market in water is probably a bit overrated, in that I think

some do not understand that, for example, your allocation at any point in the year can change dramatically and have a dramatic impact on the market. So whilst some may think there is a quick buck to be made in the water market, I think some of the risks that are inherent in it are not likely to lead to that scale of market such that there are huge shifts in water out of one area and into another. I just think that is not a practical reality. I think we will see it at the margin rather than wholesale and, for that reason, I suspect that irrigation corporations are being cautious rather than jumping in head first, but I think we will see a progressive realisation that there is a balance somewhere between an absolutely unfettered market and no ability to trade whatsoever. The issue for them is going to be when some of their shareholders reach retirement age and find that they can trade water permanently out of the system for a much higher price than perhaps they are able to within the system and the tension that that creates will have its own imperative as time progresses.

Mr MARTIN: In relation to the various pricing mechanisms, and ABARE made some comments about whether there would be subsidies, taxes or whatever, particularly trading out of high salinity areas, given that everyone has a different view on what the various financial mechanisms can or should be, do you have any comments that might be helpful to us in this area?

Mr KEOGH: Yes. We would come back to where we were, I think, in that if you are wanting to deal with salinity as an issue and you want to set up a credit system for salinity then we would probably argue that that should not be tangled up in the market for water entitlements, that you deal with that as a separate issue, perhaps through your water use approval system or whatever. I think if you start trying to tangle all those outcomes into the market for water you are going to get an awfully complicated system and probably not get the results you hope to.

CHAIR: Christina still wants enlightenment on 5(a) and (b). Do you have anything further you would like to say on those?

Mr AMERY: Before you do answer that, you made some comments earlier about incentives, and quite obviously we all know what that is, getting some incentives to invest in tile drainage or revegetation or whatever it might be, and whilst we do not ask you to do it today, I suppose what we would like to look at in the future is some hard detail on examples of incentives that should be available. What is the science on the best type, whether it is putting capital investment into properties which reduce leakage because you made the point earlier about leakages into one area which affect another area downstream and so on. I would certainly like to have, maybe not today, some clear examples of the types of incentives involved, the type of investment where we would probably get the best return.

Mr KEOGH: Yes. Certainly we have discussed those in some of the submissions we have made. I think there is a tendency to overlook the fundamental impact that ascribing a more secure value to water entitlements will have. In a sense you are going from a free resource that is readily available to one that becomes more and more valued and significant in terms of people's thinking about how they use their resources and if you suddenly say to someone, well, that resource you are using is quite valuable, maybe \$5,000 a megalitre, and you are losing a megalitre through leakage, suddenly there is an incentive to find a way to fix that, whereas when the resource is relatively inexpensive and freely available there is never an imperative to chase those sorts of things. I think we tend to overlook that. Irrespective of what institutional arrangements are in place, once that system starts to evolve, you suddenly create an imperative all of its own that will encourage individuals to do a fair bit more.

Mr AMERY: The value of water.

CHAIR: What about the last question in relation to other policy approaches perhaps to address some of the current challenges?

Mr KEOGH: I guess there are two aspects to that. One is the system savings, and that is the infrastructure, if you like, associated with water delivery before the farm gate, and I think there are some interesting challenges there. Andrew noted in some recent US publications that the overall picture was that most of the water infrastructure was implemented in the 1930s and 1940s and is now

in a bad state of disrepair and undercapitalised and needs a fairly substantial capital investment. I suspect that the picture in Australia is not that much different. In some of the US systems, and they are ones where water has attained a reasonably high value, they have moved to, for example, covered channels, lined channels, piping rather than channels, all those sorts of things that perhaps optimise the delivery systems. I think we are likely to go down the same track one way or another and I think Dick Pratt's investigation around the Murrumbidgee at the moment - I do not know whether you want to comment on that - is perhaps going to provide some answers in relation to the off-farm or prior to the farm gate phase.

On-farm we are seeing some fairly exciting developments in precision subsurface drip irrigation systems and water scheduling. For example, the CRC into irrigation based at Warwick in Queensland found that simply by metering the flow of water onto farms and talking to farmers about more efficient scheduling they improved their water use efficiency by 10 percent on average, so without any capital investment whatsoever but simply getting the farmers to put a meter on and measure the flow of water and put a number around the water they are using, the average savings they generated up through the cotton industry in southern Queensland was about 10 percent. Simple things like that have generated significant savings without a major investment. If you head towards a subsurface drip irrigation system, which has been trialled in the cotton industry, you could pick up another 30 or 40 percent water use efficiency there. They typically cost somewhere between \$3,000 and \$5,000 per hectare to instal, obviously have a fairly big capital investment involved, and have the added question of the return flows either through the subsurface or on the surface not going back into the system and what happens to that. I guess we would reiterate that we think it would be a situation where the environment as it is represented by whatever the vehicle is to hold the environment water will need to be in the market progressively buying that water back as required. We do not see a simple policy solution to say, as we have said before, if you save 10 percent of water on your farm you have to give 5 percent back to the environment. That is going to take away a lot of the pressure that is going to apply naturally to get those efficiencies.

I think they are the sorts of comments we would make there, and certainly that covers the issue of equity in the second question because, as we said, if we are forcing people or asking people to make that sort of investment of \$5,000 a hectare and then saying, oh, by the way, we're going to take 10 or 15 percent of the water you save off you, you have to find some way to make that sensible and that sort of approach in a blunt fashion I do not think is going to work. It is going to kill the incentive rather than encourage it.

CHAIR: The two year review of pilot interstate water trade shows that salinity increased in South Australia despite the States implementing various control measures. The report stated that all States find it difficult to monitor and enforce salinity controls in trade. How effective are use licence arrangements? Presumably that is the point that ABARE and CSIRO are recommending, market mechanisms.

Mr KEOGH: And I would not confess to be 100 percent clear, but I suspect you would find that in South Australia, and certainly in Victoria, the separate concept of a use licence is not in place in the same way as it is in New South Wales. That is one of the difficulties, and I guess that is part of the COAG agenda, to try and square up between the States so that what you are actually trading is a common thing and those issues are dealt with at the point they should be dealt with, you are not trying to cover everything in dealing with the water trading issue.

Mr HUCKEL: Looking at some of the literature as well, particularly the American experience, something that they found quite important in terms of establishing a water trading market was to be able to accurately measure the value of the water. It is something which we encountered with water sharing plans in New South Wales and was also addressed by the socioeconomic review committee. There is the need to be able to accurately monitor how much water is actually being used by farmers' industry and urban areas. I think out of that review committee - Mick was on that - there was a recommendation that departments look to improving their monitoring capacity in terms of how much water is actually being used, particularly in a lot of unregulated systems. There was no clear answer on how much was being consumed by farmers.

Mr KEOGH: Certainly that was a real issue because the water management plans in some of those catchments were prepared on the basis of an assumption about the amount of extractive use that was occurring. We were surprised by the degree to which there was not monitoring of water use and had proposed as part of that perhaps an incentive scheme that suggested that within a couple of years it would be mandatory for all water use to be monitored. We have discussed that with the irrigators council and they did not seem to have a major objection to that sort of thing, but it was extremely difficult making an assessment about those plans when in fact there was not the data there to support them. The point that it highlighted was, when the five yearly review of those plans commences in another two or three years, it would be ridiculous to go into that review without that information being available, so if this Committee was interested in looking at how there might be an arrangement put in place to have a much better monitoring regime in place right across all those 30-odd water management plans, I think that would be a very important step in getting this reform process sorted through in a good manner.

Mr AMERY: And a good thing we could chase up. I think it is one of those walk around the world type policies, gradually happening day by day, metering and monitoring. I would not mind getting a report from the agencies on just where they are on issues of monitoring and metering. There are lots of areas where we have for some time been moving away from area based to volume based water allocation and it would be good for the Committee to get a report about where we are up to on that and how far we have to go.

Mr HUCKEL: I think there have been some improvements in the monitoring side of things, but whether they are happening quickly enough--

Mr AMERY: Nothing ever happens quickly enough.

Mr HUCKEL: Particularly if we are talking about establishing some sort of trading regime under a national water plan within 12 months or within 18 months, as I said with America, you actually have to be able to measure how much water is being used because you cannot price it, hence it creates enormous difficulties in regard to trading it. It is something which tends to be overlooked when you actually create a water trading market.

Mr APLIN: We have talked primarily about the more efficient usage of water, which is quite clearly commonsense, but given that the major storages were established primarily for irrigation purposes and to guarantee supply to all users, what is the view of the association on either increasing the number of or enlarging the capacity of storage facilities, dams, reservoirs, et cetera?

Mr KEOGH: That is certainly a challenging issue. We would, for example, have a lot of members who would suggest that running a big pipe through the mountains and turning a lot of the Clarence inland would be a good idea, and then we have others on the Clarence who suggest that that is not a very good idea, and a number of oyster farmers who would also be opposed to it. We certainly would not want to say that the potential for further substantial capturing of water and making it available should be written off, but we recognise that there is probably a fair bit of difficulty in seeing a way to have that happen from an environmental and an economic perspective. We would certainly encourage that to be looked at. A recent agreement we signed off with the Australian Conservation Foundation at a national level dealt with that issue and suggested that it should not be ruled out and that rigorous processes should be in place to allow that to be considered, but I think the message certainly in New South Wales seems to be that the potential for further expansion of water resources and availability of water resources is pretty limited.

Mr HUCKEL: We tend to focus on a lot of water issues west of the Great Divide, but Don would be aware in his electorate, particularly with coastal unregulated streams, they have very high flows because of high rainfall during periods of the year and all the horticulturalists need to be able to tap into those high flows and pump that water into on-farm storages, so particularly for the coast a lot of our members have expressed the need for more on-farm water storages in order to access the high flows within those coastal streams because what is happening at the moment is that during the periods when they are not experiencing high flows they cease to pump, they have to turn off their pumps and they cannot finish off an avocado crop or they cannot carry out dairy wash-down or things like that,

so I think particularly in terms of the coast, and I know the members on the coast would like me saying this, there is a lot of opportunity to look at that very issue: Off-river on-farm storage.

Mr APLIN: If we were to no longer build the lakes and reservoirs that we have established under the current climate, because that is certainly the policy at the moment, then would those communities that are reliant be jeopardised and be likely to suffer as a result of the withdrawal of water, because clearly in my area, which is the Murray, the farmers are asking for more storage facilities?

Mr KEOGH: Yes, I think we have to be fairly blunt about this. The value of irrigation is about a third of all agricultural output and about \$8 billion dollars a year and all those communities on the Murray, the Murrumbidgee and the MIA are all absolutely dependent on water, and I do not think we can escape from that now. Some might say we should never have built those storages in the first place, but you can take that to the extreme and say Europeans should never have settled the country in the first place. I do not think it is logical. You work within the system you are in.

Certainly there are some questions about issues along the Murray. For example, Snowy Hydro in its role and how its water is more secure than - I think they have a 75 year licence with a guaranteed compensation clause with the New South Wales Government. I think irrigators look at that and say, "We would like something like that as a similar entitlement", but I think the Living Murray project that is under way at the moment, or I should say as of today stalled, was going to look at in a fairly rigorous way the science associated with whether or not extra flows are needed in the Murray and the practical economics, and look at them in balance in that process. Certainly that is the way we would like to see things happen. What has happened there now is it is a bit up in the air because they have decided not to release the scientific report and the socio-economic report is not yet available, despite being promised in August. So there has obviously been some hiccups along the way there.

Our view would be that these issues need to be looked at pretty carefully and in a balanced way that considers all the issues, not just environment and not perhaps just economic, but whether there is room for additional storages on the Murray or not I think is an interesting question.

Mr HUCKEL: Something which has come through from our members within that area is that opposed to maybe looking at additional storages, also focus on improving the existing storages in terms of infrastructure and whatnot, and that may include, for example, raising the dam wall or what have you, or looking at some of those barrages down in South Australia. The feedback we are getting from members is that there are a lot of water savings which can be found in the existing system if we look at that infrastructure.

Mr KEOGH: Ultimately, you run into the issue, and we have run into this on a number of occasions, we have irrigators a bit west of Albury demanding more water and farmers up in the Mitta Valley saying, "Don't you dare. You will flood us out", because if they make the releases, the only way they can get more water down is to flood the farmers in the Mitta Valley. So for an organisation representing both groups it poses an interesting challenge on some occasions, which I am sure you run into a fair bit.

(The witnesses withdrew)

(The Committee adjourned at 11.10 a.m.)

REPORT OF PROCEEDINGS BEFORE

**STANDING COMMITTEE ON NATURAL
RESOURCE MANAGEMENT**

At Sydney on Friday 19 September 2003

The Committee met at 10.00 a.m.

PRESENT

The Hon. P. D. Allan (Chair)

Mr G. F. Martin
Mr G. J. Aplin
Mr A. M. McGrane
Mr D. L. Page

DONALD JOHN BLACKMORE, Chief Executive, Murray Darling Basin Commission, 10 Moore Street, Civic, ACT, affirmed and examined:

Mr MARTIN: We have not received a formal submission, but would you like to make some lead-in comments to the Committee. Then we can go to questions from there.

Mr BLACKMORE: Can I make a couple of observations, if I may. Your terms of reference deal with the whole sustainable natural resource issue and how you might progress that in a productive way, which is very positive in the way we are thinking about natural resource management. Can I say that, if I were to paraphrase those in my terms, without trying to get to what I see is important, I would paraphrase them by saying what are the required prerequisites for focusing public and private investment to address natural resource issues. What do we need to do basically in marshalling both the private and public capitals in ways that are productive? You have broken this up into dealing with disincentives and incentives and so on. I do not want to go into that level of debate.

What I would like to put on the table, if I may, is that the Commission—and obviously the Commission is quarter-owned by New South Wales, so as a result of that New South Wales has been working since 1988 to establish a structured approach to natural resource management. In our basin, at the level I operate, the first thing we have to do is stabilise the sharing of wealth. Otherwise you cannot attract communities. There is too much uncertainty about attracting communities to solve problems at the local level. You can do some things but not the major things. In the Commission's case, we have set off to cap water use, as one example of getting all of the States so they sort it out within their sovereignty, what the property right is in water. We have now capped salinity through the salinity strategy. Those things are clearly available to you. I see that Richard Amery signed them all in his role as Minister on the Council.

We have a strategy that is in place now for salinity. At the highest level between States, the property rights that each State has—language I am using and I hope it is in common parlance—but it is very clearly articulated and in our world it gets captured in the agreement. We have now tabled those schedules that capture these things in Parliament and therefore they are law in terms of the agreement. We have now a very sophisticated way of dealing with monitoring or auditing water use in the basin, and it is public. All the things about trade and water trade and some of the questions that your secretariat sent me are addressed in detail, so I will table those, if I can. I will leave them here as documents that are important.

In the philosophical push that is inherent in your terms of reference, it really comes to the stability of integrated catchment management. In fact, do we have a stable integrated catchment management arrangement that can reasonably reflect the incentives or disincentives right down to the community level that is stable enough to repeat them day in-day out, because natural resource management is something that is a relatively slow-moving feast. Our experience in the last 15 years is that a steady hand with the community is very important, particularly if you are inviting them to invest a significant amount of their private capital in readjusting what happens. We have seen a myriad of programs come and go in the last decade in this area, all well-intentioned. I am not critical of them. I am saying that we have to get, in my judgment, to where there is a very steady hand in integrated catchment management.

We have an integrated catchment future, which has been signed on by New South Wales, Victoria and so on and so forth, which sets out the principles after a very extensive community engagement process. I will put that on the table as well. We will not go back and repeat that because it is not necessary. But the issue for me is that if we are going to go forward in rebalancing these landscapes, we need to make sure that we see integrated catchment management, or total catchment management or whatever term you use, we see it as a business. We see it with all of the business characteristics that you need. What is the investment framework? What is the long-term relationship with—otherwise you cannot establish sufficient certainty to go forward.

I wanted to start off by dealing with that as my understanding of the underpinnings that will be necessary to deal with your terms of reference (a) through (e), in terms of incentives and the like, because floating them out without a stable framework in which they are going to be considered means that they have a higher risk of not being picked up, basically. Can I say that the other significant thing that will change the focus of your work and our work is our ability to progressively register land that

is suitable for investment. I am trying to not use the word "zoning" because people get concerned by zoning. But all the technologies we are doing right now takes us to the point where we can illuminate the trade-offs, determine land where you would want to invest public funds to get a public dividend, whether it is salinity, biodiversity, acidity, mitigation or the like.

To give an example of that, can I talk to this without getting—I have not brought this to get to the detail, other than to explain what is happening. This is unstoppable now. The technologies that we have available mean that whether we like it or not this is going to happen. The question is how do we accommodate it. It is happening in the areas which have properly structured catchment management authorities as we speak, that have had them for eight or nine years, which are largely in Victoria and South Australia. They are doing exactly this as an outcome. I will leave this as well, but this is an illustration about where the water and salinity trade-off is, which is one element of how you classify land suitable for public investment.

This here says that this area over here exports 62 tonnes of salt for every square kilometre of land. This is a piece of land in Victoria, but this stuff you could do anywhere. It tells you where the salt is exported from, how much per square kilometre. This map shows you where the water comes from. This dark blue says it is 217 megalitres of water. It is in is obviously in the higher rainfall zone, and so on. Then this one tells you what the river salinities are. When you combine all those together, what it shows you is—I was going to go into a revegetation strategy for salinity mitigation and I went and revegetated all of that area there, the high rainfall area, which also is the highest salt export. I would increase river salinity at this point by 22 EC units. The trade-off in taking the water out far exceeds the salinity benefit. If I went in and revegetated this area over here, which is exporting 38 tonnes of salt per square kilometre, per 100 hectares, I would reduce salinity by 32 EC units.

What all this technology is going to do is start to bring down the space on the dance floor, for want of a better term. Then, when we impose on that the other three technologies that are available—airborne geophysics—we work out where the salt is located. None of this is uniform. Then we are down to fence lines on properties. If we get down to that level of detail, then you can classify the land suitable for public investment. If you want to invest through a national action plan or a New South Wales program for revegetation, those areas are the only areas to which those public resources should go. For the last decade we have run most of our natural resource programs as social programs, which has been incredibly important in changing the nature of our business. I will stop there, but I see that as inevitable now. The nature of your terms of reference, with incentives and disincentives, eventually will be narrowed down, in my judgment, to dealing with those parcels of land which warrant public investment.

In my judgment, from the work that we have done in—do you look after Billabong Creek at all, anybody here? Is Billabong Creek in your electorate? It is. In Billabong Creek, for example, we have spent \$1 million on airborne geophysics and we can now show you where the salt is, down to property boundary levels at depth. That community is running that process. That information is going to become progressively more available over this decade. That will be very important for governments. The nature of the way you deal with your incentives and disincentives in that context, I think, is very important. I was not coming to give a solution to it. I am trying to get on the radar that that is going to very much narrow the dance floor.

That is all I wanted to say generally. Can I then move on to the questions your secretariat sent to me, for which I am not going to give you a turgid, long answer, you will all be relieved to know. I will table some answers to those questions, if I could, Chair.

CHAIR: Thanks, Don, that is great.

Mr BLACKMORE: I will deal with them strategically. I am going to take off the back of this the answer to one question, question 6, to which my staff prepared a very detailed response. I will take that out of the response. The simple reason is, it is a very important issue. In fact, I think out of all the issues that I have been asked, the most important issue, and I will be very happy to discuss it. There is only one problem, that my staff inadvertently strolled into a public policy area which I do not think is appropriate until we go through the Commission and Council with it; so I will take that out, but the numbers we will put on the record for you. Let's deal with them one at a time. These questions go to the heart of interstate trade, salinity impacts and whether we have controls in place now that will

improve and not degrade our environment. Many of the reviews that we have done in a very open fashion obviously put on the warts and all, and that is a very important thing and we have addressed all of them in a positive way.

The problem comes to this. I do not know how familiar your Committee is with the problem, but the problem is that if we trade water to areas that have a higher salinity impact, the disbenefit of that can be quite immense. That has largely been occurring as water is traded out of Victoria and New South Wales into South Australia. South Australia legally have to meet 100 per cent of the cost of that, so New South Wales and Victoria are protected in terms of the agreement from it, but it is not good public policy if people are trading water and they do not understand the full consequences of that: in fact they have a contingent liability 25 years from now which will drive them broke. That is fundamentally what was happening.

What the South Australian Government has now done is started to change its legislation. It is now going to mandate an 85 per cent efficiency requirement for all irrigation in South Australia, so if you cannot demonstrate 85 per cent, you will have to lose access to your licence, and that is quite a massive cultural change for everybody. The second thing they are doing is working out a zone land suitable for trade, similar to what Victoria has done. That is incredibly important in the lower river; very important in the Lower Darling, and it will become increasingly important in the Lower Murrumbidgee and everywhere below Euston, it is fundamental to the future of the lower river because the ground water is direct connection to the river.

I can go through all of this chapter and verse, but basically South Australia have accepted full accountability for it. They have changed the policies now and they will be zoning land that—and the only land where you can trade to. Most of land will be protected by an existing salt and deception scheme, so there will be one in if you can trade in behind it. So the existing salt and deception scheme provides the protection or you have to trade a significant distance into the melee which has very significant implications on costs, but that is the reality.

You will see one note, when you have a chance to glance through these comments, where New South Wales has no such zoning provisions. I just leave that with you. There has not been much trade in the Lower Murray because of native title issues in the last five or six years, but I understand that those issues have now been worked through in some way and trade—and there is significant areas of land in the Lower Murray that would be available for water to trade on to. New South Wales will be confronted with dealing with exactly the same issue reasonably briskly.

The other question which I will read out was a question that I was asked about work by Young and McColl from CSIRO and indicating that there were, in my terms, things happening in the water cycle that would soak up a lot of water and put at risk some of the gains we think we were going to get from recovering water from the environment. Can I say that there will be in the public record within the course of the next six to eight weeks a report that the Commission have commissioned from Earthtech Engineering Pty Ltd which is called a Review of Selected Factors That May Change Future Flow Patterns in the River Murray System. It must have been written by a bureaucrat, I think. It should be What Is Going To Threaten Our Water Future basically.

If I can put on the table the six or seven things that think we need to have on our radar. There is clearly climate change as the big ticket issue. If you can believe the impacts of the drought we are currently in now—still not out of it—my colleagues in CSIRO are telling me that their judgment—and they have no evidence to prove it, so we are not elevating it more than that—they believe half of the current drought would be within the normal noise of the climate, but half of it is driven by temperature, which is most unlikely to be within that. The average temperature in the southern basin was at least a degree higher than any time the last 50 or 100 years. They are saying, at least, there is some evidence that we are starting to see temperature effects which are making—even if we get really low rainfalls, we are certainly seeing in our streams a change. That has a really significant issue.

The next issue is the one of reforestation, and reforestation is a very controversial issue. What I am saying over here on that diagram is that in the low rainfall zones we are going to need trees in our landscape and the water trade-off is probably worth the salinity dividend, but if you go into a catchment area above 1,100 millimetres of rainfall and you convert pasture to pine trees—just as one example—and it is above 1,100 millimetres, that conversion will consume between two and a half and

three megalitres per hectare—about that much water. That is how much will not run off and it is all high security water; it is the first water consumed. Twenty thousand hectares of pine plantation in that rainfall zone in the basin would be twice the consumption of Canberra.

Mr McGRANE: As against pasture.

Mr BLACKMORE: As against pasture, so if you go from pasture to pine trees—it would have been vegetated at some stage in the past. It has been cleared; it is pasture now, some of it, and if you convert from one to the other that is it, and that data—I think it is a very important issue for a Committee like yours—but if you want real data on that I would suggest you get Rob Vitessi from the CRC for catchment hydrology. It is bullet-proof, the data. It is from all over Australia and all over New Zealand, very long periods of record.

The next one that is very significant, if we follow our current practises to enable the sustainable use of ground water to what has historically been the way where we match consumption with recharge into the ground-water systems and we get all that nicely in balance. Unfortunately, in many of our aquifer systems, 50 per cent or 60 per cent of that water would have eventually reached a stream. A business's usual approach across the southern basin will mean that we could lose 300,000 to 400,000 megalitres of water out of our rivers by continuing to promote ground water use, or allowing ground water use to continue, and that obviously would come off another irrigator downstream or out of the environmental allocation.

It is a very serious issue. There is a report that we have prepared with New South Wales officers and Victorian officers, and I am happy to make that available if you would like it.

Mr McGRANE: Ground water use where?

Mr BLACKMORE: One of the problems with this is there are no two garages exactly the same—but right across, on the western side of the Great Divide, we come off the mountains into the fractured rock aquifers. If you tap the fractured rock aquifer that water will get into a stream, because it has to go somewhere. That is basically what has been providing the base flows into streams, but if you go down into when the rivers go out onto the riverine plains there is generally very significant fresh water aquifers around Corowa or the Darlington Point, and that water is recharged out of rivers. That is where the water comes from. If you pump it out three kilometres down aquifer, eventually that will come straight out of the bottom of the Murrumbidgee to fill it. It is a straight trade-off issue and so we have gone through every aquifer system—by "we" I mean the Commission within the Commission family, because we saw this as a threat about three years ago and we tried to go away from the generalities to the specific and we are now to that point. I will forward that report to you to have a look at.

The other interesting—and I would not want to elevate this too high—but the other interesting thing is the continued development of farm dams and, while this might seem a bit bemusing to us all, we have done a little bit of work on real data from New South Wales, Queensland and Victoria, and what is happening is that farm dam development continues to grow in every catchment we have monitored since the 70s in a linear way. There is no turning over yet and you have to sit here and ask why is that so. And then we have gone and tried to estimate how many farm dams we have in the basin, and we have 940,000 approximately—so somewhere between 900,000 and a million—and their storage capacity is about equivalent to Hume, about a bit over 3 million megalitres, and their facilities which are the least efficient of all of our water supply facilities. They are the cheapest, so they are efficient in economic terms, but in terms of water efficiency, they basically evaporate 70 per cent of their water.

That is another issue that somewhere in our radar, if it continues for another 20 years, and as we go more into rural Australia with peri-urban development, this is exactly what we are continuing to see around places like Bathurst, Benalla, Shepparton, and that is the way of it. That is another issue and, I can tell you, around Canberra—and if you get your data on the Yass River, which is very good New South Wales data, in fact the best data in the basin, have a look at the issue in terms of the impact of farm dams on one river system, so it is an issue.

The last one that I wanted to put on the table is the impacts of bushfire. Last year we had about 50 per cent to 60 per cent of all of our upper catchment burnt, and in the Dartmouth catchment, 90 per cent burnt. Our initial estimates are that 20 years from now we will lose somewhere around 400,000 to 500,000 megalitres a year out of our system as the trees grow, they go through their growth phase, and that memory will remain up until 50 years. We will get more water for the next few years, we will go through a phase of soaking up a lot of water and then gradually that will tailor off, and that is based on the evidence out of the 1939 fires. We are now trying to refine these numbers because they will become incredibly important because, again, this is the highest security water in the basin and these trees get first use of it and they use it, and we will have to respond in the way we deal with dams.

Can I finish by saying, with that bit of happy news, there are a whole lot of water threats out there that mean that what we see out in rural Australia now in terms of water reliability is most unlikely to be what we are going to see in the future. As we go about rebalancing our rivers—and we see that under the National Water Initiative, governments have committed \$500 million to dealing with over-allocated systems, with a view on the health of the River Murray, we would not want to make that investment and then see it eroded because we do not have the public policy positions in place to deal with the other issues that are coming along as well. What we are doing with this information is to take it into our Commission, into our Ministerial Council, start a sensible quiet policy debate, because these things take time to resolve and think through, and hopefully over the course of the next two or three years build sufficient understanding and commitment to quietly—and I mean quietly—deal with these issues because some are more important and more immediate than others.

Most of the irrigation industry understand these issues— at least in sufficient depth to know that they are issues that are important to the future of their business—and they really need to be engaged in the solution of them, because otherwise we will not go forward. That is about where I needed to finish.

One comment on the National Water Initiative—which I was asked to comment on—we have been running a Living Murray process. I have to say that because of the way that was designed at the start, it was always going to be a noisy very uncomfortable process because Governments took what I consider to be a very brave decision in saying we are prepared to talk to folks about the problem. We do not have a public policy response to that, whether it is New South Wales, Victoria or South Australia, but we will sit that there. We do not have money on the table either. So we went out and we have had 53, 54 or 55 meetings, and I think we shared one earlier in the week with several thousand people at Yarrowonga, where communities are clearly concerned.

There is a great spirit to solve problems, I have to say, but they want to be respected, and so the National Water Initiative now has, in my judgment, shown a very strong measure of respect, and so the tone of the meetings that I am dealing with in the bush now are much better, because we can now start to deal with solutions and hopefully marshal the resources in a sensible way.

We will not know what resources are available to the Living Murray process until Premiers and the Prime Minister go through their next COAG meeting next year, is my understanding. There is a very senior officers group. Hopefully our Ministers in November will be providing highly structured and detailed propositions into that debate because there is very well-structured information available that can support it, but I am very confident that this is a culture changing experience for natural resources that, in my experience worldwide, is almost unseen and unheard. The vast majority of these changes everywhere else in the developed world, which are the only people who can afford them basically, have occurred using surrogates like endangered species legislation and other surrogates to change it, and I think Governments right now are to be commended for understanding that they have to manage their future and not regulate it, and so we are now starting to see that as a positive outcome.

I am very encouraged and, personally, for the first time—not the first time; I have been in the game too long, that is my problem—I am very encouraged and it will be fantastic to see us go forward. We will also complement the National Water Initiative with an active environmental management function because we have to trade environment. There will not be enough water no matter what we do to satisfy all the environmental requirements and the Commission and our Ministerial Council agreed to establish that function two years ago, so we have an environmental

manager. They will be trading water as well as trading environment. It is an absolutely new way of thinking about the future, so hopefully with a steady hand in another couple of years we will have that as a matter of course in the way we do business.

Mr APLIN: Management versus regulation you mentioned there, how would that apply in terms of the forestry? You mention obviously the reforestation that will occur in the catchment of the Upper Murray and the Dartmouth area, but given that map as well that you explained the differences on water flow, who would be driving the forestry program? Would it be a combination of Government and private enterprise or would it be—because I want to pick up on the regulation versus the management.

Mr BLACKMORE: What is driving it is that in Victoria it is largely private now, because forestry arrangements are being dismantled and there are private companies coming in and investing within the framework that Government sets for them. In New South Wales you still have State Forests, which is a very well-structured organisation, pushing forestry, which is what their charter is, as well as individuals and private groups. We have a national forest strategy as well, trying to get plantation forestry into our catchments and naturally people will go where the rainfall is highest, because that is where trees grow and that is important. Governments will have to make a decision of whether that trade-off in water from one use to another is reasonable and social on other terms. That is the nature of the discussion that Governments will have to have.

Further down the catchment we need—so if I went to your area, I have moved out of the Upper Murray, and I have gone into the Billabong Creek catchment, and I am down now to 700 millimetres, 600 millimetres. In those areas 500 millimetres at the far edge of that catchment were in the area where trees are not profitable in their own right, but we do want to deal with the salinity problem, so if we go through a process like this and determine land suitable for investment for trees and we marshal our salinity subsidy, which is a very significant subsidy now—through the National Action Plan or other program, whatever programs you see fit—and we direct that subsidy, we end up with the same timber outcomes, slightly longer in growing. But we end up with a massive natural resource outcome as well and a very small water trade off. The positive part of this is we can have it all—is the positive outcome if we are smart. We can end up with brand new forestry industries in the lower rainfall zones, dealing with the salinity problems, if we want them. We have to structure our response to how we do it, and there are easy ways to do that.

If you see trees as the same as a road—just briefly try to use my example—when we want a road, we go out and we understand why we want a road. When we are going to construct it, we tender for it. We go out and we get competitive bids. If we can determine where trees need to be in the landscape—and we can determine how we will respect those people that have access to that land now so we are not coming in and saying, "You are out of business"—because this is not normally going to be wall-to-wall forestry. This will be draped over the landscape in a very uneven fashion because that is the way salt is. We could come up with a way of tendering for forestry services on transport hubs like Albury, Wagga, Bathurst that deal with the salinity problem but leave us with a timber industry. At the end of the day, relatively small water trade offs; significant industry and rural development because our view is we have looked at it and we have used UNE to do some analyses. You could go up to 100,000 net new jobs out of a timber industry based on sensibly dealing with salinity in these areas.

I think there is potential synergies in all of this that are not so threatening, but Governments would have to have an eye on how much of its fresh water it is prepared to allow to go into forestry operations because it is a pretty scarce resource right now.

Mr APLIN: A supplementary question to that: leading on from what you were saying there, what resources have then been put into establishing more salt tolerant or salt resistant form of forestry?

Mr BLACKMORE: I should declare that I am the deputy-chair of the CRC for Plant Based Solutions to Salinity and I chair the Research Committee. That is the biggest CRC in Australia, from Perth through to Charles Sturt University, over 100 researchers and over \$100 million. What we are doing is putting 70 per cent of our budget into vegetation that is aggressively able to deal with water, not salt. We do not want to wait till we have the salinity problem and then deal with it. We want to be

able to get vegetation in the landscape that fits into our landscape that deals with the recharge that is driving it. It is not salt tolerant. We are looking at everything from acid-tolerant lucerne. Lucerne is a very effective crop to deal with salinity. But in the western side of the Great Divide, unfortunately we have a huge acid problem. Unless we can get lucerne to be more acid tolerant, we do not have that available. But then we are going through all the shrubs, all the native shrubs that will fit in.

We have a project called Flora Search that is scanning all of that stuff. Most of that we walked past when we came into this continent. We walked past it because we did not understand it, need it or know it. We are seeing whether there are opportunities there—right through to trees.

On the other side, 30 per cent of our budget that is going into salt tolerant things, we are scanning everything both here and internationally for new plant species. We have just had an increase in funding to the CRC to deal with this and in fact getting salt-tolerant fodder crops and doing sufficient work to get them into animal husbandry industry—like "will sheep eat them" or "how do you manage sheep in this environment", "how do you manage cattle so that we get them into a management system". You will start to see some pretty important outcomes in the course of the next five or six years, and it will take at least that long. But there are no miracles—I have to be honest—there are no miracles in what we are doing. It is an agenda that has only started for two or three years. To turn over this research agenda in sufficient time—we have set this CRC up to run for 21 years because it will take at least that long, once you start breeding plants and the rest of it.

We do have available straight off the shelf right now, sufficient trees that can go in here. They are not perfect, but they will work in the recharge areas. They require a subsidy. Then the Government knows that because the Government has a national action plan which is a subsidy basically, of \$1500 million Australia-wide for the seven years to subsidise the battle with salt. The question is how you apply that subsidy.

Mr MARTIN: Is there a possibility that there is an over-reliance on planting of trees as a solution or part solution?

Mr BLACKMORE: Absolutely. At the moment there is an over reliance on it because it is one of the few things you have certainty about. The CRC for Plant-Based Solutions hopefully will now give people more choices, but at the moment those choices are very limited. Lucerne is particularly good. But as I said earlier, most of the people cannot use it because of the acid. We have allowed the soils to become too acid, and so at 4.2 or 4.3 pH, it is very difficult to fit lucerne into your system. You can fix that with lime, but that also has a significant cost.

Mr APLIN: With your mention of efficiency of farm dams, one would expect that there is going to be an increasing regulation perhaps, or restructuring, of that process if they are approaching, I think you said, one million farm dams. How, in the sense of developing water management and efficiency, can you lead farmers to store it more efficiently?

Mr BLACKMORE: I think one of the problems is that farm dams are culturally what we are used to having, and they are good. You need them for firefighting and stock and so on and so forth. It is the typical incremental issue. The first few do not matter, and then incrementally you start to soak up whole streams. I think if you are looking at incentives or disincentives, why would you not have a bore—a small stock and domestic bore rather than a farm dam—a bore and tank? The reason you do not do it is it is slightly more expensive, slightly riskier in finding whether you have fresh water and so on, so people take what is a lower risk option. In our case, I think people have to start thinking in terms of innovation or we somehow or other seek to cap the number that we currently have. We are not short of—here we are in 2003, and we have had much higher stock numbers in the past in these zones, so we are not short of water to meet our primary requirements, so what are all these dams going in for.

Basically, a lot of them are going in in peri-urban. We are allowing subdivisions to occur in a particular way. We make sure they are big enough to store the water on the subdivisions. I have to say, the Canberra experience with that is that that really does consume all the water in the creek, so you make the decision you are giving up your rivers, in those upper rivers, if you want to. We should do it with our eyes open now because we know enough about that to be fact. I would encourage you to, if you want some real data on that, invite the Department to put some information on the Yass River for

you because it is very well monitored and reviewed since the 70s what has happened there. You will get a very clear scan of what the future looks like.

Mr MARTIN: You may have covered this point, and I apologise if you did, but going back to when you were talking to those maps over there. In relation to changes of land use in the upper catchment areas and such, and the potential impact on salinity levels further down the system, are you happy with the accuracy of the measurement tools you are using or is it a bit hit and miss?

Mr BLACKMORE: In terms of salinity—that is just measuring salinity—that is fine. When you go out trying to measure salt in the landscape using EM technology, remote sensing technologies of all sorts, they all require a huge amount of ground truthing, because all they are is an electronic signal. That electronic signal needs a lot of work. We have just spent over \$1 million in the southern part of the basin in New South Wales and Victoria doing that work with BRS—Bureau of Rural Science—and your Departments here and CSIRO. If you wanted to get inside how accurate that is, we could bring in people from that project—it is called Heartland, a catchy name, based on Holbrook—and really go into it in detail. I think we are sufficiently confident of the data to know that this is the bounds of it, but when you want to put a fence line on it at that scale, it requires you to really roll your sleeves up and increase the amount of money you spend and the quality of the data you collect.

There is no doubt we have the technology to get down to incredibly precise salinity numbers that are highly reliable, but it costs. What we have been doing is try to work out how much. We cannot run every 100 million hectares, which is the basin, as a big experiment, because it costs a tad too much. We are trying to work out what is sufficient in terms of clarity and certainty, so that is the balance. There is no doubt we can get down to absolute certainty by just drilling holes.

Mr MARTIN: In terms of the level of research that is needed and has been done, your organisation has been around for a while now, hasn't it?

Mr BLACKMORE: Yes.

Mr MARTIN: Is that an area where we are deficient, or is there enough being done in research, or is it a matter of pulling it together from the CSIRO; all these other organisations? Is it fragmented?

Mr BLACKMORE: We have pulled it together in Heartlands to come up with the very problem. Our organisation spent \$77 million on R and D in the last decade; a large amount of it in this area and that is why you have salinity strategies and all the rest of it. CSIRO have announced a thing called Healthy Country as their flagship project, the first one for Australia. It is consuming massive resources. It is exactly designed to deal with the problem of integration. What New South Wales and the other States need to do is—it is brand new, and you can say there is not enough certainty for us to go forward, but the concept is absolutely right. Let's get a big integrated program—integrated with the State research agencies, CSIRO, universities—have it properly managed so we can deal with the outcomes. The outcome that will come out of that is that we will be able to identify land suitable for investment. That is the inevitable outcome of where we are going right now and Heartlands and Healthy Country just drives that quicker.

The biggest risk, with something like Healthy Country, is that it is so big, people do not know the point of entry so they stand back from it. I am encouraging people to take a risk, because the alternative is not that flash—get in it because if you want the solutions you are seeking, that is the only way you are going to get them.

The last issue—can I answer your question, it is a point I feel quite passionately about, so I want to put it back in again—is that all this information can only work if you have catchment management arrangements or some delivery arrangement which is stable. It has to be able to grow with the information. All of this knowledge is going to grow slowly over the course of the next decade. You need organisations that are structured to deal with it. You need to push out into the bush as far as you can the trade-offs that are inherent with this sort of information. They have to start communities out there, otherwise you will have to solve every one of those problems in whatever Macquarie Street is here—it will all be focused back in the wrong place. What we are seeing with

well-structured catchment authorities with power and the right Government arrangements is they are making those decisions. I think that is an incredibly important part of it.

CHAIR: Thank you, Don. We very much appreciate it. You keep coming and visiting us in our various guises and we keep seeing you in your various guises.

(The witness withdrew)

SAMANTHA NEWTON, Catchment Management Policy Officer, Nature Conservation Council, Level 5, 362 Kent Street, Sydney, and

RACHAEL EVE YOUNG, Water Policy Officer, Nature Conservation Council, 6 Fredbert Street, Lilyfield, affirmed and examined:

Ms YOUNG: I might also note that Samantha and I will be representing the views of the Australian Conservation Foundation at the same time.

CHAIR: We have received a submission. Would you like that to be incorporated in the formal evidence?

Ms YOUNG: Yes, thanks.

CHAIR: Thank you very much for making the submission. We have some questions. Would you like to do the presentation first?

Ms YOUNG: If I can give a quick five-minute summary of what was in our submission and bring out a few key points, that would be great. I guess the terms of reference we were really given were in relation to part F, which was to do with water management arrangements on the management of salinity in New South Wales. That is where we have really decided to focus our attention today. In New South Wales we perceive that there are three main water management arrangements that affect salinity in New South Wales—that is the water sharing plans, the Murray flows process, and also the CAP. I am sure there are others, but this is not fully my area of expertise, so I am going on what I know best.

The water sharing plans do have a limited impact on salinity, but they tie into salinity management in a couple of ways, in that they outline the specific rules for each of the valleys for trading, and so that will have an impact on how salinity moves around the catchment. They are also a tool for implementing CAP and environmental flows which again will impact on salinity movement in the catchment. The Murray flows process again is on top of the water sharing plans and also will affect the way that water moves around the catchment. As more water is set aside for the environment you change the dynamic of water movement within the catchment and, of course, the Murray-Darling Basin CAP which limits the amount of diversions from the rivers to 1993-94 development levels—as you are all aware—and the CAP also, I think, can be used to tie in with what is going on with salinity management in terms of possibly linking the CAP for salinity under the Salinity and Drainage Management Strategy—the Murray-Darling Basin always comes up with these great big huge titles for things.

It ties in with the salinity and drainage strategy to create a more integrated process for salinity management. In terms of trading of water, the Nature Conversation Council and ACF both have no fundamental problems with trading. However, we always see it with caveats, in terms of ensuring that you understand the environment that you are trading in, and that there are rules in place so that if your trading rules do not achieve the outcomes that you want for the environment, there is some sort of mechanism to ensure that you can change your trading rules fairly quickly to ensure that the environmental harm or the reduced outcomes that you are seeking do not continue. That is always our main focus for trading: is what do you want to achieve for the environment and for the landscape as a whole through your trading and then ensuring that those outcomes are met by the rules that you set up, and if you are not meeting those outcomes, then how can you modify your rules to improve your chances of meeting those outcomes. That is all I really wanted to say up-front.

CHAIR: Questions—you have a copy of the questions, haven't you?

Ms YOUNG: Yes.

CHAIR: Would you like to deal with them, run through them briefly, or if you want to take them on notice and—how would you like to deal with it?

Ms YOUNG: Run through them briefly. Yes, we did not prepare a written submission on this. Again, as I said, it is something that we have a position on, but it is not our focus of everyday business.

CHAIR: Does the NCC and/or the ACF support the expansion of permanent interstate water trading? Do you have a position on that?

Ms YOUNG: We do and, as I said, I guess our position is really that trading has to occur within certain limits. All trading must occur within hydrologically connected areas. I can see no way of managing trade in any way, shape or form if the areas that the water is being traded into and out of are not hydrologically connected. It is not physically possible without placing strain on other catchments. In terms of interstate trading, I think the Governments involved should be encouraged to have clear regulations in terms of their interstate trading, so that there are not barriers where possibilities for trade exists, such as between Queensland and New South Wales or New South Wales and Victoria: that there are very clear and transparent rules for irrigators and people who are involved with trading, so that it is very straightforward for them and that there are not any barriers in place, but that this must be accompanied by a clear assessment of any potential environmental impacts from trading from one part of the catchment to another.

Mr MARTIN: In relation to ABARE, is your organisation comfortable with their approach and the integrity of their research and so on?

Ms YOUNG: Mostly. I guess the main gripe we have with the ABARE information is that ABARE basically believes that there is no need to interfere with the market because there is no externality. The market price incorporates all the external costs and so they are basically, "leave the market to run itself because the market will balance out and incorporate all the external costs". We do not believe that this is the case, and so I guess that is the major gripe that we have with all of the ABARE information is that they operate on this fundamental tenet that the market will sort itself out.

We tend to think that the market makes a good servant and when you have comprehensive policy instruments, and comprehensive information with regard to how the catchment operates, then you can use the market as a tool to achieve outcomes. If an outcome is salinity management through trade you ensure what your outcome is: if it is reduced salinity or a salinity of a certain point in a catchment, then you say, "This is what we want to achieve." You get some of Don's information here which is fantastic—looking at the best mechanisms to reduce your salinity at that point.

If trade is one of the things that you think you can use to achieve that goal, then you set-up your trading rules, so it might be you trade out of one area and into another, but you cannot trade back into that high impact area, then that is all fine.

Mr MARTIN: That comment there where they are talking about trading between low and high salinity areas, you are comfortable with their approach to that?

Ms YOUNG: Yes. It is in terms of managing the external costs. We do not believe that the market will fully integrate those. Again, I am not an economist—and this is coming from my understanding in having spoken to a number of people—but, when you think about it, if you are an upstream irrigator and you are producing some salt, or salt is coming off your land, you are not really going to worry about the damage caused by salt because the water coming to your property is quite fresh, because you are high up in the catchment. You will cause damage to people downstream by putting salt into the environment, but you are not going to integrate those costs into your management because it does not affect you. That is where the rules in the market have to come into place so that those downstream costs are incorporated into the upstream users' budget basically.

Mr APLIN: Following on from that—and one of the questions—Young and McColl favour capping salinity impacts and allowing individual irrigators to trade in salinity credits. Do you have any comments about that particular model from an environmental perspective?

Ms YOUNG: That is a complicated question. Salinity is a difficult thing to cap I think. Don was talking about the capping strategy that the MDBC has undertaken, and he mentioned that it was in

principle, and I think he has hit the nail on the head there. It is still only in-principle stage and I think to say we will cap it and we will work back from there, I think is going to be very difficult.

However, if you could do it, I could see no problems with it and I could see it being applied in some areas more easily than others. For example, if you had discrete irrigations areas somewhere like Murray Irrigation or Murrumbidgee Irrigation or Coleambally, one of those particular areas, and you allowed trading within the irrigation areas or between linked irrigation areas—say, Murrumbidgee and Coleambally—in terms of that one is upstream of the other, then it might be possible to allow that trading to take place and you might be able to achieve benefits from it. It is such a diffuse source problem and trading in credits is really something where having a point source, or having several point sources, really wins out. That is where pollution trading, especially in air quality and things like that, has had some benefits, although some of the information I have seen is that these benefits have also been somewhat limited as well. I guess it is a very tricky issue.

Ms NEWTON: If I could add something there. With the Hunter salinity trading scheme, that works or has been shown to work because it is a discrete source of pollution. You can track it back to where the salinity is coming from. In the Murray area, it is a little bit more difficult, because it is a diffuse pollution. It is a lot harder to track it. The Young and McColl paper did not mention how they were going to measure it. I think we need some more detail on whether they can track it back to the source before we can say, yes, a credit system would actually work.

Mr MARTIN: In terms of the timing mechanism of all this, we have had some discussion with other parties about how much time is available to come up with strategies. It is said there has been a lot of talk. There has been a lot of work too, but there has been a lot of talk for a long time. From your point of view, do you see that the clock is really ticking down or is it better to have a bit of informed discussion over a longer period of time and get it right at the end, or do you see a sense of urgency about what is happening at the moment?

Ms NEWTON: I think there is both. There definitely is a sense of urgency. There is no doubt that salinity is definitely a problem and there is no doubt that water use and water trade and irrigation management, and basically land management in general, are linked to water quality and linked to salinity. You cannot just talk about it and come for the right answer in about 10 or 20 years and then fix it. You have to start implementing solutions now. But you also have to be monitoring those solutions to see if they are working and continuing to monitor everything you do and to keep tightening up the strategies that you use, which ties back into what I was saying before, is basically what we would recommend is an adaptive management strategy.

When you look at the components of adaptive management, it is basically three things. You come up with a policy strategy. You run it a bit like an experiment. You come up with a policy strategy. You say, "We are going to give this a go. As far as the information that we have at the moment, this is the best information we have. This is what we will do as a start." You monitor it. You ensure you have comprehensive and adequate monitoring in place which also ties back into an audit process. You link that back to your original objectives and you say, "Is this particular policy response achieving our objectives?" If it is not, you then modify your approach to management. It is a cycle. It is just a cycle. It is like here is our policy approach: we implement it, we monitor it, we see how it goes, we update our policy approach and we start again.

With that, we would encourage the use of the precautionary principle so that, if you look at it and the whole you say, "We feel that this will have a net negative environmental impact," then you move away from that particular course of action, and you try something that will have either a neutral impact, until you see how that management regime works, so you can convert it to a beneficial impact. Yes, just to cycle it back and to review and constantly update, but I think the time for action is upon us.

Mr PAGE: If I can come back to the comment you made earlier, about trading being acceptable and desirable in some instances provided the catchments are hydrologically connected. I do not think anyone has any difficulty with that. I think the practical issue there though is that the level of connectedness within certain catchments varies. For example, you can see the whole of the Murray-Darling Basin as being hydrologically connected, but some would argue strongly that it would be folly to allow trades to occur anywhere within the basin. Similarly there is an issue in terms of

hydrological connectedness between ground water and surface water. I think the jury is still very much out on the question of trading of ground water. Do you have any comment about the limitations of trading in terms of hydrological connectedness generally, and particularly how we should be thinking in terms of the ground water resource in its relation to surface water?

Ms YOUNG: In terms of trading, it would always be within a valley if you are looking at it; so within the Namoi Valley I would not like to see trade occur, say, between the Namoi and the Barwon. I think you are stretching your limits of trade. I think also, in terms of the cost of getting the water from point A to point B, I think is becoming prohibitive. There is also a lot of environmental harm to be done there because the rivers are already stressed from having huge irrigation flows during the summer when they are normally low, if you are looking at the northern end of the basin. Yes, it is a real issue. What we would be looking at is on a valley scale and we also recommend that there be some sort of rapid assessment system to have a look at the whole valley and then to see where trading could and could not occur.

If you have a reach of river which is in particularly good condition and there are only a few licences on that, you might allow trading out of that particular reach of the system, but you might not allow trading into it because you want to conserve that part of the reach or that part of the river in good condition. You would manage your rules to achieve environmental outcomes. Yes, you would have to assess the whole valley and then look at where you wanted the trade to go.

Mr McGRANE: What do you mean by the cost, because you buy it up there. You get it out of the river down here, so you are not pumping it from up there. How do you mean the high cost?

Ms YOUNG: Because, if you wanted to deliver water, say from Pindari Dam to Mungendi, it takes something like 10 days to arrive. With evaporation and transpiration and all those sorts of losses, if you order, say—I do not know—100 megalitres of water, they estimate between a 30 per cent and a 40 per cent loss of water. What they have to do is, if you order 100 megalitres of water at Mungendi, they have to release 140 megalitres of water from Pindari. That is a huge loss. Forty megalitres of water is a huge loss by anyone's standards. That is a loss not only to the environment but to the other users, because those users who are up closer to Pindari Dam, the costs of water delivery like that are socialised through the system. Everyone pays the same cost for a delivery of one megalitre of water, but the bloke who is five kilometres downstream from Pindari has to pay the same price as someone who is 300 kilometres or 400 kilometres away.

There is an environmental cost and also an economic cost. That is one of those sort of externalities that needs to be internalised a little more with the trading arrangements. There was a second part to your question.

Mr PAGE: It was in terms of ground water. You could look at ground water as a tradeable item in itself, so long as it is within the same aquifer. I wondered whether you had any thoughts on that, but also the more tricky issue of the connectedness between ground water and surface water, which we understand a bit about but not a lot.

Ms YOUNG: Yes, I would have to agree with you there. Our understanding of ground water is really limited. We are finding more and more that not only do you have connectivity between the aquifer and the surface water, but there also can be layers of aquifers. In some parts around the Murray, you have three layers of aquifer, so the upper layers or the upper two aquifers are quite salty. In the base aquifer, which is quite a bit deeper, is where all the good quality comes from. But what they are finding now is that if you take the water out of the deeper aquifer, they are often recharged by the saltier aquifers on top which are, of course, recharged by the irrigation that is going on top of it., so you are polluting your deeper aquifer which has longer recharge areas. This sort of information is coming to light on a weekly or monthly basis, so I think a great deal of caution has to be applied to dealing with aquifers for the simple reason that once they become salty, we have no idea of how long they stay salty for; how you could ever possibly fix them. The lack of information is really a sticking point. Yes, we recommend a high degree of caution, and we would not support trading in ground water systems at all at this stage.

Mr APLIN: Could I pick up on that point. You mentioned when one orders water, you might have to release 40 per cent more, and that that is lost to the environment. In fact, some of that water

presumably is in fact going to the environment in terms of recharging some of those aquifers. Is that not the case?

Ms YOUNG: In some cases. In some cases the aquifers feed the rivers as well. Along one river system the river can go from being fed by aquifers to recharging aquifers at the same time, and again that is part of that relationship that we do not understand. What Don was saying before about really monitoring and cracking down on ground water use is really important. There are some irrigators on the Hunter and they have ground water access, and there are borers within a couple metres of the river. You can almost see the river go down when these guys are pumping because it is an unconsolidated aquifer; which means it is percolated through sand. As he pumps it out, it sucks in from the river, so there are some real issues with that.

Mr PAGE: In relation to environmental flow, do you think we know enough about the relationship between the quantum of flow and the timing of flow, and how do you see all that fitting into the translucent dams policy? I realise it is a big question, but it is a pretty important question.

Ms YOUNG: It is.

Mr PAGE: Because quite often you will sit down with environmental groups and they say, "We want a 10 per cent or 15 per cent additional environmental flow." Then the Fisheries Department will say, "If you allow that flow to occur at a certain time, it will maximise the benefits for the fishing, but it will create problems for the bird life at that time." It has to be managed subtly is what I am saying. I am wondering—in terms of the translucent dams policy which essentially says that water should be released as if there was no dam there—given that we now have new environments as a result of the dams that are in place, the timing and quantum of water can be quite significant to the environment that is now established post dam. Do you understand what I am saying?

Ms YOUNG: Yes.

Mr PAGE: I am wondering whether you have done much work on that kind of an issue, or are you aware of other people who have?

Ms YOUNG: I think there is a lot of work going on in that area. I know the Commission has done some. When you look at how to calculate environmental flows in the first place, there are a couple of things that you really need to know. The wildlife is an issue: aquatic, fauna and the birds and all that sort of stuff. Then you have the forests and the aquatic ecosystems themselves. It is easy to determine the amount of water that they require because you look at the level of flow in the river. You look at the height of the ecosystem above the current level of flow by measuring what the flow is on the day. The difference in height—you can do some fairly rough calculations and say this particular wetland needs this much flow before the water is high enough in the river to cross that sill and move into that particular ecosystem.

To get that into more refined information is quite difficult. The base calculations, I understand, are relatively simple. It is basically looking at the gauging on the day and saying the river is at 1.2 metres today. You look at where the ecosystem that you want to impact is and you say it is at this particular height. You go back to the gauge and that gauge is at say maybe 2.1 metres—today we are at 1.5 and we have to get up to 2.1 so we need a 0.6 metre increase in gauge height. Then by looking at the gauging tables, you can say that is a flow of blah blah megalitres per day. To determine the commence-to-flow requirements of the different ecosystems along the river, in terms of rough calculations, is relatively simple.

The frequency of wetting is more difficult simply because our records pre regulation are a bit more scant than post regulation. Nonetheless, going back through historic data, you can look at flow duration curves and frequency curves and you can say at 150 megalitres a day this creek hit that level once every two years. You can go back through the historic data and say the river reaches this height every two years, and this is the kind of management regime we need to be looking for. In terms of wetting those particular ecosystems, you can say yes, we have a decent idea. I will not say it is down to the litre or down to the minute or down to the month; but you can get some very good estimates of what pre regulation wetting regimes and cycles were.

Ms NEWTON: Can I make one final comment. When we were asked to present at the inquiry, we were asked to address that final question specifically: the effects of current water arrangements on salinity management. The papers that we were provided with and the questions relating to that particular issue, or term of reference, deal mainly with industry and salinity and the trading deals with—when it is covered in the paper, that covers in-stream salinity. It does not really address salinity across the State, dry land salinity. I think it is important to note that there are limitations with the question and that it does not address salinity management as a whole. We would be happy to answer questions related to salinity management as a whole.

CHAIR: If we develop a couple and send them to you, would you be happy to answer those so we can incorporate those?

Ms NEWTON: Fine, no problem at all.

(The witness withdrew)

(The Committee adjourned at 11.30 a.m.)

REPORT OF PROCEEDINGS BEFORE

**STANDING COMMITTEE ON NATURAL
RESOURCE MANAGEMENT**

At Sydney on Friday, 17 October 2003

The Committee met at 10.00 a.m.

PRESENT

Mr G. F. Martin (Acting Chair)

Mr G. Aplin
Mr A. M. McGrane

Transcript provided by CAT Reporting Services Pty Limited

RICHARD WARREN THOMPSON, Chairman, Murrumbidgee Irrigation, Hampton, Hanwood, 2680, and

GEORGE BODILLE WARNE, General Manager, Murray Irrigation Limited, 443 Charlotte Street, Deniliquin, New South Wales, sworn and examined:

ACTING CHAIR: Mr Thompson, 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 Standing Orders 332, 333 and 334 that relate to the examination of witnesses, is that correct?

Mr THOMPSON: Yes.

ACTING CHAIR: Mr Warne, we are pleased to hear your evidence. 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 Standing Orders 332, 333 and 334 that relate to the examination of witnesses, is that correct?

Mr WARNE: Yes.

ACTING CHAIR: We have received a submission from your organisation, is it your desire that it be part of the formal evidence?

Mr WARNE: Yes, thank you.

ACTING CHAIR: Would you like to speak to the submission at this stage and then we can go into a question and answer process? Are you happy with that?

Mr WARNE: That would be good.

ACTING CHAIR: Mr Thompson?

Mr THOMPSON: If I could start off by saying that there are so many misconceptions about trade and its impact on salinity and on the environment that we really need to address in the context of these hearings. I had the opportunity on Wednesday to speak at a Vital Issues seminar at the Library in Federal Parliament. Mike Young was the other speaker at that seminar. I can assure you that we do not fully agree on a lot of the issues that have come through in his report. I believe his report is referred to in this.

ACTING CHAIR: Yes.

Mr THOMPSON: We do need to discuss some of the differences that are coming through. He is purely from an academic point of view and much of it is in actual practice not right. The other point I would like to make is that New South Wales is well in front in the water reform area. It is much different to what you will hear from a lot of people in Victoria and South Australia. It is surprising how far advanced we are in rules for trade and overcoming the impacts that trade has on other irrigators, but more so on the environment. We need to fully understand those issues.

I do have a written answer to the three questions we were given, but I think most of it we need to discuss in the context of Mike Young's statement.

ACTING CHAIR: Did you want to make any comments, Mr Warne, at this stage?

Mr WARNE: No. I pretty much concur with Dick's comments and I would like to

reinforce the point that contrary to a lot of the data coming out of ABARE, with the Federal Government fisheries and agricultural agencies, and even the Murray Darling Basin Commission, in many respects New South Wales leads the way in water reform. In New South Wales, apart from some shortcomings which have been vocalised well by irrigators about the tenure of their licences, the legislation I believe is second to none.

ACTING CHAIR: You do not see ABARE as being the inscrutable voice?

Mr WARNE: No. I just think - this is a personal view - that when I meet a lot of these people they have had their careers and upbringing in Victoria and they are expressing the view that Victoria leads Australia, if not the world, in water reform and water management. While that may have been the case up until 1970 I am not sure that is the case now. Some of the morals created in New South Wales, progressively over the last ten years, to separate State functions from private distribution functions I think lead Australia in that respect. I do have a Powerpoint presentation and at the right point I will run through that.

ACTING CHAIR: It might be more appropriate that you do that and then we can go to the questions and get them on the record, which I think is important.

Mr WARNE: I think the questions are insightful. They are the questions that a lot of people are raising. Dick and I are going to agree on a lot of these here. I hope we can improve each other's understanding of where the Government is coming from and certainly where the irrigators are coming from.

This is going to be a word record only, so I am going to have to explain these as I go. What I want to talk about today is a little bit about our company to give you a bit of a perspective of Murray Irrigation and trade and some responses to the specific questions that were raised.

As you know, Murray Irrigation is a private irrigation company which was formed in 1995. There are 1.5 million shares and water entitlements. The shareholders own the water entitlements in the company. Our shareholders are our irrigators. In 1995 the State, through the legislation, effectively separated land and water. In our case we use about 78 per cent of New South Wales' share of the Murray in an average year.

In terms of our local environment, we have got land and water management plans which are designed to improve natural resource management. The company introduced limits on the amount of water that a farmer can use on his farm in a year. We have got rigorous limits on where rice can and cannot be grown. The company has got policies on storm water drainage, when a farmer can allow water into a drain, which we believe are second to none. We certainly have a very well managed and maintained infrastructure.

The graph that I am presenting there, I thought I would put this as an important background because I imagine the inquiry is being held in the background of increasing salinity and disastrous salinity and a landscape marred by salinity. As you can see, in the graph the four coloured lines represent water tables at different levels. You can see the most dramatic effect on the landscapes is water tables that are above two metres, that is, they are closer than two metres to the surface. That is the bottom line. While in our area of some 800,000 hectares there were 100,000 hectares with water tables within two metres of the surface in 1995, there are now less than 4,000 hectares with water tables within two metres of the surface.

The point I am trying to raise is that contrary to the popular belief that things are just getting worse and worse, as a function of the way we farm, the way we use our water and, of course, the very dry years we have had for the last six years, they have certainly reduced that apparent problem.

In terms of trading history, and this inquiry I understand is about trading, the questions you are asking us today are about trading and the impacts of salinity. The push for trading in our area has been driven by shareholders. It has evolved progressively since 1938. The main market in trading is annual trading. If I can explain that, it is like someone owns a flat and they lease it out. That is the lease; it is the annual lease. So the actual sale of water rights on their own is quite unusual. Most water rights when they are traded are traded with a farm. The whole business is sold. There has been an acceleration in annual trade since 1991 and our shareholders buy from and sell to New South Wales and Victoria Murray, the lower Darling in some seasons when there is water in the Darling, the Murrumbidgee valley and we even buy and sell water into South Australia.

We have even done some deals, and so has Dick, and he will talk about those later - we have leased water from the Snowy, where we have leased next year's releases on the understanding that we repay them in the year they fall due. There has been quite a bit of trading going on, really within the connected Murray Darling Basin. The reason you can trade with someone in another valley, even though you may have a different source of water, is because you both have responsibilities to deliver water downstream. All that means is the other person has to deliver a bit more downstream and you deliver a bit less downstream and that is how trade occurs between timber and river valleys.

In terms of innovation, we were doing transfers between farms with farmers with the same ownership as early as 1938. We did our first deal with the Snowy in 1999, during a drought year. We created a daily exchange in water for annual transfers in the year 2000. Last year we went to a 24-hour live exchange where you ring up on the phone and buy the water over the phone instantly, and we have created instant, remote and paperless annual transfer systems. Farmers have a pin number and they can transfer water between farms instantly over the phone. That has proved popular with our farmers because, as you can imagine, many of our farmers own more than one farm, and if they are running out of water on one farm we simply will not give them the water unless they get onto that holding water on one of their other farms. It is much more convenient to ring up and use your pin number than it is to come into the office and facilitate a transfer.

Interestingly, our company has developed the policy that we do not charge for transfers or trade facilitated by our own water exchange. We have considered the benefits are so great to the majority of our shareholders that to charge a commission or to charge a fee would, in fact, be such a universal penalty it may as well be part of the water price, the costs associated with it.

In terms of our rules on annual transfers, do you all understand the difference?

Mr McGRANE: What about the guys that do not trade much at all, don't they feel penalised as against guys that trade a lot?

Mr WARNE: Last year the company had its worst year ever. We only had 300,000 megalitres. 226,000 of that was subject to a transfer or a trade. The other thing we would argue is because we are such large net importers of water as a company, we typically bring 80,000 to 100,000 megalitres of water into the company a year, the extra income we derive from that helps lower the water price to every one because our business is largely a fixed cost business.

In terms of annual transfers, we all understand the difference between annual transfers and permanent trade. The company has not limits on annual transfers in or out. There are no charges for transfers, no charges for sales or purchases. We do have a loss allowance, which reflects the actual loss we incur in delivering water. The way we have got around the issue of flow rates, and you talk about the impacts on someone who does not trade, if you own a farm and your next door neighbour buys 2,000 megalitres of water on the annual market, you would be concerned that he in fact is going to flood your channel for the season, you are going to have trouble with delivery. In

1995 we fixed the flow rate for each farm and we do not trade in flow rates. Every farmer, when restrictions apply, they apply universally, and the farmer who has got more water, he will last longer, he will go for more days, but he does not get any more flow rate as a result of buying that the water. That varies throughout the Murray Darling Basin and different people take a different approach to that.

ACTING CHAIR: When you say there "it avoids third party issues", what are they?

Mr WARNE: Third party issues are if I bought 3,000 megalitres from Dick and put it on my farm and I have said, well, now I have got more of a flow rate share, and he was not involved in transfers or transactions at all, and he wondered why his channel was being restricted to deliver all of my water, he would consider that an unfair third party impact. We do have annual farm limits applying. A farmer can buy as much water as he likes but the actual right to use it is limited by the rules we were talking about before.

In terms of permanent water, permanent water transfers out of Murray Irrigation have a cap. I have written there "not yet an issue". We have never had to stop someone transferring water out of the company because we have always imported more than we have exported.

ACTING CHAIR: Do you see it as a looming issue?

Mr WARNE: Yes, it is a looming issue and we are going to have to deal with it and we are coming under pressure from committees like yours to address that issue. It is an issue for us as a company because we are out in the market place with the annual market espousing free trade, and you really cannot be that hypocritical. It is something we are going to have to address. There are a couple of issues that may come up that Dick may want to talk about and I do too. Water transfers from any one farm are limited to 60 per cent of the 1995 entitlement shareholding for that farm. That was about banking issues and security issues. The banks were concerned that if someone slipped through our net and got through our share registry and they did not register the encumbrances properly, that they could sell all the water from the farm, the banks would go to recover the farm and the water would be gone. We struck a figure of 60 per cent.

We also had quite a few community concerns about what will happen if the nine farmers on my channel all sell their water and I am left here. We set a rule of 60 per cent. It has come under quite significant challenge, because by now you can imagine maybe 50 or a hundred our farmers have sold their 40 per cent, so the person that owns that farm has nowhere to move. He can sell water on the annual market but he cannot sell the water permanently because he has hit that 1995 cap. In terms of permanent trades, we do apply charges to mediate costs. Typically it is a fixed fee of \$150 to facilitate a transfer.

Making trade work. Just some of the things that we think are important: You have to be able to innovate. We are using available technology. Our farmers live often 100 miles away from our office; they cannot be coming into the office and it has got to be quick. We are using, not state of the art electronic devices, we are using well tried ring technology that you might have used in phone banking five or ten years ago. It has to be accessible, simple and reliable. People have to be educated. Users have to be aware of what is happening and that education is important in terms of information. We found once we created the internet exchange, and we offered a daily or ten minute posting of the prices, that gave people terrific access to market information. When a farmer was talking to his next door neighbour about buying some water from him in a private sale he had terrific market information. He knew that day or hour what the price of water was doing.

We need to motivate people to use the system by removing barriers. We need to make sure we have volume to warrant the investment in the different technologies. We need to make sure that the system is honoured. There is nothing worse than a failed transaction and certainly the company

stands behind every transaction. In every year we do several thousand transactions, there is one or two that we stuff up, that is we have given a farmer water and the person selling, their transfer had not been properly carried out, or we pay the farmer for the water money but the buyer pulls out, or something like that, and the company has a policy of honouring every transaction with either the water or the money. That has enabled the exchange to grab a very large proportion of the market.

Just to give you a bit of an idea of the scale, and I will run through these numbers for the benefit of the record: in 2001/02 there were 85,000 megalitres came into Murray Irrigation; in 2001, 84,000; 1999, 175,000; 1998, 89,000; 1997, 98,000. Obviously it is very hard to say whether there is more water in droughts or in wet years. In very severe droughts, like the one we have just been through, the water is very valuable for high value horticultural crops, which we do not have very many of. In the very wet years there is often more water about and people are disposing of surplus water. It is one of the issues about how you apply the cap in terms of water trading.

ACTING CHAIR: Just a question on 1999/2000, a hell of a spike there, is that seasonal?

Mr WARNE: Yes, with the drought and there was water available in some of the other areas.

In terms of permanent transfers, this gets the thing in perspective: In 2002/03 there were only 4,000 megalitres transferred in permanent transfers. We have a bulk shareholding of 1.5 million shares and only 4,000 of them were traded. Can I say something like 100,000 would have been traded when people sold farms. The sale of water on its own is quite unusual; 95 per cent of trades occur where the farm and the water are sold together.

External permanent transfers; two came into the Murray Irrigation, 490 megalitres, and one out of Murray Irrigation, 402 megalitres. The point I raise there is there had been a lot of emphasis on interstate trade and inter-valley trade. The most likely people to trade with are within your own community. By far the most activity for the foreseeable future is going to be dominated by what is happening in your community of interest. In our case it is Murray Irrigation's area; in Dick's case it will be the Murrumbidgee, certainly where the most activity will be. Maybe we will change our memorandum and articles to allow water out of the company, the point I am trying to raise is I do not think it will make much difference, certainly not in the short term.

Mr APLIN: When you said the trade sometimes occurs when the farm is actually sold, that obviously accompanies the water licence, that remains in that particular area?

Mr WARNE: It remains on that farm.

Change in ownership, that was the figure I was running through, 143 land holdings changed ownership, 5.9 per cent of the total land holdings, so probably 5.9 per cent of that 1.5 million shares, the water rights changed hand. Similar numbers to previous years. We have noticed in the last few months the spike in the number of land transactions, and historically after a drought you will get a rush in people selling farms.

Why do we limit transfers out of our business? There is some quite important issues here. We have community desires to keep their communities in tact. They are very worried about robber barons or people coming and buying their water. Economies of scale are important, and in asset protection we have \$300 to \$400 million of assets and we do not want to see even a slow bleed of the income providing cash flows to support those assets.

We are very sceptical about the State Government's ability to regulate use and compliance. I said earlier that we use 78 per cent of the water in New South Wales. Some water moves from our business onto the river. It is often a river that we supply through our infrastructure, like the Niemu

or the Wahpool or the Edward, and we do not believe the State is serious about compliance issues, so why would we allow them to take water and put it on a farm where there has to be three megalitres provided to give them one because of the inefficiencies and noncompliance issues. Why would we encourage someone to use water at that spot when we know that the State are not serious about the compliance issues in our view?

ACTING CHAIR: How do you back that up?

Mr WARNE: We are reluctant to come out and to start pointing the finger at farmers. Just in terms of the staff on the ground, the number of prosecutions per year and number of instances we know of cases of farmers. For example, a fellow last year used 800 megalitres at the start of the season and he had an entitlement to 80, but he used 800 and he will repay it some time and he will not be prosecuted. Now, in our business he would be allowed to get to about 82 and he would be turned off. Why would we allow our farmers to sell water permanently to that farmer when who knows what is going to happen with that water? We share the resource. If the other third of the resource is really badly managed why would we give them more of it?

Mr McGRANE: How did he get away with it for so long?

Mr WARNE: They only read the meters twice a year. He just said, "Normally I will repay it later in the season. Why would I not do it this year?" Dick would probably reinforce, there are stories like that told the length of the rivers, the traditional areas and districts, and people talk about the inaccuracy of a debt bridge outlet. At least it works. At least someone looks at it every day. At least the meters are read once a week, and that is far cry from some of the laissez-faire approaches that might occur in some other jurisdictions.

There is a risk of restrictions on the Murray Irrigation because of the choke. The concern we have is in the Murray valley specifically, our water is taken upstream of a large natural barrier called the choke which limits the amount of water that can run through the forest. If we were to sell water say to a water trust, or something like that, and within a couple of years the pressure would come on the State Government, the various jurisdictions, to let that water into South Australia or down to Sunraysia, we may find - this is that third party impact - our irrigators are restricted and if they try and get water down to South Australia through a choke it will not fit through. We want to be very confident that people understood these limitations before they started buying the water.

Multi-part pricing on long term contracts, you have asked the question about pricing in your queries. In really simple terms our business is a fixed cost business but we do have a multi-part tariff. Our farmers pay in a normal season they pay about half their water bill in fixed costs, that is the cost of owning the entitlement. It is a bit like shire rates per hectare. And they pay the other half based on use. A farmer who used none of his water in a year would pay about half as much as a farmer who used the full entitlement in a normal season. That is not based on any science, logic or brilliance; it is just a recognition that there should be some cost for usage but the business is a very large fixed cost business.

The variable or usage charges are based on the water used. The others are paid on the entitlements owned, and our current balance is approximately 50/50. I am not saying that is right or wrong. We have actually gone out and asked farmers about changing it, how do they feel about changing it, so you can move towards a usage based charge, and they are very reluctant to see any change. If we went to a higher fixed charge we could protect the company's income stream. In the longer term one of the things we are thinking about, if we do open up our share registry and someone buys a thousand of our shares and wants to use the water somewhere else, maybe that will give us the ongoing right to charge them each year the fixed charges associated with our infrastructure, so you get over that problem of stranded assets maybe.

It is certainly more attractive than exit fees. People have talked about exit fees, and that would be where someone buys 1,000 Murray Irrigation entitlements and they pay the farmer, but they also pay the company something for the recognition of the future loss of earnings for the infrastructure repairs and maintenance. That would be an exit fee. I think that is quite untidy compared with the concept of tagged entitlements which a lot of irrigators are coming to think might be the answer.

In terms of multi-part pricing and long term contracts, obviously to allow sales out of our business we need changes to our company rules. We need shareholder support. I think that would be hard to get. It is likely to be unpopular. And we also have little confidence in the capacity of the State administrators to ensure compliance of other licence holders. That is quite an important issue.

ACTING CHAIR: Which is getting back to the point you made earlier.

Mr WARNE: That thing about shareholder support is required. You have the conflicting aim. The shareholders are saying we want to hold our communities together but we want our shares in the company, like yours, to be worth the most possible. We want our capital asset to be the most possible and if you open up the trade that will make it worth the most possible. The point I raised earlier, there is a big enough market in our 750,000 hectares of operation and the 1,500 farm businesses to provide them with an active market. At the moment they are not screaming at us to allow them to sell the water outside our company.

ACTING CHAIR: Just in terms of the compliance, you raised it a couple of times, is the answer to that just more resources on the ground as far as the departmental people are concerned?

Mr WARNE: There are a whole lot of issues at work there. It is often in remote terrain along creeks and streams with no defined roadways. There are pumps which are operated by the farmers, the metering devices are expensive and they are often very hard to maintain. If you were to get the sort of presence we have, where someone is driving past the installation once a day, the cost would be exorbitant given the low volumes of water and the miles you would have to drive. Maybe some remote technology could really help where you have a device in an office that tells you whether the switch has been turned on or off on the pump.

ACTING CHAIR: Has your company raised this?

Mr WARNE: We have raised the issue. The reason I am bringing it up here is on the basic business principle of 80/20, 20 per cent of your customers are going to give you 80 per cent of your problems. We have one customer, they have a remote electronic reading that they get every 20 minutes of how much water we are taking and they are saying at 75 per cent of the water, why would you worry about the rest, it is too hard. The point I am trying to raise, as an equity issue, as a community issue, it is an obstruction, it is a real problem.

If you start an interstate trade we are very concerned about Victorian pumps, meters, that sort of thing, and in papers circulated within the Murray Darling Basin Commission that compliance issue is coming up again and again. Not on a huge scale but at a human or a community level it is quite important.

Maybe taxes and credits to encourage trade. This is something you mentioned. We question the assumption that trade must be encouraged. People will tell you that already there are lots of different things you can do on your own farm; you do not have to sell your water. If you have an inefficient farm business, the first thing you should look at is what can you do on this farm before you start thinking about selling the water.

Trade does provide business opportunities, no doubt about that. Please do not assume that

automatically trade provides great environmental outcomes, because it simply does not. I think conceptually your model is okay. We are a bit sceptical of States to put in place the credits and debits to do that properly. We have a question about would a Government ever stop a new development? If some one comes and says "I have invested a million dollars in this land in the mallee. I bought \$4 million worth of water and now you are telling me I can't do it", I question the ability of governments to stop developers.

ACTING CHAIR: The ability?

Mr WARNE: The political will. Where the towns people are saying we want this development and these jobs and these people and by then it is often too late.

With regard to credits and debits with South Australians with regard to interstate trade, we are not confident that register is exactly right.

In terms of the policy approach to water use efficiency, you have identified something about if farmers get more efficient will there not be less water that pops up back in the river, and you are right. As farmers become more efficient more water will go through the plant and less will go into the escape flow or the return flow to the stream. I just do not think you can discourage farmers from becoming more efficient, and why should you; you want them to do that.

I think McColl and Young's work is seriously flawed technically, but the principles they have outlined are correct. Initially it is an irrigation company issue. In the first place the irrigation companies used to order a lot more water than they used and we used to return heaps of water into the rivers and creeks through mismanagement. So our farmers would order 10,000 megalitres for the day but they would only actually take delivery of 9,500, and 500 megalitres would find its way through all of these little escapes and back alleys and some went back into the mainstream of the river. As the pressure has come on water supply and delivery and we put remote sensing control systems in, our losses last year were effectively zero, they were less than one per cent through escape flows from a figure that might have been 10 or 12 per cent 15 or 20 years ago. So the irrigation companies are doing their bit.

On a smaller scale the farmers are doing exactly the same thing. If they order ten megalitres they are going to use ten megalitres and they would like most of that to go up through the leaf of the plant and not through into the groundwater and not through into a drain and back into the river. It is a real issue. A policy approach cannot discourage farmers. I just do not think if you said, "Well, any of that water you save you have got to give back". Guys, it is not going to work. I just think you can not bring a policy for irrigation companies to become more efficient. They just are going to become more efficient because we all know water is a scarce commodity.

Mr McGRANE: When we ask that question along those lines, how do you get to there, there has to be an incentive for them to do something when they are becoming more efficient and some people want to put more back into the river. The only way would be taxation.

Mr WARNE: Something like that. The problem you have got is that the Australian irrigation farmers per se are not limited by land; they are only limited by water. If a farmer that was using 11 megalitres a hectare on a rice crop now uses nine, he is just going to lay out another few acres of his farm. In our case he has plenty of farmland to do that. There is no shortage of real estate and efficient farmers. There is some idealistic notion they are going to give the water back to the river, the efficient farmer is going to be efficient on a bigger area.

What are the most equitable and efficient methods? Currently, the principles adopted by the Murray Darling Basin Commission, and I think reinforced by New South Wales, are that those who make the investment in the saving get the saving, whether it is the State investing in a channel

sealing project or a farmer investing in new irrigation technology. So the drivers are already in place for farmers to make an investment in improved efficiency.

If Government want water for the environmental flows, it should make the investment, and of course you could make investment in water saving technologies where you get the double benefit of you get the water and you see an improvement to the environment through less waste of water, but maybe the most efficient method is really just to enter the market.

What are the most equitable and efficient methods? Through evaluation and potential projects, and if you are going to evaluate projects and work out which project is best for water saving you want to make sure your water accounting is spot on and people are measuring very accurately the water flows.

It must be in the context of the cap. You cannot have people offering you savings where they are saving but they are not allowed to use under a capped environment, and you have to recognise any third party impacts of those projects. I think, obviously, incentives and voluntary approaches are much more popular. The use of market based options are okay, as long as the compulsory acquisition is the last thing you do and not the first. The involvement of the target audience, those you are hoping are going to become more efficient in the use of their water, in the development of these concepts and ideas is a very important part of coming up with ideas for equitable solutions for using water more efficiently.

That is the end of the presentation. I do not know how you want to handle it from there.

ACTING CHAIR: We did issue you with a number of questions. Some of the matters you have addressed in your presentation, but we can certainly revamp those and make sure we have got them on the record, particularly out of permanent trades and such. I think they were mainly addressed. Did you want to address?

Mr THOMPSON: I certainly do because there are a lot of differences.

Mr WARNE: I think you want to hear Dick's presentation first.

Mr THOMPSON: We are a net exporter of water on a temporary basis, so we believe that any trade has got to have rules which make everything comply with a cap. The cap is good for irrigators and the environment. What a cap should do is in wet years reduce the usage. The last thing we want in a wet year is somebody activating more water by trade just because it has rained and they do not need it on their own crop. If they turn around and trade it to somebody who can store it for next year and carry forward this year or to use it just to water pasture or fallow downstream, what you are doing is breaking the cap in that year, you are taking water away from that environment. That water should be left in the dam. Then if you have a wet year that following year and it spills, you get your environmental outcome, but if you traded that water you did not have a right to, you are actually taking it off the environment. If you are running into a dry period, which has happened the last couple of years, and that water was activated in the years before, you have less in the dams for irrigators to use in the dry years. What the cap should do, you should be able to grow virtually the same amount of crop each year, but in a wet year you should use a lot less water and that water should remain there for the environment or for future security for irrigators.

That is a principle I think that is now being accepted. Mike Young even accepts it now. I would like to go at that stage to his paper. His understanding of what trade would do in New South Wales is based on his understanding of the South Australian cap. South Australia does not have a cap. Let us be clear on that. They are allowed to activate in the future up to 90 per cent on average of their entitlement. If you can average up to 90 per cent on average, then in the dry years they are going to have to use a hundred per cent of their entitlement. Their cap was their entitlement.

In the Murrumbidgee in New South Wales our cap is 80 per cent of our entitlement. Mike's argument that people will trade their spare water up to the entitlement is not correct, because we have to remain within the 80 per cent cap. If somebody is allowed to trade water in those wet years or activate a hundred per cent in a hundred per cent of years, then somebody else has water taken off them, either because the water is not in the dams or, if we have a run of wet years, there has been restrictions to keep us within the cap. The water is just taken off somebody who is not compensated.

We have to have rules, and these are not restrictions, they are rules, which have trade complying with the cap and also environmental flow rules. We brought in environmental flow rules in the Murrumbidgee which moved water from the peak of summer, reduced the amount available to irrigation, and we released those environmental flows in the autumn, spring and winter. What happens now with trade, people are activating water that was used for pasture before, moving it to grapes, using it in the middle of summer and what you have done is just reversed the good of the environmental flows.

We need to be getting to a stage where there are two markets, one for summer available water and one for winter available water. Then people will know when they are going into the market that they are buying water that they can use in the peak of summer. We are just making it worse because all the high value crops, or so called high value crops, that water is moving to are mainly in the peak of summer. So we are moving away from the winter and spring when some water was going down the river. I want to make clear on our company's behalf we are not against trade but trade must comply with these other rules.

We have just had a ruling in the Land & Environment Court that backed up rules for trade being compliant with the cap. Horticulture and high security challenged the early cut off rules. We get then to explaining the early cut off rule. If we tell people who have high security who know they have their full allocation for the start of the year, if they have to save at the start of the year, how much they are going to trade, it means they can trade their real savings. They know what they have got to spare. You do not have to go to March and say, well, it has been a wet year, and let them virtually trade the rain. We have got to have rules in place to stop that. I am pleased to see the court has actually backed that up.

I think it is necessary for the Murray also to look at having similar rules. At the moment they do not have them and we have had the ridiculous case this year where high security and Murray New South Wales had 100 per cent of its allocation. In South Australia high security had 65 per cent of allocation and Victoria had reduced amounts too. George would probably know the exact amounts. They are talking about how far Victoria is in front and how stupid to have these different allocations.

Mr McGRANE: I take on board what you just said about trading, but how do you stop the people trading to the areas that water is used in summer when they are high value crops? Is there a reason why you want to stop that? Is it just the economics? If people are wanting to grow high value crops, why do you want to stop them? Am I reading you right or do you want that sorted out before summer?

Mr THOMPSON: What I am saying is those people should buy water which has been activated in the summer before if they want to grow those crops. There should be two different capital prices for water. You cannot continue to move water from winter and spring into summer. It is accepted that the flows are too high at the moment in summer. What we are trying to do environmentally is being reversed by trade. Let the high value crop compete for summer water if that is what is going to happen, or they put it in a storage of some sort. There is even underground storage being looked at now. So they can move water down in the spring and use things in the

summer.

Mr WARNE: I think your assumption is that the push that is coming from South Australia for environmental flows in the river is less of an environmental flow and more of a dilution flow. South Australia want better water quality to support their high value and terrific horticultural industries. They are not too fussed about the environment of the river. If they were they would not have a series of seven lakes, slow moving, towards the sea, they would have a river that reflected something more like what was there. Really it is a water quality argument and I have to say that they are quite insincere about the environmental outcome, they just want better water quality more often and they want to do it with more water. Not that that is a bad outcome, it is an agricultural and a human needs outcome, but I do not think they should pretend it is an environmental outcome.

Mr THOMPSON: Now, as far as our trade rules within the company, I have a written report on this, we allow the full trade out of savings. If somebody puts in a pressurized system for horticulture, which we are moving into now, that person can sell three megalitres per hectare of his water anywhere. We do not have any restriction on people trading savings, because that is really what trade should be. We also have a small amount we allow out each year, about one per cent of our allocation of the market to see what happens if people sell their sleeper and dozer water. Unfortunately, so far virtually all your permanent trade has been sleeper and dozer water. Even a lot of your temporary water is sleeper and dozer water. All the claims about this increased production from trade, in a lot of cases it has been increased production from sleeper and dozer being activated, but all the other irrigators at the same time lost a small amount. They have not measured the reduction in production on all the other irrigation farms.

Mr WARNE: The 51 trades that formed part of the pilot study for interstate trade downstream of Nyah on the Murray River, that is the interstate trade between Victoria, New South Wales and South Australia, they did a study of the 51 farmers selling the water and 49 of them had never used the water. So this concept of it going from a low value crop to a high value crop, it was probably going from a Collins Street bank account into a bigger Collins Street bank account. It was not about farmers trading water to a higher value user. Some of them never used it trading it to someone who wanted to use it. The person who bought it, they will definitely be using it. It used to be used by everyone in the community and now that licence holder has the benefit in cash. That story is often told, even in our own community. People who sell water are often people who are unable or unwilling to use their water.

Mr McGRANE: How much sleeper water is there in your area, what percentage of the overall water?

Mr WARNE: I would argue it is nearly gone now. When we started the capping regime our community at Murray Irrigation were very passionate about looking at the history of use, and our company for the previous ten years has had a history of using an average of 110 per cent, and the other irrigators on the river with similar licences on average would use of 51 per cent. Now we find ourselves in 2003 and the combination of them increasing the use and markets in water means that our use last year and the use of those fellows who live on the river with pumps was about exactly the same. The concept of the sleepers and dozers, in the developed southern Murray Darling Basin, I would argue it is nearly all over.

Mr THOMPSON: Just on that point in the Murrumbidgee, the cap is roughly 80 per cent of the entitlement. People who were using 100 per cent have come back to an average of 80; people who were using 60 have gone up either by trade or usage. So there was 20 per cent that was there that was virtually sleeper water but is now being activated by other means. It has had the impact so far but all this rubbish about the extra production from trade so far has been exaggerated.

Mr WARNE: I think the other point is that trade is not the only way you can increase the production of the Murray Darling Basin. Murray Irrigation's farmers were excluded from growing tree crops until 1994 by legislation. They were not allowed in broad acre areas to grow permanent plantings. That rule has changed. So obviously there could be a massive landscape change in the way in which our farmers use their irrigation water. That would not involve trade of any water. It would involve the importing of capital and knowledge and skills and a whole lot of marketing, but there is no water changes hands. Already we have seen that revolution in Griffith, where I think there has been 70,000 megalitres which was used on broad acre cropping now used in horticultural operations.

Mr THOMPSON: In fact in the MIA over the last ten years there has been 100,000 megalitres of general security converted to high security at 80 per cent. That was the conversion figure then. That is now available for permanent plantings on large area farms with secure water. That has happened. 10 per cent of our general security allocations in the last 10 years have converted. It is not as if nothing is happening. People think we are sitting out there not making changes. Probably now the average irrigator owns two farms, whereas in 1990 he owned one. The structural adjustment and the changes are taking place.

Mr McGRANE: Survival.

Mr THOMPSON: It is survival and unfortunately we are concentrating too much of our efforts on trade and not enough on change of production on farms. We have this change on farms from people who are growing grapes now on low security water. That couldn't happen up until about 1990. Our large area farmers were not allowed to grow horticulture. We only had the change in the last 10 years that allowed us to go into these high value crops, or so called high value crops. We have still had some grapes left on vine, and when you leave grapes on the vine it is not a high value use of water. The markets need to be there as the change takes place and I think that is one very important point, that with the high cost of converting to some of these crops you cannot expect people to do it unless there is secure markets for them.

Moving on to the permanent trade, George mentioned tagged, the odd over tagged allocation and we are totally supportive of that. I managed to explain it to Mike Young after we talked the other day on the way to the airport. You have a Murrumbidgee allocation, general security allocation, if it moves to South Australia, you can either move it to that individual in South Australia and he gets exactly the same rights as it would have given you in the Murrumbidgee each year, and you keep a record of that - there might be some losses to deliver it down the river, that can be worked out easily - or you can have a tag system where if there were 20 transfers from South Australia to the Murrumbidgee they would all be at the State border. It would be up to South Australia whether they passed it on as tagged water or whether they wanted to convert that water to the same as the rest of their entitlement and slightly reduce the security for their other irrigators. That would be entirely South Australia's call.

Mr WARNE: New South Wales' obligation would only be to deliver what was available that season for those licences on the Murrumbidgee.

Mr THOMPSON: If you go through a conversion factor, then if we run into climate change or we have years that it is not available, and you convert it, we could be reducing the right of the New South Wales irrigator in those dry years. I really believe that the tag system is much simpler. It will encourage trade. I am not against trade. I am just against trade of water that people do not have an entitlement to, that is outside the cap.

Mr WARNE: We also think that the tag entitlements concept could go right down through the irrigation companies, and we have been criticised, and we hear a little bit of it in your notes, criticism about allowing shares outside our companies. If someone from South Australia, for

example, were to buy 100 shares in Murray Irrigation, and a 100 shares in Murrumbidgee, that would give the company the right to have a call on those shares to pay the fixed entitlements, which would solve the problem of infrastructure decay and it may even address some of the community issues. We could say, well, look they own the water, they are using it in South Australia, but they are still making a contribution to your irrigation company in the maintenance of our infrastructure. We are allocated eight per cent, they get eight per cent, not some number that has been made up.

Mike Young, I know, has a vision of a Torrens title or a Young title to water, universally throughout the south eastern connected Murray Darling Basin, and I would argue that that is an unrealistic aim, because of the differences in the States and differences in the security, the differences in the farming system that have evolved around those securities. I think the concept of a tag entitlement is much more likely to get up and gain acceptance from irrigation communities than any other system.

Mr THOMPSON: To try and convert all the water in the Murrumbidgee to a similar security comes from people that have no understanding of the system and the different reliabilities. It cannot happen. To tag it, it allows all the trade you want and you do not have to go through this process. I can imagine the Victorians accepting that George's irrigator gets the same right as they do. They would have to reduce their security to give you the same outcome. We want to make sure that what people get now is defined as their right. I believe in New South Wales, the water legislation, if we had a longer period for the water sharing plan, and maybe in perpetuity, then we would have the right that is necessary. I believe it does define the access right, if there was just a longer period.

Mr WARNE: Irrigators are very critical of tenure. I think in every other respect the legislation is good. The involvement of the independent pricing tribunal, which was the first by any of the State jurisdictions, is a well run administrative regime. There is an issue of tenure; ten years is too short a period for farmers to make investment decisions. The more that enter, there seems to be uncertainty about what is going to happen at the end of that ten year period.

Mr THOMPSON: The other one I should comment on, as George said, water is limited, not land. That is where the MIA is. The horticulture people are limited on their farms. That is why we are looking to assist them. For the Government to pay for on farm improvements, the drip system and that water was virtually tagged for the Snowy River. That is how the savings from the Snowy were to come about, because they do not have the ability on their own farms to increase production. Some of them have bought other large area farms which they can move their savings onto. There is an opportunity there for government to fund savings on farms and get the savings.

While we are on that topic of savings, we are looking at a project in the MIA - it is a painting of my wife's of what it will look like in ten years time - an area which is just water and dead trees at the moment and that is a result of drainage from irrigation over the last 60 years. We are going to recreate a 2000 hectare wetland and leave 1000 hectares as a storage area. We will save something like 30,000 megalitres in that process, and regrow 2000 hectares of wetlands. South Australia and Victoria are growing about 20 hectares of wetlands, we are looking at 2,000, and the EIS is commencing at the moment on that. I cannot see that it will get knocked back in any form. That is water which the Snowy entity, they look like they will fund the bank and works and they will get those savings back to the environment, a third to the Murray and to the Snowy.

At this stage we should discuss Mike Young's paper and some of his views on savings. I think you wanted some comment back on that. The figure, when he talks about the farm efficiency and it all coming off river flows, well, in some cases to some extent that is true and I believe the Victorians were trying to use that to some extent to find their savings that they did not have a net cap, but it is not one for one. If you make one megalitre saving on farm, it does not reflect in a one megalitre in river flows.

Mr WARNE: It might in 2000 years time.

Mr THOMPSON: Even in 2000 years time, because some of that saving will be reducing evaporation. So many different areas where the saving will impact. When I talk about Barrenbox, that is evaporation off a 3000 hectare area, which is almost as big as Burrinjuck Dam in surface area. We run it to two metres deep. There is no future in continuing with that. A lot of savings even of the farm are poor water management. They do not all go into the water table or all be drained out the bottom.

In our area it does not return to the river, and that is where we are different. We had a problem with too much water in rural creeks below our irrigation area. As we reduce that we are improving; we are not taking water off the river. All of our savings within our scheme are real savings. They do not apply to that area that Mike talks about of reduced river flows.

The second area he has got there, 373,000 megalitres - I explained before he did not understand how the cap worked in New South Wales. The trade in New South Wales, or in the Murrumbidgee, will not activate that additional water. He is wrong in that area as well. He talks about land use change. This is an interesting one. We are concerned about forestry and some of the softwood plantations in the upper catchment. They will clearly reduce run-off and so, possibly, they should be looking at having to buy water in the future if there is going to be large scale forestry take place.

Mr WARNE: It is interesting if it is the State Government who are the major planter of softwood forests.

Mr THOMPSON: That raises another issue. People keep talking about the water in the river and what percentage. If you talk about pre-regulation or you talk about pre-European, I suggest with all the forests that were there, any trees in the catchment we have actually increased the run-off with all the clearing. What were the natural flows in the lower river? Now, I have spoken to a few scientists who agree with me on the principle that they have no idea of coming up on what was really the natural flows. The ones they compare it with now are pre-regulation and pre-regulation clearly had a lot more run-off than there was under natural flows. There is so much of the scientific evidence out there that can be questioned.

The other area that Mike is talking about is the groundwater and the litmus surface water. I have been told that those figures are not correct. I cannot say, I am not qualified to talk about ground-water concessions back, the amount of water that might be used extra. George might have some views on that. I think the figures he has there are greatly exaggerated.

ACTING CHAIR: Is that one of the problems we have through this whole argument, getting some credible base of information there, that depending on who you talk to, it is based on estimation rather than research or hard facts?

Mr WARNE: Our concern is it is worse than that, it is based on advocacy, where people have actually got a view that they want to promote and they are using the forums of the scientific area. Our company has been very critical of the involvement of senior CSIRO scientists in the Wentworth group that are basically an advocacy group. While they may well be raising the profile of the CSIRO, we argue they have come up with the answers before the science has been completed, which is a fairly unscientific approach. We have been very anxious about the machinations of the Wentworth group and the enormous credence they have with Government and with senior Government Ministers of all persuasions. A lot of their science is half-baked and needs to be completed before their work or word is taken as Gospel.

Mr THOMPSON: To add to that, the models of the Murray flows as yet do not take in the Goulburn and Murrumbidgee and the best management of those rivers. If we are going to help top up flows in the lower Murray we are going to need some off-river storage at the bottom of the Murrumbidgee where we can put small flows into, and when there is a flow on the Murray, drop it back on top. They will also drop the water from Lake Victoria back on top and you will get some sort of outcome. If you are going to release the water from Burrinjuck or Blowering and expect to get it out the bottom of the river 20 days later, it will have totally spread out the peak and you will not be getting any effect for a large amount of water. At the moment they have not modelled that. I spoke to Gary Jones the other day and he admits that has not been done. For scientists to make comments about how much they peak - I do not even know how they are going to pay for - it is a bit over the top.

ACTING CHAIR: We have got the message there. Have we addressed the three questions?

Mr APLIN: Yes, we have. I have one question on the matter of salinity which was basically covered by the second question. Have you got any comments on that?

Mr WARNE: I have some important observations on that. Our area is regarded as one of the areas that should never have been irrigated and what a disaster and what have you. Less than one per cent of our area is affected by water logging and less than 0.2 per cent of our area is affected by ground salinity. It is not to say it is not an issue. It is a major issue in our region. As a community, through the land and water management plans and the Government's assistance, we have come to grips with it. Maybe the last five or six very dry years have given us an Indian summer where we are living in a fool's paradise, but it seems to me that as a community and as water managers and as farm managers we are well able to address a lot of those issues with regard to salinity in irrigation areas.

I think that the horror and the fear campaign maybe has passed and it is time for some rational thinking and some smart ways we farm. Things like the limits on irrigation intensity on a farm we have introduced are about reducing spot salinity or the effect of rising water tables which bring salinity with them. That is a question for all of us. If you have a farmer that is on a 600 acre farm that is badly salinised, why do you not just let him sell all the water? That has been happening in the Kerang region in Victoria. I am not sure it is the right answer for that farm or the community in anything other than the very short term.

Mr THOMPSON: If I could comment on the salinity one, it is one I raised in Federal Parliament the other day. Dryland salinity in the Murrumbidgee - I only speak for the Murrumbidgee - I believe has been totally over-exaggerated. I believe that the methods of overcoming it are working already. You only need to go to some of the areas above Wagga Wagga and see farms like Syd Clark's where they are planting perennials, strategic tree planting, not a lot of tree planting, and they are making major differences, plus they are increasing their production. Most of these changes will actually benefit farmers. It will be short term costs, but clearly these things are working. I believe the CSIRO has exaggerated a lot of the dryland salinity issues to get funding. If you keep telling people how bad things are you will get funding to do something about it.

There are issues there to be addressed. There is vegetation; there is the riparian zone. We do need this NAP funding in the new catchment authorities looking at exactly where the funds should be spent and how do we get the best bang for our bucks. We need to be clear that we do not have too much to do, there is a lot of good stuff out there.

On the irrigation area, the water tables, George mentioned theirs, ours are lower now than in 1991. They were predicted to rise to buggery by now. We have had a dry period, so it is a

culmination of better management, better cropping, plus the climate. I do not deny the climate has something to do with it. We are clearly winning in a lot of these areas.

Mr WARNE: Can I just answer that thing about salinity and community concerns. As you move out into the Riverina communities, people value a whole lot of things about the river. The other day I went to a meeting at Yarrawonga where Don Blackmore, the CEO of the Murray Darling Basin, was speaking, and Don Blackmore gave people about a 25 minute spiel on salinity and why some of the science was right and what have you. There was a crowd of 3500 people and their eyes just glassed over, because the value they placed in the river of Yarrawonga was their lake. Someone had told them that they were going to lower the lake by a foot, and that was enough to get 3500 people mobilised.

In terms of community concern out there, people are concerned about a whole lot of values in their river, including the fish, birds, weirs and locks and the river they enjoy for water sports and what have you. As an irrigation community we certainly have to be cognisant of the increasing value of those rivers as community amenities and as tourist destinations. It is a big issue for the irrigation community. For the first time ever, a couple years ago we were told on a very hot New Year's Day we could not have any more water out of the lake because there was a speed boat championship on and they wanted the lake a foot higher than normal. Now, it is just a change in community value. 20 years ago or 30 years ago the farmers would have got what they needed but these days the community places other values on our lakes and rivers and that is something we have to be aware of.

ACTING CHAIR: As a trading profit structured company you do not see there is conflict of interest in what you are doing and fitting in with the communities along your river?

Mr WARNE: If we are going to be in conflict with our community we are in big trouble. We are of our community. Our boards are constituted very much like a local government, that is they either come out of ridings or out of industries, and if they are not cognisant of their community's problems, they are not going to be in office very long.

ACTING CHAIR: Anything else?

Mr THOMPSON: As an example, we had red gums which were suffering from the drought and I donated the water myself, we watered the things. All you hear Don Blackmore doing is running up and down the river talking about all these trees that were dying, not about what he is doing to try to water some of them. We need to be a little more practical and get on with some of these things. It is not quite as bad as people make out.

(The witnesses withdrew)

(The Committee adjourned at 11.05 a.m.)

REPORT OF PROCEEDINGS BEFORE

**STANDING COMMITTEE ON NATURAL RESOURCE
MANAGEMENT**

**INQUIRY INTO NATURAL RESOURCE MANAGEMENT
ISSUES**

At Sydney on Friday 31 October 2003

The Committee met at 10.00 a.m.

PRESENT

The Hon. P. D. Allan (Chair)

Mr G. J. Aplin
Mr G. F. Martin
Mr D. L. Page

ROSS MALCOLM CARTER, Acting Assistant Director General, Air and Water, Department of Environment and Conservation, 59 George Street, Sydney, and

JAMES RONALD WHITE, Chief Analyst, Economics and Strategy Policy, Department of Environment and Conservation, 59-61 Goulburn Street, Sydney, affirmed and examined:

ACTING-CHAIR (Mr Gerard Martin): Thank you, Mr Carter and Mr White, for appearing today before the Standing Committee on Natural Resource Management. The Committee is pleased to hear your evidence. 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 CARTER: Yes.

Mr WHITE: Yes.

ACTING-CHAIR: The Committee has received a submission from your organisation. Is it your desire that that submission be part of your formal evidence?

Mr CARTER: Yes.

ACTING-CHAIR: Would you like to make an opening address or talk to the submission before Committee members ask questions?

Mr CARTER: Yes, thank you. The former Environment Protection Authority [EPA] made a submission, via the Minister, to the inquiry. The general thrust of that submission was to highlight that the former EPA had expertise particularly in economic instruments that might be of interest to management of salinity in the State. The indicative questions that the Committee has put back to us go to teasing out some of the detail of that submission. It is our intention to focus on the indicative questions that the Committee directed to us. Broadly, it seems the questions go to two areas. One relates to institutional arrangements. In answering the first indicative question, I can explore that from the perspective of the Department of Environment and Conservation. The second issue particularly related to the CSIRO and ABARE proposals for economic instruments. The questions lead us through some quite good opportunities to explore the veracity of some things that sit behind the economic instruments and how they might apply to water sharing and salinity issues.

Broadly, on the CSIRO and ABARE proposals, from our analysis of the proposals that they have put forward, they agree on main points regarding water trading and salinity: that water trading could lead to altered salinity impacts, depending on where the traded water is used; that water access and physical water use controls should be separated; and that salinity controls should be related to and implemented through physical water use controls, and not through measures applied to trade in water entitlements or allocations. I think the area disparate between the two views really is related more to the best instrument to control salinity impacts that arise from water use, rather than the fundamental principles that sit behind that. So, if the chair is happy, I will move on to the indicative questions that were provided.

ACTING-CHAIR: Certainly.

Mr CARTER: The first question was to explain the division of responsibility for salinity management between the Department of Infrastructure Planning and Natural Resources and the Environment Protection Authority. Recently, the Environment Protection Authority has been incorporated into a broader department, which is the Department of Environment and Conservation. Our Minister has put in place a department that now brings together a range of scientific and environment agencies within his portfolio to better focus and integrate both the science and the policy on those issues, as well as some of the regulatory mechanisms sitting within the portfolio.

In terms of the division of responsibilities, the Department of Infrastructure Planning and Natural Resources has primary responsibility for ensuring that natural resources are used sustainably,

and used in a way that ensures those resources will be available for future use. In relation to salinity, they manage people's access to water via water licences under the Water Act 1912 and the Water Management Act 2000; they monitor the condition of natural resources, including surface waters, groundwater and soils; manage the flows of regulated rivers; implement the New South Wales salinity strategy; and implement extensive salinity extension programs, as well as carrying out salinity mapping for the State.

The Department of Environment and Conservation has primary responsibility for managing the environmental impacts of resource use, that is, the impacts beyond those on the resources themselves. The Department of Environment and Conservation's General objective—which is under the Protection of the Environment and Administration Act—is to protect, restore and enhance the quality of the environment in New South Wales having regard to the need to maintain ecologically sustainable development. In relation to that, the Department of Environment and Conservation's role is to ensure that the best practical measures are taken for environment protection in accordance with the legislation; inquire into and report on the efficacy of those measures, and monitor and report on the State of the New South Wales environment; and, specifically, in a regulatory role, to regulate the environmental impacts of discharges of pollutants, including salt, to water. By that I mean point source discharges. Also, we have a role in environment education in the State.

In terms of institution arrangements, the Director-General of the Department of Environment and Conservation chairs the Water Chief Executives Group, which has representatives from the Department of Infrastructure Planning and Natural Resources, Fisheries, Agriculture, Cabinet Office and Treasury on it. It is responsible for overseeing water reforms in New South Wales. Underneath that committee is what is called an Implementation Management Committee, which involves those agencies, at a more officer level, sorting through and providing input from the various agencies into that process. Additionally, our director-general is a Murray-Darling Basin Commission deputy commissioner. That broadly describes institutional arrangements. There are a couple of indicative questions later on that seek to tease that out further.

The second question asks whether the EPA currently has any role in water trading arrangements. The Department of Environment and Conservation has no direct statutory or administrative role but certainly has a role in establishing water management frameworks via some of those interagency committee processes as a water reform agency, and also by supporting the Minister in his role as a Murray-Darling Basin ministerial councillor and in his concurrence role in water sharing plans. Generally, the Department of Environment and Conservation finds that those arrangements to work well. We provide support to the Department of the Infrastructure, Planning and Natural Resources [DIPNR] by providing an integrated perspective on environmental outcomes from resource management decisions. I think the legislative and accountability requirements are quite clear for the Department of Infrastructure, Planning and Natural Resources in administering the resource management regime. From our perspective, having input on environmental objectives is a sound institutional approach to making sure that those issues are on the agenda.

ACTING CHAIR: On that point, the new structural arrangements of the department and the Ministry, have they clarified things are or made things easier?

Mr CARTER: Yes, they certainly have. What occurred previously was essentially interagency co-operation within the Environment portfolio. Having all of the agencies now within one department has enabled a lot more streamlining and integration of that advice so that it is more coherent and covers the full breadth of environment issues. I think the previous arrangements were in some ways a little artificial. For example, the Environment Protection Authority [EPA] had quite a focus on water quality and national parks had a focus on biodiversity, and there was not really an examination of the overlap between those areas. Indicative question No. 3 relates to the Australian Bureau of Agricultural and Resource Economics [ABARE] and Young and McColl in the papers that were provided to us. They warn of potentially negative impacts of water trading on salinity in some areas.

Part A of the question asks whether the EPA has a commitment to pursue stronger institutional arrangements to prevent water trading having a negative impact on salinity. The short answer to that is that the Department of Environment and Conservation has a commitment to preventing negative environmental impacts from salinity. We pursue that co-operatively with the

Department of Infrastructure, Planning and Natural Resources through the frameworks I described earlier. Roles and responsibilities are clear within that framework. The Department of Environment and Conservation does not see the need to change to ensure that negative impacts from water trading on salinity are taken into account. Part B of that question asks whether the EPA intends to pursue these issues as part of the national water initiative. Once again, the answer to that is yes.

The Department of Infrastructure, Planning and Natural Resources is the lead agency in representing New South Wales, with the Cabinet Office, in the national water initiative, but the Department of Environment and Conservation is in a co-operative and consultative arrangement with them on providing advice at each step through that process. That goes to question C, which asks whether we are represented on the working parties to the national water initiative. We are not directly represented, but we are working co-operatively with DIPNR in providing input into those processes.

Question 4 states:

In his submission, the Minister for the Environment says that the EPA's experience with market-based instruments has the potential be applied more widely in tackling other natural resource challenges, including dry land salinity.

Part A of the question asks whether the EPA supports the use of market-based models to address the impacts of salinity on water trading. The Department of Environment and Conservation believes that market-based models are worth investigating as a means of addressing salinity impacts. We have had success in reducing environmental impacts of salt discharge under the Hunter River Salinity Trading Scheme. Once again, though, that was a point source trading scheme. I make the point though that our experience with market-based instruments has targeted point source salt discharges rather than diffuse salt discharges as more likely to occur through water trading. Our view is that market-based instruments for salinity control deserve investigation. However, we have found that market-based instruments require strong regulatory frameworks for monitoring and enforcement, to be effective.

Some of the constraints in using the market-based instruments for more diffuse salinity include increasing error bands around estimates of salinity impacts when measured at local or regional levels rather than at catchment or State levels. I guess an example of that would be the salinity and drainage scheme which operated from the Murray-Darling Basin Commission through the nineties. That was set at very, very broad State levels with salinity targets measured at Morgan and trading arrangements set at that sort of State level. If we contemplate bringing that down to a regional level, that increases the risks of error in estimating the salt impacts. That goes to the need for significant modelling requirements to be able to identify local or regional salinity responses to water use, and significant information monitoring requirements—for example, the number of ground water and surface water monitoring stations and telemetry required, and, additionally, with possible within-zone salinity problems.

Water trading is based on regions rather than on site-specific characteristics. I might illustrate that a little with some of the salinity hazarded mapping that the Department of Infrastructure, Planning and Natural Resources undertook. The department identified an area—and the Bogan River catchment is a good example of this—where, on the basis of the soils, topography and vegetation characteristics among other things, that catchment was seen to have a high potential hazard for generating salinity impacts. But the current monitoring is indicating that it is not being expressed at this point in time. There would be opportunities to explore whether market-based instruments could influence the water trading into such an area that had the potential to generate salinity problems, but I guess overlapped with that is that it is at a catchment or zone scale level. Within that it would be possible to have water use in a way that was not generating salinity impacts, if appropriate soils and management practices were put in place. There are a number of layers of complexity in exploring market-based instruments which will need to be worked through as part of considering their veracity for managing those impacts.

Part B of the question asks whether the EPA should play a role in institutional arrangements to prevent the impact of water trading on salinity. As I indicated earlier, there are certainly clear responsibilities outlined in legislation and policy on roles and responsibilities of the different agencies. We certainly think that there are opportunities which the Department of Infrastructure, Planning and Natural Resources is aware of and that the department is actively seeking from us which is making our experience available in market-based instruments into that process. Indeed, jointly with that department, we have been involved in some of the national action plan for salinity and water quality

and its market based instruments program in coming forward with some pilots—once again, point source pilots. Question 5 states:

ABARE suggests a number of market-based models that seem to favour establishing water regions for trade and applying the pricing mechanisms, such as exchange rates or a set of taxes and subsidies, to encourage water trade out of high salinity impacts areas into low ones.

The question asks what would be the advantages and disadvantages of this model from our perspective. Once again I restate that we think that market-based instruments are worthy of investigation, but there are some threshold issues that need to be examined. For example, we need to know whether we have the technical capacity to run this type of market-based instrument. That goes to the scale threshold of the Department of Infrastructure, Planning and Natural Resources's capacity to model salinity outcomes with water use and additionally how much cost obtaining the information and running such a system puts into setting up that process.

Is the cost benefit of that worthwhile? I guess in terms of which market-based instrument and how it might be applied, one needs to answer the information questions and the modelling questions first and then examine which type of market-based instrument might best fit with the information that is there. I think that, theoretically, any type of market-based instrument—both types that are proposed here—would work effectively, if the perfect market assumptions were met. Clearly, until we have actually defined the problems with data monitoring and measurement within that market, it is difficult to say which particular model might be the most appropriate.

It is noted that both the Australian Bureau of Agricultural and Resource Economics [ABARE] and Young and McColl agree that water trading can lead to altered salinity impacts depending on where the traded water is used and the separation of water access and physical water use controls. The salinity controls should be related to and implemented through physical water use controls, not through measures applied to the trade itself. The regional or zone-based economic instruments to manage salinity are worth investigating, and we support that. The differences between the two approaches are in the relative merits of the instrument to be used. That warrants a lot of further investigation, as I have already stated.

Mr GERARD MARTIN: The Committee has received evidence in relation to the Young and McColl assertions, that they are based on assumptions rather than hard scientific facts. Is that a problem? Has no-one really been able to establish some credible charter that everyone is happy with? There has been some criticism also of the ABARE figures. How does the department view that, when it is using those figures?

Mr CARTER: Our approach to examining options like that is that pilot approaches are the best way to go; targeting an area where there is sufficient data to have reasonable go at monitoring and establishing. I think that the ABARE and Young and McColl data sat at a very broad level and as soon as you examine it across broad areas, there will be patchiness in data. That leads to fuzziness and inaccuracy at a broad scale. I guess that is one of the major concerns in setting up a market-based instrument; the more zonal or local you seek to make it the higher are the information and technical requirements. But if you make it very broad you can have undesirable impacts on local areas.

The example I gave of the Bogan catchment where you have you have this potential issue, and if you set up a market-based instrument that actually favoured water trading not into that area, you could disadvantage an individual proposal in that area. If it met certain soil and management practice it could set up and function without causing a salinity impact. It comes down to the level of information that is available and how well that can be modelled on salinity impacts. The ABARE and Young and McColl were doing it at a high level, and that patchiness of information has come out.

Mr WHITE: Our view is that they have both taken similar approaches. The ABARE approach was based on modelling that it had commissioned with the CSIRO. They have taken approaches of looking at particular types of economic instruments, whereas we are probably stepping back a level and asking whether we have the capability to run an economic instrument at the type of level where we will get those economic efficiency gains. As Ross said, it is possible that when things are set at a broad level like that, someone who is working on clay soils with good irrigation scheduling and dripper systems and so forth, who is not going to have salinity impacts but happens to be located

in a zone that at a more broad level, is considered to be at risk of generating high salinity impacts on the nearby watercourse.

We are probably stepping back from considering the relative merits of the two types of instruments that have been proposed and looking at whether the information is there to run one in the first place. Having said that, the instruments that ABARE and Young and McColl have proposed have theoretically equivalent economic efficiency outcomes if they are in a perfect market with zero transactions costs and everyone has perfect information, and so forth. In reality those perfect market do not exist. There is uncertainty over things such as supply and demand schedules. Once we get into that area of uncertainty the two instruments will have potentially differing efficiency outcomes. If it turns out that a market-based instrument was viable you would need to get into looking at the actual market that that instrument might be applied to and work out which of the two instruments was better suited to salinity trading or salinity pricing.

Mr CARTER: On the zonal issue, you could manage the individual application that might not have a salinity impact by having criteria that would discount that proposal, if it fell within a zone. Once again, that adds a whole range of complexity and assessment to the model that you might set up. There is quite a lot of detail in sorting through those. It is probably worth just reflecting on some of the difficulties we have had in establishing market-based instruments. The Hunter Salinity Trading Scheme is a good example of quite a successful trading scheme, but it took us some eight years to get it from a pilot through to a regulation and fully-functioning system.

The scheme is complex and involves point source discharges that are a bit easier to monitor and manage than are diffuse source discharges. It deals with single, individual catchments and has a known number of participants. It is complex but a lot more limited than dry-land diffuse source salinity issues. It was quite a long process for us to develop. That answers part of question six. Question seven⁷ asks about alternative institutional arrangements favoured by the Environment Protection Authority [EPA]. We find that the current arrangements are working well and recent changes to the Department of Environment and Conservation allow us to provide a more integrated perspective on environmental issues into that whole-of-government process.

CHAIR: Under the proposed catchment management authorities, how do you anticipate the EPA participating in a decentralised series of structures? Earlier you said that the Department of Infrastructure, Planning and Natural Resources [DIPNA] is the lead agency on the national water initiative. At a State level in the past we have had various water task forces across inter-agency groups. What do we have now to make sure that the EPA continues to be concerned about these issues, and puts forward its point of view?

Mr CARTER: We still have the water reform structures in place and functioning. Our director-general still chairs the Water Chief Executive Officers group and the Implementation Management Committee, which sits under it. The primary detail policy is still in place and functioning effectively. With the formation of the two larger departments, DIPNA and ourselves, there was discussion about how those arrangements would function and whether there should be any changes. It was determined that they should remain in place, that they are effective mechanisms.

CHAIR: How do you anticipate your role with the catchment management bodies? Do you expect that there will be regional EPA representation? You are still one of the regionalised departments and I appreciate the comments of the Minister and the Government that the departments will be local and will be the major flavour. You have some strong local agencies. Do you anticipate that there will be representation on those bodies, or is that not something you are seeking?

Mr CARTER: My understanding of how the catchment management authorities will be set up was that there will be no agency representation on them at the regional level. We are still looking at how that proposal is unfolding. Conceptually we see involvement at two levels: first, at the higher strategic level in assisting the resource commission and other agencies in what sort of standards and environmental objectives should be in place to guide the work of the catchment management authorities; second, at the regional level, working with other departments to provide technical expertise and access to it, particularly in relation to some of the more modelling tools that we are developing in sustainable loads and biodiversity as well as cultural heritage, vegetation mapping and other areas. We are really providing an expertise service to the authority that it can tap into and we are

putting a lot of work in at the State level in making sure that the frameworks, standards and objectives are sound. Also, we would assist the commission in its work in that regard.

CHAIR: You still anticipate playing a very significant role, but you are not in retreat from the strong position that the EPA has had?

Mr CARTER: No.

CHAIR: You will have to be clever about how you exert your influence. I do not know what this scenario will be.

Mr CARTER: My understanding is that there is a desire by Government to have great deal more regional autonomy and decision-making through the authorities. We think we have important technical expertise and services to provide to that decision-making body and we would be very intent on making that available.

Question eight related to the model by Young and McColl being more challenging to implement than the Hunter River Salinity Trading Scheme and the South Creek Nutrient Offset Scheme. I answered that in relation to the Hunter Salinity Trading Scheme. Yes, it would be more challenging. Both those schemes dealt with individual catchments and relatively small numbers of participants. They were also point-sourced discharges, which are a lot easier to monitor and manage than are diffuse salt discharge. That goes a bit to our earlier discussion on data and modelling capacities.

It is a lot easier when we can measure a stream that is coming from a particular activity. I note that both those smaller schemes presented significant challenges to us in their technical complexity. I have spoken about the Hunter. The South Creek pilot development scheme required technical ability to identify the likely nutrient loads that run off from land use in the offset projects, such as market gardens, under different, control measures. It involved the use of both a GIS system to identify impact sources and a purpose-built diffuse water pollution estimator. To date, getting the pilot development scheme to a working stage has taken us three years. With any of those water pollution estimators we continue to run up against site-specific and data-hungry needs when we get to the detail of how different land use management approaches operate on different parts of the topography.

In rolling that into technical modelling there is always a trade-off between the data we have and getting a robust answer that will apply across the area. For a salinity market-based instrument or pilot scheme those technical issues would still have to be addressed. That could be quite challenging, although there has been a lot of progress in mapping salinity hazard areas of understanding groundwater systems and of modelling discharges from them. That leads into question nine, which was whether it would be feasible to implement the scheme suggested by the ABARE and Young and McColl now, or does underpinning work need to be done. We think significant underpinning work needs to be carried out before implementation of any market-based instrument. The critical issues relating to that are water delivery and metering, water use and efficiency monitoring and the extent to which we can accurately predict salinity impacts from water use in different areas.

In addition, there needs to be provision of a cost-effective and enforceable framework through which the market-based instrument could be applied. Some of the precursor work needs to be done to test out the practicality and cost of those elements to determine whether a market-based instrument could be technically and economically feasible before going into the detail of designing the instrument itself. The other part of that question relates to the need for significant community input into the design and implementation of such an instrument, and community acceptance of the approach. We have found different levels of acceptance of models, depending on their transparency and an understanding of how they work.

Mr WHITE: The Hunter River salinity trading scheme was implemented or piloted at a time when there was quite distinct opposition within the community. Water users in the Hunter were not particularly happy with what they thought were the activities of mining and power stations. Having a pilot scheme was part of building up community endorsement of the whole approach. The community could see that a framework was in place, that the monitoring worked properly and the instructions

about when mines and power stations could discharge actually worked. You could see the results at that pilot level that the river was being kept within its salinity targets.

There has been strong community endorsement by all groups of the salinity trading scheme. They have had an input into how that scheme should work and it has been formalised through regulation. We set up the Salinity Trading Scheme Operations Committee to continue to have community involvement with interest groups, irrigators and participants in the scheme. An important part of the success of that instrument is the community going along with it, being involved in it, seeing its success, having an involvement, believing that the market-based instrument can work, and seeing that the modelling and monitoring regulatory frameworks actually deliver the outcomes.

Mr CARTER: It ensures also that, as a result of working through the detail, the outcomes are fair and equitable and that there is not a twist in the detail that disadvantages someone who is competing within that market. That is one of the areas that requires quite a lot of work. Question 10 refers to the following:

In order to value water for water trading, the NSW Government needs to know how much water is actually being used by farmers, industry and in residential areas. Currently monitoring and metering is not universal and there are particular problems in unregulated river systems.

What role does the EPA have in improving the monitoring and metering of water?

The Department of Environment and Conservation does not have a direct role in water metering or volume monitoring. The Department of Infrastructure, Planning and Natural Resources has a program to roll out metering and monitoring across New South Wales. I refer to question 11, which is as follows:

The NSW Farmers Association has recommended that metering and monitoring be in place across all 30 Water Sharing Plans before they are subject to the five-year review.

Both the Department of Infrastructure, Planning and Natural Resources and the Department of Environment and Conservation see monitoring and metering of water as essential. The time frame for that is something that will be a little open because of the impact it will have on individual water users, and the scale of the issue across the State. Whether or not that must be in place before a five-year review is something that I think is a little arguable. From our point of view, in any review of water-sharing plans we are interested in whether or not it is achieving its environmental outcomes and whether you can make adjustments within a plan at that point if things are not occurring in the way that was originally predicted. Obviously, the more detailed data and information you have, the better review you can undertake. But I think the history of waiting for perfect data is one we should not let prevent us from moving forward in a lot of these areas. That was the last of the formal indicative questions that were provided to us.

Mr DONALD PAGE: I seek clarification on your last point. Once the meters are put in, the Environment Protection Authority does not have a role, as an environmental regulator, to ensure that people keep within their licences. Are you saying that that is the responsibility of the Department of Infrastructure, Planning and Natural Resources?

Mr CARTER: Yes. The department issues the water access licences through the Water Management Act and it is responsible for regulating compliance with those licences and determining what role monitoring and metering can play within that compliance regime. So from a policy and broad management perspective we are interested in having good data on water use and metering, but from an administrative and regulatory point of view that responsibility clearly sits with the Department of Infrastructure, Planning and Natural Resources.

CHAIR: That has always been the case, has it not?

Mr CARTER: Yes.

(The witnesses withdrew)

REPORT OF PROCEEDINGS BEFORE

**STANDING COMMITTEE ON NATURAL
RESOURCE MANAGEMENT**

At Sydney on Wednesday, 5 May 2004

The Committee met at 11.00 a.m.

PRESENT

The Hon. Pam Allan (Chair)

The Hon. R. Amery
Mr G. Aplin
Mr G. F. Martin
Mr A. M. McGrane
Mr D. Page

Transcript provided by CAT Reporting Services Pty Limited

CHAIR: I will now ask the officer to read the Legislative Assembly Standing Orders 323, 333 and 334 in order that the witnesses and other interested persons are aware of the procedures for examination of witnesses by the Committee.

COMMITTEE OFFICER: Witnesses shall be examined on oath or affirmation as follows:

(1) The chairman may first question the witness uninterrupted upon the subject matter of the inquiry.

(2) Other members may then ask questions.

Standing Order 333: The questions and the evidence of the witness shall be reported by Hansard unless otherwise ordered by the Committee.

Standing Order 334: Witnesses may correct their evidence. Corrections shall be confined to verbal inaccuracies. Evidence can only be altered in substance by re-examination.

MICHAEL WRIGHT, Acting Director, Reserves and Wildlife Conservation, Department of Environment and Conservation, Goulburn Street, Sydney, affirmed and examined, and

ROSS MALCOLM CARTER, Director, Environment and Conservation Policy, Department of Environment and Conservation, Goulburn Street, Sydney, on former oath:

CHAIR: Have you been issued with a copy of the Committee's terms of reference?

Mr CARTER: Yes.

Mr WRIGHT: Yes.

CHAIR: First of all, can I just say you should not feel anxious that you have been called here today. We are in the process obviously of conducting hearings particularly in relation to the terms of reference but we have been having numerous discussions and the Committee is very aware that it is operating in an environment at the moment where there is considerable change in these areas, administrative change and structural change, as well as policy issues and national debate and everything. It is a pretty lively time for the issues that are of concern to this Committee.

We are obviously very interested in the creation of DIPNR but we are also interested in the changes that have occurred within your department as well. At the Salinity Committee we had various submissions from the EPA about water management and direction. We do not like to see the National Parks and Wildlife Service ignored in any way and we know that many of them in that agency will have strong views on these matters. What we want to do in many ways is to have you contribute to the loop we have been exploring about the issues and the directions in which Government policy and Government agencies are moving on these issues.

We have provided you with various questions. Before we address the questions, if there are any comments you would like to make, we would like to hear them as well, or if you think they are covered by the questions, we can proceed to the questions. What would you like to do?

Mr CARTER: Can I make a bit of an overview statement, Madam Chair?

CHAIR: Yes.

Mr CARTER: As you have indicated, we are going through quite some administrative adjustment and that includes examining structures within the new department as we seek to integrate the functions of the organisation. In terms of the water reform process and water management issues, we have very quickly aligned the areas in the former EPA and the former National Parks and Wildlife Service into a team that is delivering a joint service in those areas, and that has gone into our consideration in terms of determining the future structures of the department as well. That happened very early in the formation of the department so that we had the two parts working in a very integrated way. They had worked as a team in the separate agencies prior to that, so it was quite an easy exercise to just line them up internally as well.

CHAIR: Perhaps for the benefit of our reporting process, could you explain for us the role that both the former National Parks and Wildlife and the former EPA played in the water reform process and how those roles are now incorporated in the current agency?

The Hon. RICHARD AMERY: In relation to those areas, how many other agencies, water policy users have you actually picked up? Is it just the National Parks and Wildlife and the environment portfolio, previous ones? What other agencies have you picked up and what other agencies are dealing with issues similar to your own, have water units and water policy units?

Mr WRIGHT: Within the Department of Environment and Conservation the only agencies which now form the Department of Environment and Conservation which previously had water policy units were the former Environment Protection Authority and the former National Parks and Wildlife Service. The Royal Botanical Gardens and Resource New South Wales were the other two agencies combined into the department. Neither of those agencies had water policy units.

The Hon. RICHARD AMERY: What about the former Department of Land and Water Conservation?

Mr WRIGHT: That agency has not become part of the Department of Environment and Conservation.

The Hon. RICHARD AMERY: So you have picked nothing out of the history of that agency?

Mr WRIGHT: Nothing out of the Department of Land and Water Conservation.

CHAIR: How would you define the roles you are currently playing and were playing?

Mr CARTER: If I could just go a bit back in history on that. From 1995 until the formation of the Department of Environment and Conservation both former agencies contributed to water reform, working with the former Department of Land and Water Conservation, New South Wales Fisheries and New South Wales Agriculture. That included participation on the Water CEO's group, an officer level interagency implementation management committee and by representation at a regional level on water management committees. Both agencies supported the Minister for the Environment in his concurrence role on the water sharing plans under the Water Management Act 2000.

The former EPA's role was to lead Government advice, policy development and public consultation on the interim environmental objectives for water quality and river flow and there was an extensive consultation process across New South Wales on those objectives. It included receiving 810 written submissions, 44 community discussion meetings and nine Aboriginal community meetings, and all of those meetings were attended by more than 4,000 people through the State.

The former National Parks and Wildlife Service was responsible for implementation of the National Parks and Wildlife Act and the Threatened Species Conservation Act for the survival of fauna and flora, including threatened species, threatened ecological communities and key threatening processes. The National Parks and Wildlife Service led Government advice and policy development on the conservation, threatened species, ecological communities, biodiversity protection and cultural heritage elements of the water reform process. Many species and ecological processes are affected by alteration in flow regimes and the former National Parks and Wildlife Service provided expertise in the ecology of river systems and dependent ecosystems, such as wetlands, flood plains, estuaries, and also expertise on environmental flow requirements and management to achieve protection of ecological assets.

National Parks and Wildlife Service was also responsible for cultural heritage, much of it dependent on river flows, particularly in inland rivers. Many reserves for which National Parks and Wildlife Service has legislative responsibility for sustainable management are in decline as a result of reduced river flows and I think the example that the Committee would be very familiar with is Macquarie Marshes, but also Yanga Nature Reserve and Kinchega National Park are other examples.

New South Wales has international responsibilities for the management of rivers and wetlands through the RAMSA convention. This focuses on key sites of international importance and also it is useful for wetlands and rivers. National Parks and Wildlife Service was the responsible agency in New South Wales for implementation of the Ramsar convention.

The Department of Environment and Conservation continues to carry out the responsibilities I have just gone through of the former agencies and to lead Government policy advice on biodiversity conservation, cultural heritage, water quality and eco system health. The department continues to chair the Water CEOs, which is now under the auspices of the Natural Resource Management and Environment CEOs cluster.

Madam Chair, that sort of covers the previous role and current role to some extent.

CHAIR: The Committee had a very interesting trip last week to Nyngan, Warren and areas

around Dubbo and Wellington, and of course, as you know, the catchment management authorities will be created imminently, and it seems from the staff that we met, who are previous Department of Land and Water Conservation staff, that a number of those people are going to move wholistically into the catchment management authorities. Where does that leave your agency if the catchment management authorities are going to be populated by former Department of Land and Water Conservation staff, plus community people locally, on the board at least, and then as I understand it the Minister for DIPNR does not want to see a whole lot of agency people crowding the board with those authorities, so you are not going to have that same strong representation you may or may not have had historically. How are you going to make your responsibilities heard in that environment?

Mr CARTER: There are a couple of levels of action that we are involved in to support the catchment management authorities. Firstly, it is through the Natural Resource Commission process which we have been involved in working groups to the commission to assist them in developing standards and targets across the State that will guide the CMAs in their work. At another level we will also be providing support services to those catchment management authorities by way of expertise and data to assist them.

CHAIR: Excuse me: The Natural Resources Commission is not within your portfolio, is it?

Mr WRIGHT: That is correct.

CHAIR: Can you define how you support them?

Mr CARTER: The Commissioner of the Natural Resource Commission and the Department of Infrastructure Planning and Natural Resources have established whole of Government processes to support that commission that we are involved in, so they have sought advice and our expertise in the work of that commission.

Mr WRIGHT: If I could add, there were I think four working committees established by the NR commissioner to look at standards and targets for biodiversity conservation, riparian vegetation, soil erosion and cultural heritage and there were a combination of environment and conservation, DIPNR and other agency representatives sitting on those working groups.

CHAIR: Is the head of your agency on the commission or have you got an agency representative on the commission? How many commissioners are there? We will be talking to Professor Parry shortly.

Mr CARTER: We are unclear as to how the NRC will roll out. We understand there will be a number of assistant commissioners, but we are not aware of where that process is up to.

CHAIR: Is there a formal relationship between you and the Natural Resources Commission?

Mr CARTER: My understanding is that the Natural Resource Commission will be operating quite independently of government agencies but is seeking advice and support through that process.

CHAIR: What about on the ground locally through catchment management authorities? You do not expect your staff to be on any of these authorities, I presume?

Mr CARTER: No. I think a key difference between the Department of Environment and Conservation and the Department of Infrastructure Planning and Natural Resources was that we had not duplicated, if you like, the on-ground advisory role that the staff that were moving into the CMAs were providing. We had focused a lot more on developing statewide information and tools and it is on that basis that we are looking to support the catchment management authorities in their work.

Mr WRIGHT: The agency has done quite a deal of work in developing decision support tools for the catchment management authorities around biodiversity conservation and salinity both at a regional and at a local farm level.

CHAIR: And you are hoping that they are very sensible and listen to your advice, are you? How are they going to absorb that?

Mr CARTER: Well, as I said, there are two layers that we are examining on that. One is that the Natural Resource Commission sets that framework of standards and targets and that we are in a consultative process with CMAs to make sure that we are targeting our decision support tools and information in a way that they see as being valuable and useful but that also, from our perspective, carries the issues that we seek to progress in biodiversity conservation, salinity, water quality, those sorts of aspects. At the end of the day the catchment management authorities are independent boards. We have established specific contact officers who have been talking to individual chairs to provide a conduit and those discussions from our perspective are proceeding really well.

Mr PAGE: I do not think you have actually addressed this question, and forgive me if you have, but in previous evidence the Department of Environment and Conservation highlighted that DIPNR is the lead agency in representing New South Wales with the Cabinet Office on the National Water Initiative and that DEC intends to pursue the issue of "preventing negative environmental impacts from salinity as part of the National Water Initiative" and that DEC is in a "cooperative and consultative arrangement with DIPNR" on providing advice at each step through that process. Given this, how does DEC see biodiversity, natural and cultural heritage values being represented on the working parties to the National Water Initiative?

Mr CARTER: If I might answer that in terms of the process, the same process that is still occurring that we provided evidence on previously to the Committee, the Department of Infrastructure Planning and Natural Resources is the lead agency with the Cabinet Office. We are still involved in examining the New South Wales position and contributing to that prior to it being negotiated with the Commonwealth.

The National Water Initiative discussions are focused on fairly broad issues of principle. The area that is getting the most specific attention is the distribution of economic risk between governments and water access licence holders. The areas of biodiversity, natural and cultural heritage values are not being specifically detailed in the National Water Initiative, but they are there, a high level principle, and at this stage our reading of that is that those items are being left to the State to actually implement through its normal policy processes. The reason that the National Water Initiative is focusing in some more detail on the risk issue is because of the financial implications of Commonwealth and State contributions being a process that might arise from that, so at this point the National Water Initiative is not going into a great deal of detail on biodiversity, natural and cultural heritage values, but has certainly flagged the balance between environment and extractive use in water, so it has the head of consideration but is largely leaving the detail to the State.

The Hon. RICHARD AMERY: You are part of the old EPA and the National Parks and Wildlife Service put together, so you have one departmental head running one organisation where there were previously two. If I were to ask you to rule up two columns for what those organisations did and where that differs from the new organisation, what would that look like? Did those old organisations lose any roles to other agencies? What would that picture look like? I have been listening carefully to what you have been saying about your role, your back-up to the water management authorities and very similar roles to what the EPA had as well as, through a representative role, the National Parks and Wildlife Service. I am trying to get a picture of the new entity and apart from the efficiencies of one departmental head and one head office, one organisation rather than two - and there are obviously efficiencies in that - is there any dramatic change in what those previous organisations did to what this new one does?

Mr WRIGHT: I think it is fair to say that the functions that the two predecessors carried in this field continue under the integrated agency, so in fact there is no fundamental change in the

functions performed. As you say, we are hoping for integration and synergies by combining the two agencies, so we perform better as a combined agency than as two separate agencies.

Mr CARTER: One of the key intents on formation of the department was to bring together areas, particularly of policy and science that had a lot of synergies and were best working more closely together on issues. I have already mentioned the former National Parks and Wildlife Service role in wetlands and ecology, for example. The former EPA had an area involved in water quality sorts of issues and when you combine both the science and the policy issues of that and bring them closer together there is a lot of commonality and you get a more holistic picture of that.

CHAIR: There was some media this year about the tussle between Debus and Knowles in terms of environmental flows. It had supposedly been brought out at Cabinet level. Who determines environmental flows now in New South Wales? Is that something that you input into, that Knowles ultimately determines or do Debus and Knowles still have joint responsibility for that?

Mr CARTER: The arrangement is that there is still joint responsibility for that. Minister Knowles administers the Water Management Act which provides for water sharing plans, and it is within water sharing plans that the environmental flows are catered for in terms of the rules that apply within a particular area, and the Minister for the Environment has a concurrence role in the making of those plans.

CHAIR: So what was that media hype about? Was there an attempt to take the concurrence role away? I cannot remember the gist of the article other than that they were having a battle about environmental flows. Obviously it was all media hype and therefore wrong.

Mr WRIGHT: There was some discussion about whether existing water licences should become perpetual licences. That got some media coverage at the time.

CHAIR: And what has happened about that?

Mr WRIGHT: My understanding is that that whole matter is still subject to Cabinet consideration.

Mr PAGE: What are the key concerns of your department regarding existing water management arrangements within New South Wales, especially water trading and its impact on salinity in relation to biodiversity conservation?

Mr WRIGHT: If I could answer that question, the Department of Environment and Conservation is confident that water management arrangements can, over time, contribute to mitigating some of the historical impact and prevent further impacts from water extraction on environmental values including biodiversity conservation. Having said that, DIPNR, of course, is the agency responsible for the implementation of water management arrangements, including water trading and managing its environmental impact, although, as we have indicated, the Department of Environment and Conservation contributes significantly to DIPNR's decision-making processes, as does Minister Debus with Minister Knowles at a ministerial level.

The Department of Environment and Conservation will continue to provide DIPNR with an integrated perspective on biodiversity conservation impacts of salinity and water trading and highlight high-risk areas where they are known. I might just give some examples. Salinity impacts on key reserves in New South Wales are a particular issue for the Department of Environment and Conservation, and Ross has already talked about the Macquarie Marshes, and those impacts are being exacerbated by reductions in environmental flows. Water trading obviously potentially has impacts on biodiversity through the transfer of waters into areas that are not capable of delivery or where delivery runs counter to natural flow regimes as well as the potential for irrigation to be transferred up and down a river as environmental impacts on a site become unmanageable increasing, for example, groundwater salinity. These are all potential impacts that will be assessed on a case by case basis as part of DIPNR's management and regulation of water trading with input from the Department of Environment and Conservation.

Mr APLIN: Young and McColl - and the papers were sent to you - warned of the potential negative impacts of water trading in some areas. Are there any institutional arrangements that DEC would propose to lessen the impact of water trading on salinity?

Mr WRIGHT: The view of the Department of Environment and Conservation is that the impacts of water trading on salinity can be addressed through current institutional arrangements.

Mr PAGE: I noticed that Professor Cullen in his paper talked about the inadequacy of current institutional arrangements vis a vis the States and the Commonwealth, that constitutionally power resides in terms of water management with the States, but in fact the Murray-Darling Basin obviously covers a number of States and the current arrangements tend to lead to outcomes where one State blames another for over-extraction or not paying proper heed to environmental concerns and the like. Your statement is very confident that existing institutional arrangements are adequate? You do not share his concerns?

Mr WRIGHT: My view was limited to institutional arrangements within New South Wales.

Mr McGRANE: Can I ask a question on environmental flows, especially to the Macquarie Marshes. I think it is a little unique there and I pre-empt my question by saying that what the Macquarie Marshes were and what they are now are totally different things because the channels have got so much deeper that much more water in environmental flow is needed to fill the channels before it starts spreading out over the marshes. Has that been taken into account or how can that be taken into account when you are talking about environmental flows and you are taking off irrigators?

Mr WRIGHT: I am not actually aware of the deepening of the channels issue at Macquarie Marshes.

Mr McGRANE: Over a period of time it has got quite deep.

Mr CARTER: I could perhaps talk to that a little. It is very true that changes in water management over time have resulted in changes in wetlands areas, for example increased channelised flows removed sediment from those areas and that changes the pattern of flow distribution. I think it is essential when examining environmental flows and the assets that are being managed with that flow, that we also look at the structural needs that might exist for spreading that water.

I am not sure in the Macquarie Marshes, but I know in areas like Barmah-Millewa Forest where they have examined the spread of environmental flow flooding against natural flood flows it does seem that they have to do some sort of structural adjustments or re-regulating structures within those areas to make best use of that water, but it is very true that there have been changes that have meant that when you provide an environmental flow, you do not have the same watering relationship that it would have had under natural conditions and that needs to be part of the management of that flow as well. That has also resulted in areas that might have a vegetation community dependent on environmental flows, but the water will not get there without some other form of intervention to get the water out to the larger areas.

Mr MARTIN: The objects of the Water Management Act include promoting environmental protection. Current scientific data or wisdom indicates that we are facing a period of water scarcity. Given that scenario, does the DEC have a view on the section 94 supervision under the Water Management Act?

Mr CARTER: Not in terms of the statute. I think it is true to say that there is increasing evidence that we are in quite a different sequence of dry events occurring at the moment and that that requires, I suppose, an adaptive management of how water is managed in those sort of areas, but no specific comments on the legislative provisions.

CHAIR: Can I just go back to Macquarie Marshes for a moment. I would say the former National Parks and Wildlife Service role had been invaluable in the whole development of the Macquarie Marshes as an issue. There is no question about that. I do not know whether Dr Richard

Kingsford still works for you or not, but his work was certainly instrumental in bringing that matter to everyone's attention, Government attention, et cetera. So that section within DEC that was previously the National Parks and Wildlife Service would still be monitoring the biodiversity impacts of the water plants in the Macquarie Marshes, would it not?

Mr WRIGHT: That is correct. Richard Kingsford still works for the Department of Environment and Conservation, and, indeed, the agency continues to monitor the environmental health of Macquarie Marshes quite closely.

CHAIR: There is an issue perhaps there that is obviously creating some alarm with rural neighbours, irrigators. How does it work? How would that issue be processed now through your agency? You have obviously got some negative feedback from neighbours, if I read Tony's comment correctly, and you have you got your own observations within your agency. So what will happen to that?

Mr CARTER: As part of monitoring the effectiveness of environmental flows, picking up on issues of whether or not it is delivering the sort of outcome that was envisaged, that would go through. The monitoring advice that is saying, no, this is not achieving those outcomes is envisaged to be fed into both the catchment management authority and the other agencies involved to look at what sort of opportunities might exist to do other supporting works that would support those environmental flows. From our perspective, we would see that as something that the catchment management authority may well have carriage of the delivery of any specific projects to do that, but we would certainly be advising both them and the Department of Infrastructure, Planning and Natural Resources of any information we had about the results of flows being different to what was envisaged.

Just going back a little, Madam Chair, when I mentioned we had made internal arrangements in how we dealt with water issues, and you raised Dr Kingsford's name, he is part of the water team that we have advising on these issues across the State.

The Hon. RICHARD AMERY: Obviously the Committee is seeking to deal with the organisation. The organisation has a view on management of the unregulated river sources that were identified in a Stressed Rivers Report of 1999. I do not know whether we have tabled that question with you or not but can you answer it?

Mr WRIGHT: I am happy to answer that. The high conservation value classification Stressed Rivers Report 1999 in the view of the Department of Environment and Conservation does merit attention in the planning and implementation of water management and in catchment management plan, and the type of attention required will in our view differ according to the specific circumstances in each subcatchment.

We are of the view that the high conservation value classification is a useful starting point for efficient management of biodiverse areas. However, this process needs to be founded on a rigorous basis with further work done on identifying additional areas of importance, particularly in the west of the State, and reviewing classifications in light of the new information. The Stressed River Report focussed quite a lot on classification. Protection and management mechanisms for high conservation value subcatchments could include protection from further water extraction, further focussing of environmental assessment mechanisms and action under catchment action plans, supported by funding of community initiatives.

There are a number of strategic opportunities to protect these areas through regional or State mechanisms, and if I could give you a few examples here around the exceptionally high conservation values of the Paroo River and Turrumbi Creek. The Paroo River, which is the last free flowing river in the Murray Darling Basin. Strong support from the river community has meant that both the New South Wales and Queensland Governments have agreed to protect this river from further irrigation development and to manage it for conservation and sustainable growth through the Border Rivers Commission. In addition, the New South Wales Government has been able to acquire the lower Paroo wetlands of Lake Peery as a national park, the Paroo National Park.

In the Macleay catchment the Turrumbi Creek water source was identified as of high conservation value with excellent water quality, including extraordinary macro invertebrate diversity

and a significant portion of the catchment is in national park. There are no access licences at this stage and an embargo has been in place on extraction since 1997. The gazetted water sharing plan sets aside almost all of the flows for environmental needs. Limited volumes will be available to continue existing basic landholder rights for stock and domestic use. So there is a couple of examples of what can be done to protect high conservation value rivers and streams in New South Wales.

Mr CARTER: I might just add too that Dr Kingsford is currently involved in some national research work on high conservation value classification systems. That work is progressing at the moment to examine this issue at a national level and we are involved in that research through Dr Kingsford.

CHAIR: I hate to hark on this, but getting back to Macquarie Marshes as just an example, is it still the case that the water sharing plan or whatever that governs the water issues in the Macquarie Marshes still exists? Is that how it works with concurrence between DIPNR and DEC? Do you both have to sign off on that?

Mr CARTER: Yes, for making or changing the water sharing plans.

CHAIR: Can you explain to the Committee what the role of the catchment management authority will be in that process?

Mr CARTER: I think that the full details of that are still being worked out, but within any water sharing plan there is a range of flexibility of how those flows are managed and delivered. They are not entirely specific about the timing and the nature of it. I think the concept of adaptive management has been built into all plans to talk about the quantum of flows, but the actual delivery and seasonality of that can vary over time, depending what the monitoring is showing, whether it is achieving what was set out to be achieved.

CHAIR: I am certainly not totally occupied with the marshes as they are, because I think there is such public awareness that it will be looked after. I am thinking more just as an example, what will the catchment management authority's relationship be with your agencies, which have got literally now concurrent powers? How will the catchment management authority manage the Macquarie Marshes, as an example?

Mr WRIGHT: It is probably fair to say that the role of the catchment management authority vis a vis water sharing planning is yet to be fully defined.

CHAIR: So it is not legislated at the moment?

Mr CARTER: Not at this point.

Mr WRIGHT: No.

Mr McGRANE: So they can do their own thing, each catchment management authority, they can put their interpretation on the issues?

Mr CARTER: I think that the actual framework and the way in which they operate is still being considered by the Minister.

CHAIR: Well, they are getting very impatient out there. That was our observation. They are very keen to get out there and get to work on all the areas that have to be pursued. We are getting the chairs in fairly shortly to give evidence, so we look forward to hearing their vision for the future. You do not anticipate, when you say it is still with the Minister, at ministerial level, that that will be a legislative process, it will just be a regulatory regime, an administrative regime, what will it be?

Mr WRIGHT: At this stage my understanding is that the legislation establishing the catchment management authorities has not changed the Water Management Act.

CHAIR: So it will all just happen, without necessarily being--

Mr WRIGHT: I do not know what Minister Knowles might have in mind.

CHAIR: We have got the opportunity to talk to him tomorrow, so we will ask him.

The Hon. RICHARD AMERY: The old, very relevant issue of socio-economic impacts of changes and so on, there has always been a battle about that, obviously irresponsible questions on our position from time to time, but there was always, I suppose, a conflict between the old Department of Land and Water Conservation and your previous agencies and also in them was the role of New South Wales Agriculture. Have there been any changes to when these socio-economic impacts are carried out, when they are factored into some of the decision-making process and who are the players involved in that process now, bearing in mind agriculture for quite some time were involved in making contributions to these processes, water sharing plans and so on? Is there any change with these new structural changes to the department?

Mr CARTER: No. My understanding is that that process would continue, in terms of any proposed changes to water sharing plans, that there would be a range of advice, including socio-economic advice, that would cover a range of portfolios. I guess the fundamental principle behind the concurrence role was that there was a need for a balance in decision-making between resource use and environment outcomes, and the mechanism that was put in place was the ministerial concurrence role for the Minister for the Environment, and into that mix goes the advice from other agencies as well.

The Hon. RICHARD AMERY: And the new primary industry is involved in that?

Mr CARTER: Yes, we still have the Water CEOs forum, which is a major forum which includes agriculture and fisheries, as well as DIPNR and EPA and DEC and other agencies involved in that, as well as the implementation management committee, which still meets at a senior officer level to go through any of those issues that come up to provide integrated advice on them.

The Hon. RICHARD AMERY: You made mention of the making or changing of water sharing plans. Can you give us an update on what are the processes involved in changing a water sharing plan, whether there have been any changes to that process or not? I am actually trying to get the process, whether it is in legislation, regulation, whatever, whether there have been any changes to that process. I am very familiar with the making of water sharing plans, but it is the changing of them that I, and I think most Committee members, would be more interested in.

Mr CARTER: I could certainly provide that. My understanding is that it is written into the Water Management Act, not into regulations, but we might also provide some of the administrative processes that sit around that legislation as well.

The Hon. RICHARD AMERY: Yes. As I say, it is the administrative changes or processes that I am very interested in.

Mr McGRANE: I think DIPNR anticipates an increase in the volume of water trades largely in unregulated and underground systems. Does DEC have any concerns here, especially with regard to salinity impact or threatened species and other management by DEC, including cultural heritage values?

Mr CARTER: Certainly increased trading in unregulated and groundwater systems can present risks, but also benefits, in terms of salinity and biodiversity. For example, it could reduce extraction in an area of environment stress and I suppose transfer that extraction to an area with less environmental impact. For example, if a recharge area has been irrigated and that water is transferred to an area that is not a recharge area, that could reduce the salinity problem at that point and we would expect that in a number of cases there would be a productivity incentive to someone to trade out of an area where they were having an impact on land, and reducing its productivity and value, to apply it to an area where it was not causing those sorts of impacts. There is also the risk that there will not be a direct link between use and the feedback from low productivity on a particular property, for example, and in those circumstances the assessment process that DIPNR administers for water trades would be the process by which we would see that being picked up.

Mr PAGE: That seems to me to be the case in New South Wales more so than perhaps Western Australia where there is a close relationship between the cause of salinity and the effect of salinity. In the Murray Darling Basin I am led to believe that things that are causing it can be in one area and the manifestation can be a lot further away. I was interested to pursue this issue of high conservation values in rivers, which I think we do seem to understand pretty well. Is it true to say that we understand less well conservation values associated with the groundwater system and the way in which the groundwater system and the surface water system interrelate to each other?

Mr CARTER: It is certainly true to say that we do know less about those systems. Studying groundwater systems is very complex and difficult and the ecosystems which they support within themselves as well as ecosystems that are dependent on that water are more difficult to identify and understand. We have an increased understanding of the sorts of species that are more water dependent, so in a landscape sense, if they are not receiving surface water watering, then we can make assumptions about the relationship with groundwater, but it is a lot more difficult, technical area to work in. There has been significant progress in mapping salinity and dependent ecosystems in the last few years, but groundwater is quite a challenge. The complexity of the systems in some of our geology is quite difficult.

CHAIR: You are very optimistic about your powers of persuasion on these catchment management authorities as they come on board?

Mr CARTER: We are very optimistic that the sorts of technical support, decision support systems and services that we can provide to them will get a high uptake as the catchment management authorities develop their specific catchment action plans. It will vary depending on issues within the particular area.

CHAIR: Is there a review process built into the current system, the one that is about to be finalised? I cannot recall. Is there a statutory review period of the Water Management Act and the catchment management authorities in the current legislation, do we know?

Mr CARTER: In the current legislation water sharing plans have built in review periods for them and my understanding of the catchment management authorities and the Natural Resource Commission is that the Natural Resource Commission will be examining progress towards the standards and targets that were set across the State.

CHAIR: And what will your role be there?

Mr CARTER: Our role will be in providing information on our monitoring and research about the sorts of outcomes that are delivered, but I understand that the catchment management authorities will also have a more specific local role in identifying and monitoring issues against their catchment action plans and, once again, that is one of the services and technical supports that we will be looking to provide to the catchment management authority.

CHAIR: And all that resource that you are talking about, that service, is Sydney based, or is it statewide?

Mr WRIGHT: No, we have expertise resources in the city, but also in regional locations, so we are able to provide support locally and centrally.

Could I raise one more thing in terms of the role of the Department of Environment and Conservation and catchment management authorities: The Department of Environment and Conservation does sit on a joint natural resource management steering committee, a Commonwealth and State steering committee, which oversees and provides advice to both Commonwealth Ministers and Minister Knowles and Minister Debus on the regional investment strategies that catchment management authorities are preparing under which they will expand moneys from the national action plan for water quality and salinity and the Natural Heritage Trust second tranche, so the Department of Environment and Conservation will be providing advice through to State Ministers together with

on those regional investment strategies, which will of course have some bearing on how our assessments are managed.

(The witnesses withdrew)

(The Committee adjourned at 11.55 a.m.)

REPORT OF PROCEEDINGS BEFORE

**STANDING COMMITTEE ON NATURAL
RESOURCE MANAGEMENT**

At Sydney on Wednesday, 12 May 2004

The Committee met at 11.00 a.m.

PRESENT

Mr G. F. Martin (Acting Chair)

Mr G. Aplin
Mr A. M. McGrane
Mr D. Page

Transcript provided by CAT Reporting Services Pty Limited

ACTING CHAIR: I now ask the officer to read the Legislative Assembly's Standing Orders 332, 333 and 334 in order that the witnesses and other interested persons may be aware of the procedure for examination of witnesses by the Committee.

COMMITTEE MANAGER:

Standing Order No. 332 - Examination of witnesses. Witnesses shall be examined on oath or affirmation as follows:

- (1) The chairman may first question the witness uninterrupted upon the subject of the matter of the inquiry.
- (2) Other members may then ask questions.

Standing Order No. 333 - Recording of evidence.

The questions and the evidence of witnesses shall be reported by Hansard unless otherwise ordered by the Committee.

Standing Order No. 334 - Correction of evidence.

Witnesses may correct their evidence. Corrections shall be confined to verbal inaccuracies. Evidence can only be altered in substance by re-examination.

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

Mr BAXTER: Yes.

Mr McDONALD: Yes.

Mr TONY PAGE: Yes.

Mr O'BRIEN: Yes.

Dr SEARSON: Yes.

KELVIN BAXTER, "Namarang", Marshalls Road, Berry, New South Wales, Farmer, Chairman, Murray Catchment Management Authority and

JAMES ARTHUR MCDONALD, "Red Braes", Quirindi, New South Wales, Farmer and Chairman of the Namoi Catchment Management Authority, sworn and examined, and

ANTHONY JOHN PAGE, "Noel Park House", Marius Street, Tamworth, Landscape Manager, Namoi, Department of Infrastructure Planning and Natural Resources, Executive Officer supporting the Namoi Catchment Management Authority,

DANA LEE O'BRIEN, Farmer, "Myrtle Park", Henty, New South Wales, Chairperson, Murrumbidgee Catchment Management Authority, and

JOHN EDWARD SEARSON, 25 Henwood Avenue, Wagga Wagga, New South Wales, General Manager, Murrumbidgee Catchment Management Authority, formerly Manager Regional Landscape, Department of Land and Water Conservation, affirmed and examined:

ACTING CHAIR: I firstly apologise for the absence of the chairman, Pam Allan, who is ill today. Before the Committee goes to the questioning process, I know you have a presentation to make, but did each of the individual chairmen wish to make opening statements to the Committee or do you wish to just go to the presentation and then have questions from the Committee?

Mr BAXTER: That would be suitable to me. If at the end of the process we have not covered some of the points that I expect to, we might make some concluding comments.

CHAIR: We will give you that opportunity. We might proceed to the presentation first and that might elicit questions from us. We might proceed that way.

Mr O'BRIEN: I might preface my comments by saying that the newly formed Catchment Management Authorities have only recently been constituted. You are aware that the Minister only announced the names of the board members of the CMAs last week. Therefore, I as Chair, and I imagine the other chairs will be in the same position, am not in a position to speak on behalf of that constituted body. The first official meeting of the CMA board members and chairs will be this Friday, the joint meeting in Sydney for the induction process for those members. However, what I intend to present here is background information which will give you a pretty good overview of what the Catchment Management Authorities are about and I will carry on from there.

If you have a look at the evolution of catchment management bodies in New South Wales over the last 14-15 years, originally we had catchment management committees and they had a membership of 20 odd people, 20-22 members, very large talkfest type bodies. It was a Noah's Ark model for natural resource management. We had two of this type, two of this and two of that, and you put all the representatives around the table and they brought their baggage with them and they argued their positions from their constituent base. They were advisory bodies. They provided advice to Government on matters to do with natural resource management.

The next situation occurred in 2000 when we had the catchment management boards set up, again a fairly large organisation, 17 members who came from various interest group backgrounds, and you can see those there and they are in the handout. I will not go through those in detail. Again, it was an advisory body but it did change in focus in that the major role of the catchment management boards was to develop a catchment plan or a catchment blueprint, as they are referred to now, and we have catchment blueprints for all of the catchments in New South Wales. They are then a starting point for investment in natural resource management, and, indeed, both Minister Knowles and Ministers Truss and Kemp have approved the catchment blueprints as the template for future investment of the National Action Plan for salinity water quality investments and Natural Heritage Trust Mark II investments.

Now we have the new Catchment Management Authorities which were recently constituted earlier this year in February when the board chairs were appointed. You can see we have gone from representative bodies to skills based selection, maximum seven members, including the chair, and they

are skills based appointments to those boards. They are constituted authorities. The board will have corporate governance responsibilities, so they will be a governing body as well as providing advice to the Minister.

In New South Wales there are 13 Catchment Management Authorities, and this has been a massive reform in the sense that prior to that there were in excess of 70 different natural resource management committees, water sharing committees and vegetation committees and catchment management boards, et cetera. So in excess of 70 committees has been reduced to 13 Catchment Management Authorities. If you have a look at the purple covered area in the bottom, that is the Murrumbidgee catchment where I come from. The one below that is the Murray catchment where Kelvin Baxter comes from, and the Namoi, if you go up the top there, is where Jim McDonald comes from.

In the Murrumbidgee Catchment Management Authority there is myself - I am a dryland farmer from Henty in New South Wales. Michael Schulz is a former member of the catchment management board, and Michael has extensive experience in environmental areas and great expertise in environmental areas. He is a strong member of various wetland working groups, et cetera, in the Murrumbidgee and the Murrumbidgee Field Naturalists Association. Mr Dick Thompson is a former member of the catchment management board and is the chair of Murrumbidgee Irrigation. Both Michael and Dick Thompson were former members of the Murrumbidgee River Management Committee as well. We have Ms Claude Nye. Claudia is a former councillor for Yarralumla Shire Council. She has extensive experience as a former member of the catchment management board, extensive experience in local government and is a member of the Murrumbidgee Unregulated Streams Committee. Then we have Ms Flo Grant. Flo is a Wiradjuri woman, she is an elder of the Wiradjuri nation, she comes from Wagga Wagga and she is a former member of the Murrumbidgee Unregulated Streams Committee.

CHAIR: You have got five members. I thought the upper limit was nine, but you have indicated it is five to seven?

Mr O'BRIEN: Seven, that is my understanding.

Mr BAXTER: Seven in the Act.

Mr McGRANE: Two are to be appointed?

Mr O'BRIEN: The possibility of two to be appointed in the future.

Mr McGRANE: So that is where we get the nine from, possibly in the future?

Mr BAXTER: No, not at all.

CHAIR: Seven is still the upper?

Mr BAXTER: It has got five now, two more.

Mr O'BRIEN: One of the questions you were asking was about how we get the linkage with the new catchment management plans and Catchment Management Authorities with works that have gone in the past. You can see there that there are great links between the former water sharing committees in the Murrumbidgee, and I am sure that will be the case in the other catchments.

The Murrumbidgee CMA has been allocated from the National Action Plan and the National Heritage Trust Mark II an indicative budget over the next four years, running out to 2007, of \$60.7 million. That expenditure will be invested in improving water quality and salinity outcomes in the Murrumbidgee and addressing biodiversity, soil health and native vegetation issues.

The performance of the Catchment Management Authority, as the Minister stated earlier, will be audited by the Natural Resources Commission, which is chaired by Professor Tom Parry. So we will be held responsible for wise investments and appropriate investments to address natural resource management issues. One of the key things that I see as the role for Catchment Management

Authorities is to broker future investment in natural resource management within our catchments and a key task is to broker co-investment through industry, other organisations, private investment, et cetera, to maximise the investment to address the natural resource issues that we have.

Key functions for the CMA: There is a planning function, as you can imagine. One of the functions that we have to do in the very early piece is to develop a catchment action plan. The catchment action plan will be an overarching document which will bring together all those previous planning instruments that have been put together in the natural resource area within our catchments, the water sharing plans, the vegetation plans, et cetera. They will be brought under one umbrella of the catchment action plan. We will also be managing community implementation of the future water sharing plans and groundwater plans as that becomes necessary and we will be developing annual implementation plans to further the work of the catchment authority and obviously to manage our investment portfolios.

On the investment side of it, it will be necessary to implement the catchment action plan, develop future investment strategies for the expenditure of that \$60.7 million over the next four years, management of the National Action Plan for Salinity and Water Quality and the Natural Heritage Trust investment, and seek co-investment from all sectors of the community to maximize our investment in natural resources. The key is to not look at that \$60.7 million as being the total investment; it is going to be seed funding to attract co-investment and we need to be looking at multiplication factors of two, three and four times, if we are going to address the natural resource management issues that we have in our catchments. We will be managing the remnants of the Native Vegetation Management Fund. We will also be involved in future section 10 projects under the Soil Conservation Act and we will be delivering incentives through the property vegetation planning schemes and other mechanisms.

As far as the property vegetation side of things goes, we will in the first instance be certifying property vegetation plans for establishing continuing use and delivery of incentive. It has been flagged by the Minister that there will be a future role for the CMAs for assessment of all vegetation consents under the Native Vegetation and Conservation Act, including property vegetation plans for land clearing, but that is a second stage function that will come to CMAs further downstream.

On groundworks, we will be involved in river rehabilitation and water quality programs, action section 10 soil conservation programs and programs to address issues to do with soil health such as salinity and soil acidity and soil erosion of course. We will be looking at salinity and biodiversity programs. In our catchment area, a very large area for irrigation, we have got two major irrigation areas, the Coleambally irrigation area and the Murrumbidgee irrigation area and there are significant investments being made there in the implementation of the water management plans, and in fact as an indication, in the 03/04 investment budget for Murrumbidgee, \$13.4 million, approximately half of that is going in to fund investments in the land and water management plans in those two irrigation areas. So a significant part of our investment portfolio is addressing the issues in the irrigation areas and water management plans. It will also have a role of monitoring and evaluating and reporting on outcomes. We need to be outcomes focused in our investments, not output focused.

Another major role of the Catchment Management Authorities is one of community engagement, community education and community support. For the CMAs to be effective they must engage the community, the communities must feel that the Catchment Management Authorities are an arm of the community, not an arm of government. So the CMAs will need to ensure that the communities engage in the development of our Catchment Management Plans and our investment strategies. We will need to be providing advice and support to Landcare groups and other community groups within our catchment. Consulting and engagement with the traditional indigenous communities in natural resource management and, indeed, in Murrumbidgee we actually have an indigenous natural resource management reference panel, which includes elders from the various nations along the Murrumbidgee, who come together regularly and meet with myself and discuss indigenous natural resource issues. I have regular meetings with the networks of the twelve Landcare networks which encompass the total Murrumbidgee Catchment and we have meetings where I meet with the chairs of those Landcare groups to ensure that we have appropriate engagement of the Landcare community in our investment programs.

We are providing community education on natural resource management. We are providing technical advice on vegetation and property planning, stakeholder liaison and maintaining advocacy in the community. An example of that has been with the recent first step of the Living Murray process where the president of the Murray Darling Basin Commission, Mr Ian Sinclair, came around on community visits. We brokered the engagement with the various stakeholder groups within the Murrumbidgee catchment, organised meetings so that those people can meet with Mr Sinclair and we brokered community engagement in the National Water Initiative, the joint Government enterprise, which is the water from the Snowy system and Living Murray processes.

CMAs will not have responsibility in the following areas, that is in the water sharing plans, regional strategies, and regional and local environmental plans, or rural flood plain management plans. We will not have a role in consents under the Water Management Act 2000 or the Rivers and Foreshores Act, the Environmental Planning Act, the Western Lands Act, Crown Lands Act, Plantations and Reafforestation Act. We will not have responsibility for major cross-catchment or cross-State works such as Murray Darling Basin Commission projects.

One of the other questions you asked was the relationship between the Catchment Management Authorities and DIPNR and other arms of the Government. This diagram shows the clear chain of reporting. You see in the centre there you have the Minister for Natural Resources Infrastructure and Planning, Mr Knowles, and you can see that the chairperson and the board members of the CMAs report directly to the Minister. Below the chairperson and the board members you have the general manager of the Catchment Management Authority and his staff, who perform the functions of the Catchment Management Authority.

Off to the righthand side you have, through service level agreements, the Department of Infrastructure Planning and Natural Resources will provide service to the CMAs and examples of that sort of service that they were providing: payrolling and HR management, IT management, fleet management of vehicles, et cetera. That is through service level agreement and they will also be providing technical data.

You see up to the lefthand side of the Minister, the Minister will be advised by the Natural Resources Advisory Council, and that will be where the various interest groups such as Landcare, the environmental groups, irrigation groups, etcetera, industry groups, will be able to engage with the Minister, and below him, off to the left there, you have the Natural Resources Commission. Again, that will be chaired by Professor Tom Parry and its role and function will be to set State-wide standards and targets for natural resource management outcomes in the State and they will be performing an audit function on the Catchment Management Authorities.

You see down the bottom, the key role there for the Catchment Management Authority, as I said before, is to engage with the community and develop partnerships and you can see the sorts of partnerships we need to develop with the wider community and Landcare, with the indigenous community, with industry groups, with the environmental groups, with Local Government, with Government agencies and the research and development corporations and universities. So you can see that is a fairly big role there.

Just outlining the approach that we will be taking to investment in the Murrumbidgee, we are investing in three project areas. Rather than a project by project approach, we are looking at a program approach where we will have a sustainable landscapes program, sustainable ecological systems program and a sustainable social and community programs. This can be best demonstrated by the next slide which shows the five target areas in the Murrumbidgee catchment, which are water quality and water flow, salinity, soil health, biodiversity and community capacity building, and sitting below that and across that will be the three investment programs, and if you actually looked at those, they do not really line up like that, they almost overlap each other. In any one of those areas there will be elements of dealing with sustainable landscapes and productive agriculture systems for that use of land. There will also be dealings in natural eco-systems and building the community's capacity.

The challenge for the CMAs is to avoid the confetti approach to natural resource management and that was the major criticism of the mid-term review of the Natural Heritage Trust Mark 1. The reviewer, the Auditor-General, stated that it was difficult to measure the benefits or the outcomes of the Natural Heritage Trust Mark 1 because there were no goals or objectives, et cetera,

very hard to measure things against because it was like a little project here and a little project there and a little project there. This is why we need to take this landscape approach to addressing natural resource management, so we can see outcomes for our investment of dollars.

We will need to integrate and have better co-ordination of the various natural resource management programs. We need to maximize the ability to achieve synergies between target areas. For instance, you can be investing in establishing perennial vegetation which potentially can provide biodiversity outcomes, but it also can act as a nutrient filter which would stop sediment and nutrients entering water courses, so you can get a water quality outcome as well as a biodiversity outcome. You can also, with perennial vegetation, get soil health outcomes and you can address groundwater issues as well. So you can spend a dollar in one area but you can actually get impacts in a number of areas for that one dollar.

The sustainable landscapes program approach is an indication of the sort of approach we are taking in the Murrumbidgee. We are using it as a flagship program that establishes the links between the various individual projects within our overall investment strategy. We are trying to avoid the duplication that you have. Our first investment strategy has 17 different some parts of it. If you took the project by project approach, you would have 17 different project managers, which would be an overly administrative burden and it would get inordinately expensive. So we are taking the approach where we are trying to deal with a range of issues in the program approach, recognising in the accounting, as I said before, you can spend a dollar in one area and maximize the impacts across the range of your natural resource management targets.

Another program that we are bringing into Murrumbidgee is being funded through the National Landcare Community Support program, and the benefit of this program is that, unlike the National Action Plan investment which is tied to achieving salinity and water quality outcomes, in the Murrumbidgee the major part of our funding is from the National Action Plan, which means for it to be targeted it needs to be spent targeting the salinity water quality outcomes. It does not give you much to encourage natural resource stewardship outside of those highly targeted spatial areas in the catchment.

So we have access funding through the National Landcare Community Support program and we are driving that focus of profitable farmers, sustainable systems and healthy landscapes to produce increased producer profitability as a driver for land use change. Rather than taking the begging bowl welfare approach to natural resource management, where you are handing out dollars for a certain practice, if we can drive this by a process of showing farmers through their own experiences and experiences of other farmers that changed land use practice will actually provide them with a greater profit, more black ink on the bottom line in their budgets, they are going to be more inclined to actually continue that practice rather than some other practice, because they will be motivated by that reward that they will get and it will be an everlasting reward, they will get it year in year out, where as if you take the begging bowl approach, they will only get the reward when the next Government dollar comes out. So we are using that to underpin our sustainable landscapes program so that we can spread that outside of the National Action Plan targeted areas within our Catchment.

You will not be able to read that slide but it is in your program there. The key there is the way that we are going with this current investment program. This section here has some parts of our investment strategy, which is National Action Plan for Water Quality moneys, so it has got to go into those highly targeted areas. Over the other side are co-investor programs in those first two columns there and there is a program called Grain and Graze which is funded through Meat and Livestock Australia and the Grains Research and Development Corporation and Land and Water Australia, and they are investing \$2 million into the Murrumbidgee catchment over the next five years. That is \$2 million of industry levy funds. So that is bringing co-investment into our catchment, and we are lining that up with our other investment within the sustainable landscapes program.

One of the other questions you have asked us is in what ways the CMAs might be involved in water management. We see that there is potentially a role in the future for the CMAs to be involved in the management of environmental water. There should be, in our view, regional water trusts. A single water trust should be established for each catchment. In our case, the Murrumbidgee catchment, we would argue that that would be the catchment, and it would seem to us that the Catchment Management Authority would be the appropriate body to manage such a trust.

Funding of the trust - there is a range of options that is available. One of those options could be a joint Commonwealth/State industry levy to provide funding for the purchase of water for the environment. As the Minister alluded to before, managed in the way in which the Murray wetlands working group has managed their environmental water, where you sell the water in a dryer year because that water will not provide any environmental outcome and buy back with that money that you have got during a wet year when the water is cheap, and then you can put that additional water on top of high flows to achieve bankers to spill over and get flood plain flooding and wetland watering, et cetera.

The responsibilities of the water trust would be to direct the use of environmental water held by the trust, annual trade of water held by the trust, purchasing and holding water access rights for use on behalf of the trust, managing the financial resources raised in respect of the trust's functions. The trust would not, however, be responsible for managing water allocations, river operations or establishing environmental flow needs. We will just be managing the environmental water account.

CHAIR: Are you happy, Mr O'Brien, if we include your formal presentation in the evidence to the Committee?

Mr O'BRIEN: Certainly, that is fine. If you would like, I can just show you an example in the Murrumbidgee catchment of how we are taking this target approach to investment in addressing salinity issues in the catchment. The approach we have taken is that we have identified 12 priority subcatchments within the Murrumbidgee system, and they are predominantly in the mid-Murrumbidgee catchment area, and they are the ones that are providing the enormous amount of salt that is flowing into the rivers. It is coming predominantly from the dryland areas.

The catchment where we made our initial action plan investment in salinity abatement is the Kyeamba catchment, which is just east of Wagga Wagga. If you look at this diagram here, the catchment has been divided into subcatchments. This is the Kyeamba valley, and the dark blue area there is the area that is providing fresh water into the system. The lighter blue areas are providing slightly salinised water into the system. The red areas are the areas that are providing or pumping large amounts, excessive amounts of salt into the system. So our targeted approach is to actually direct our investment in the first instance into those highly salinised recharge areas, and obviously we do not want to stop the water coming out of the fresher water catchments. So we are targeting our investment to land use change into those areas.

To take an example, to drill down to a property within that catchment, in the lower Kyeamba catchment area there is one property here, and if you look at that frame there, this area here, as you see, is annual property. This is the current land use of this property, and the other area is annual pasture. You see that it is predominantly an annual system, annual cropping, annual pasture. So you get a great deal of leakage into the groundwater system, which raises the water table, dissolved salts flow into the system. There are also these green areas. That is existing remnant vegetation. What we have done is we have gone into that area and we have developed a model where we propose land use change. Using a mosaic approach we are suggesting that there could be farm forestry built in corridors around the property boundary and across paddock arrangements within the property. This would have to be negotiated with the landholder of course. For instance, in these areas over here you can build farm forestry into making larger plots with the existing remnant vegetation, and we are changing over from an annual pasture system to putting in lucerne based pasture.

Lucerne is a great use of water. The roots on a lucerne plant go some six metres into the ground and they dry a water profile out very well. We could use that. We could also be using natural pasture, or in this area here, it has gone over to another perennial pasture, a phalaris pasture. It will use the water in the ground, not to the same extent as lucerne but phalaris pasture provides a different grazing regime for grazing based enterprises. It does also provide better water quality outcomes because you have got a better mat to stop nutrient and sediment from passing through the crops.

We have a Land Use Option Simulator (LUOS) which is a computer model which enables us to put in a range of various enterprises in the property and that provides us with a salinity index model. The number down the bottom there, if it becomes a negative number it means it is going to inject more saline water in the system. The more positive the number is, the less water that is going

into the system, or less salt, sorry. We can also link this up with a costing model that the Department of Agriculture has for various cropping and livestock enterprises and we can actually work out bottom line budgets, the dollar returns for various mixes for landholders. So we are using these instruments to enable us to go to the community and look at implementing these incentive programs in the catchment.

For instance, in this Kyeamba Valley catchment it is being managed by a community based organisation. The community working group was established and we have provided them with the criteria for the investment incentive program and it is chaired by a community person. There are only two Government people on that working group. One is the local district agronomist from the Department of Agriculture and the other is a local catchment management expert from the Department of Infrastructure Planning and Natural Resources, but it is chaired and run by a community based organisation, and they also have the assistance of the local Landcare community support officer as well. The community is making decisions about where are the best places to invest to get the best salinity outcome and they are using this land use option simulator to assist them in making those decisions.

Dr SEARSON: Basically you can sit down with the landholder and a laptop computer and using LUOS look at different options and work out what the impact is going to be. It is a very powerful tool, and the same tool is being developed further so that you can look at biodiversity outcomes and other additional benefits like that.

CHAIR: Thank you very much for a pretty comprehensive outline and you have answered a lot of the questions that we foreshadowed. Would any of the other chairs like to add to what Mr O'Brien has said?

Mr BAXTER: No, we have a common source sort of approach.

CHAIR: You said you would be not actually involved in the water sharing plans as such. Do you have any input into the process or the approvals for water trading?

Dr SEARSON: Not at this point in time.

Mr O'BRIEN: No.

CHAIR: Do you have any comment as to whether you should have between the various CMAs a watching eye on that?

Mr BAXTER: I actually believe that there will be a role in the water sharing plans. There is one point I would make on the presentation. I think there is a real question mark over the role of water sharing plans in the CMA, and I have got to say that since the inception of the CMA, which is not that long ago, the areas of our responsibility seem to be expanding, as you heard from the Minister earlier on, shedding a number of staff and clearly passing some of the responsibilities to the community - read "CMA".

CHAIR: Are you generally comfortable with that approach?

Mr BAXTER: I think it is a challenge to us. Yes, as long as we are well supported. I suppose the cynic would say we have become the meat in the sandwich a little bit, where clearly some of the relationships between DIPNR and the community have not been good and I think we have been thrown the challenge to sort some of that out and build working relationships. Some of that depends on the willingness of Government to make regulations under the new Act, which is still in the draft stages, of an in-principle nature so that the local communities and CMAs can work within the Act but get the sort of interpretations that the Minister was describing to you today about the location of the centre pivot and things like that and sensible clearing regulations. There needs to be catchment by catchment interpretation and emphasis on some of these aspects of the new Vegetation Act, and so I hope that we have the local autonomy and that it really is the community that is being empowered to deliver the best possible results under the guidance of the legislation and the Natural Resource Commission. It is early days yet. I think if we handle that responsibility and deliver the catchment action plans, the model will work.

These questions started on the involvement with water. Clearly, in all of our catchments water is a very important component, and if the group that are looking after the vegetation and biodiversity are not right into the water issues in the catchment, they cannot succeed on a catchment basis, and I understand that the water sharing plans will be in our laps very soon.

Dr SEARSON: I agree and you will notice from the presentation that Lee gave, in one area the authority will be responsible for community engagement in the water sharing plans, and another line of things that is not there at the moment is the actual development of the plans. So it is an evolving feast and I agree totally with Kel saying that one cannot just look at rivers on their own or look at the landscape on its own. When I read some of the papers from economists, they are incredibly simplistic in their approach to things because it makes it too hard when they are doing economic modelling.

CHAIR: We have been getting plenty of advice on this Committee, by the way, but we treat it with a healthy scepticism.

Mr BAXTER: The history has been, as you say, vegetation committees and land works over here and water committees over there and sharing very little knowledge. That is why I think, if you want to talk about what the catchment management process represents, it means communities managing natural resources on a whole of catchment basis.

Mr O'BRIEN: Not dealing with them as separate particles. You have got to deal with them in an holistic manner. A lot of people as soon as they hear catchment management think of water, that is all they think of. They do not think of all the other issues that are in there, and the catchment is a whole of catchment, including those huge vast dryland areas.

Mr McGRANE: I thought Lee's presentation was excellent, but a little bit short on communication with local government. You mentioned that once. I have had a long background in local government, in both a small council and a large council. I myself do not have much problem with your involvement with local government, but I am getting the word back from mayors in my electoral area that they are as frightened as hell of you guys, that you are going to come over and take over powers, et cetera. I am sure you have had this feedback before. How are you going to approach this situation, because it is out there? Unfortunately, I do not know whether it is through lack of communication or what, but there are a lot of wrong vibes being given out there from local government towards you guys.

Mr O'BRIEN: The approach that we are taking - we have already contacted local governments. In the Murrumbidgee region there used to be 31 LGAs. They were all partly in or partly out. We have engaged local government generally on a regional basis. We have got the ROC and the EROC, which is the Riverina Organisation of Councils and Eastern Riverina Organisation of Councils. There is another organisation called the Upper Murrumbidgee Catchment Co-ordinating Committee which crosses over into the ACT, because we have the ACT within the Murrumbidgee catchment. We have a good relationship across the jurisdiction and I have already had meetings with the DG and senior people, community people, with the Environment ACT, and the Upper Murrumbidgee Catchment Co-ordinating Committee also has members on it from all the local government areas in that upper catchment area, around Queanbeyan, Canberra, Cooma, et cetera, down to Yass. So we have been engaging with those.

Some areas, for instance Balranald Shire, do not want to be dealing with the CMAs as part of a large group. They want to be dealing with one of you as one-on-one. So we are dealing with them as they want to be dealt with. Initially, as you can imagine, they have not been terribly focussed on the CMA relationship because they have been concerned about the amalgamations issues, but I dare say now that that is getting ironed out a bit that they will be very keen to engage the CMAs, and that is a key role for us to engage with local government.

Mr BAXTER: In our area the local government actually employ and house quite a number of the staff that are delivering NHT, NAP programs and so there is quite an involvement. Landcare groups have also been involved in receiving a lot of funding. In some ways that is a challenge to the CMAs as to who is actually running the business but in our catchment obviously there is quite a

partnership approach between the delivery of the programs and the local government has a huge role in getting the outcomes. They can provide a lot of assistance here. It is unfortunate to hear what you are saying, but I would not like to think it was State-wide. Certainly we are going to build a strong relationship with local government and a dependency on each other to some extent.

Mr McDONALD: Apart from a few personalities that exist in our particular area who seem to have a personal agenda in a lot of this, we have got a strong relationship with local government. I can understand the threat that local government believe is coming from us, but conversely, if you go out ten to fifteen years, there probably should be a regional organisation that amalgamates local government and catchment management together.

I do not believe it should be the CMA; it should be that local government has amalgamated itself into that regional sort of process. We have provided the skills and the knowledge and we fade into the background, the CMAs disappear. It is neither one nor the other. I just do not think it should be the CMA that is the threat to local government. It should be seen as a positive - let's learn from them, let's use their skills and eventually just absorb them. That is the way I would view it. I can well understand that they perceive us as a threat.

Mr O'BRIEN: Can I just make another point, just from the Murrumbidgee point of view, which is that for instance on the selection panel, I formed a selection panel in the catchment to assist me in making recommendations about board members, and one of the members on that panel was Paul Braybrooks, the Mayor of Cootamundra Shire. He provided great expertise in terms of local government and community matters. There was an example there, and like Kell we have some community support officers, Landcare officers, housed in shire council offices. One is at Harden Shire Council and one is at Murrumbidgee Shire Council. So we do have that relationship, but I take your point there is a necessity to build that relationship a lot more.

Mr BAXTER: I think most of the boards will end up with a person on board with local government skills.

Mr APLIN: Arising from the answer to that last question comes the issue of Landcare and you mentioned that many of their officers or co-ordinators are actually auspiced by local government. What is the actual future, are they going to become employees of the Catchment Management Authority, because obviously my concern here is the retention of expertise and the trust that they have built up. Is that going to be supervised and controlled now by the Catchment Management Authorities?

Mr O'BRIEN: If I can answer that quickly from the Murrumbidgee point of view, we made a difficult decision some eighteen months ago when there were changes to funding for Landcare officers, for them to be paid as a group through the DIPNR payroll, so we did that from a risk management and occupational safety issue as much as anything else, but it has worked to our advantage because now the 12 community support officer positions, which are Landcare type positions, are now employed by the CMA. Now that has caused quite considerable community angst in terms of communities feeling that they have lost their person, but these people are actually funded from the CMA budget and the CMA is responsible and accountable to the Minister and will be audited by the Natural Resources Commission to ensure that our investment leads to natural resources management outcomes.

Therefore, to my mind, I think it is appropriate that they are actually part of the CMA. However, in the Murrumbidgee area we have those people across the whole of the catchment and they are managed on a day to day basis by a local management committee, which is predominantly members of the local Landcare network. They form the management committee to provide advice and guidance to those Landcare officers or community support officers, but their role is to assist with the implementation of the catchment blueprint, but they are guided day to day by their local communities, and in fact when we had to go through the recruitment process in September last year, the recruitment selection panels for those people were predominantly members of the local Landcare and local government communities and there was one Catchment Management Board person sitting on that committee of the selection panel process.

Mr SEARSON: And 20 percent of their time in the Murrumbidgee, for instance, is directed towards community capacity building, at least 20 percent. The Commonwealth and State Ministers have put an edict out basically that the funding of community support officers or Landcare officers has to be interwoven with the various programs and projects that are being funded, they have got to be working towards those and they are really working with the community to make them aware of the funding opportunities that are out there. Some of these programs have been delivered by Government agencies, by Greening Australia, NGOs and the like, some like Landcare networks are taking these on. So there is a whole mix, but the Murrumbidgee is a bit different to some of the other catchments.

Mr APLIN: In the presentation there was a fund management plan, I think you indicated, as one of the layouts. They were involved in that previously. Would you see that continuing, because that is in relation to salinity and methods of combating that obviously?

Mr SEARSON: Yes.

Mr O'BRIEN: The thing we had to do though, we had to broaden the brief of these community support officers to be not only Landcare but the whole of the community and that has been very important so that the Landcare community see that they are a whole of community resource.

ACTING CHAIR: Is that the same in the other areas?

Mr McDONALD: Well, yes and no. I suppose the assumption is that Landcare has been left out, only because we have not got enough room on the billboard so to speak to list every organisation, and that is what is happening. We are only just recently formed and we are trying to promote an inclusive attitude, fine, but it is almost as if we have got to read who we should be representing before every meeting we go to.

I think from my point of view, what works now, we are not going to go in and change it, so if the community is out there with the substantial Landcare groups and organisations and it is actually working and they can demonstrate it is working just by the fact that they are getting support from their local areas to maintain that organisation, who are we to go and change it? That is the way that I view it and it is similar to what the Minister said earlier - if it's not broke, don't fix it.

If there is a real threat - again it is a perceived threat I suppose, in any change the threat appears, they are only doing what they should do, which is promote themselves, make sure that they are still involved - unfortunately, it comes across that they are being left out and not being thought of.

ACTING CHAIR: I guess that is covered by your community networking or interaction with community. That should solve the problem.

Mr McDONALD: That is right, that is our job, that is our responsibility.

Mr BAXTER: I am sure the member for Albury will be interested in how it might be going to happen not far from town sort of thing, because in our catchment clearly at this stage there has been a history of Landcare groups dealing directly with quite large sums of money and doing some very good works with it and also under the Act the CMA can basically delegate everything except its power to delegate.

So we are working through the issues here and I think that the responsibility, the accountability of the new authority process and director's liability, where we are going to be asked for eligibility for the Australian Institute of Company Directors, means there are some quite onerous responsibilities for achieving certain outcomes with Government funds.

The authority has to evaluate in each area the appropriateness of delegating or contracting formally some of its responsibility for achieving outcomes to certain groups and I would suggest in our catchment we probably have some groups that may well be up to that challenge and in certain areas that would be directly instituted by the outcomes delivered through the CMA.

That is a critical area of negotiation because where the groups are strong, strong community ownership and, as the Minister said, if it's not broke, don't fix it, but the thing that comes through to

me in talking to a lot of these groups at the moment is that they are very locally concentrated in some of their thoughts and what the issues are and they have not started to develop this whole of catchment approach and land and water and the linkages, and so the outcomes in our catchment will depend on their willingness to move with us and it may well be there will be a mix of a number of styles as to how to deliver the program.

We are very aware of the levels of community ownership and not to upset that, but if you are not achieving what the authority has got to achieve, it will have to happen, but that is the debate and I think that we will, as I say, look at times for your support.

Mr O'BRIEN: I just want to make a point there too, we must not forget that the chair and the members of the board of the Catchment Management Authority have a legal responsibility, under the Catchment Management Act, to discharge their duties appropriately. They also have, under common law, a fiduciary responsibility to act in the best interests of corporate governance and project management and whatever, and so it comes back at the end of the day it is the CMA and the board of directors that will be held accountable for the appropriate expenditure of public money. That is a very real responsibility that we have and so we have to be comfortable with the powers that we delegate to various community groups and organisations, that they can deliver the goods.

ACTING CHAIR: You were here when the Minister and the Director General were talking about the restructure of the department and whenever we talk about downsizing we get into this argument about jobs and that, but in actual fact the way they were talking about delivering services on the ground, and particularly back into the regions, were you reasonably comfortable with that or is that an area that you think the CMA should be commenting on? I suppose it will be indirectly, depending on the resources you get allocated, but do you see that as being an important aid to you people in discharging your duties or not that important?

Mr McDONALD: It is extremely important. If we have not got the resources, we cannot deliver the services. It is as simple as that. We will be taking a keen interest in the staff numbers at the moment. We have got a global number I think of 240 odd, which we are talking about. Well, that will be separated, divvied up between the regions based on size. We have got an internal debate going on about who should get what, because it is all resources again.

The worry that we are going to have in the future is if more responsibilities continue to come and the resources do not follow. So if we start to get water management, water trading, you need staff to deal with that, you need resources to deal with it too. It would worry us obviously if we do not continue to get resourced with the responsibilities and that particularly needs to be watched in the future.

ACTING CHAIR: With the particular problem you have got in the Namoi with the over allocation of licences there, and given the comments the Minister and the Director General made in relation to the Namoi, you obviously would not be happy just sitting on the sidelines watching what happens there, would you?

Mr McDONALD: With the water debate? No, there are a couple of issues. There is a social dimension and a biophysical dimension in the water management plans as such in the Namoi. In the Macquarie it is not over used. The Namoi is over allocated and over used, and to the point that the use is threatening the resource itself, and I would have to say that it is of concern to me that you have got a human dimension, which is fine, you are dealing with it, but it is overshadowing then the biophysical, the resource itself. If we continue to hit the Namoi because of drought, which we are all stuck with, if we continue to hit the Namoi groundwater systems as they have in the last two years, we are starting to do some irreparable damage to the resource itself. From the CMAs point of view, if we are looking at the long-term health of the catchment, we have got to be concerned about postponing actions that start to drag down the own over-use. They have got to be linked. It is a worry to me. It is a worry also that we are not dealing with the human dimension. We are not dealing with the money and compensation side of things.

CHAIR: You would be concerned about the trauma, deferral 025 of the ground water?

Mr McDONALD: I would be concerned if it means that they will hit it as hard as they have

say in the last two summers, because there is enough evidence there to suggest already that we are doing irreparable damage to the resource, and over-use is not such a problem.

Mr McGRANE: With groundwater around Narromine we are facing after a period of years up to a 60 to 80 percent cut on allocations which were made by the State Government back in the 1990s for groundwater. They have at least got to go out there and get involved in irrigation. They have built the world's best practice irrigatable schemes and now they have turned around and said we have got to cut the allocation by 40 to 60 percent. It is awful.

Mr McDONALD: The cut in allocation is big enough and it is dramatic enough, but the cut in use, which is what will happen across a lot of the areas in the Namoi, and will probably happen in smaller areas and other areas, but the cut in use, that is where it really hurts, when you have to cut use.

ACTING CHAIR: In the information we sent out to you there was an institutional model proposed by ABARE. Have you had a chance to look at it or do you have any comment on it?

Mr McDONALD: I tried to read it.

Dr SEARSON: It is premature at this time for us to really comment on it, but having read those papers, it is pretty simplistic. That is my first comment.

ACTING CHAIR: It does not recognise the horses for courses type of the thing?

Mr BAXTER: They talk about say clawing back water from irrigation purposes and it goes into an environmental count. It fails to recognise that if you do not have that water going down the river, it is going in irrigation. If you are going to put environmental water on top of a low flow, you do not get the environmental impact you were going to get anyhow. So the water that you save from irrigation purposes you would have to send down the river on top of the allocation for environment anyhow. So the model is fairly simplistic. It fails to take account of if you have a high flow going in the river for some irrigation purposes or whatever, if you can just put the environmental water on the top that gives you the spillover to get your wetland watering or your flood plain watering event, you do not have to put that much water down there. So it is a very simplistic view. I looked at it and thought there is a lot more to this than just this economist's view.

ACTING CHAIR: We would just like to get your views on the record on that. We accept that.

Dr SEARSON: The actual management of environmental water and so forth, I believe that that is a strong role for the catchment authorities. It should not be a central water authority like the MDBC actually directing it. I think that has got to go more to the communities. I think it was symptomatic in the Living Murray process that has happened to date that even after being told many times by the community of the Murrumbidgee, which the Murray is a tributary into - they set their sights on the Murrumbidgee and they are expecting the communities of the Murrumbidgee and the Goulburn Broken Rivers and so forth to devote water towards environmental needs.

Mr O'BRIEN: In the Murray system, but you are going to deliver a lot of that water down the Murrumbidgee system. So we sort of said you need to take into account that you are delivering environment water down the Murrumbidgee system for the Living Murray process, let's put on top of that the water so that we get the environmental outcomes in the Murrumbidgee as well as the Murray.

Mr TONY PAGE: And recognise that. I will probably come from the bureaucrat's point of view, being with the Department of Infrastructure Planning and Natural Resources, but one of the things I picked up on in terms of the water debate is the difficulty that comes of having various jurisdictions managing water across the basin, and we have got a number of States and a Territory and whatever. I sometimes think in breaking up New South Wales into a number of catchment management authorities to manage water, will it be an advantage or a disadvantage in terms of making that multi-jurisdictional thing only bigger, will you be fragmenting the process even more and be even more challenged by the fact that there will be not only competition between New South Wales and Queensland in getting water, which happens at the moment, will you get that same level of competition then between the catchment management authorities within the one State?

To me that is something that needs to be managed very well. It sounds very good to bring that decision-making down to the local regional level, but then the parochialism does come into the debate, and why should we be paying for someone else's, and this is the debate we have at the moment between New South Wales and Queensland, and, as I say, breaking it up even smaller, it just needs to be managed well.

ACTING CHAIR: That debate is always going to be there no matter how you structure things to a certain extent but you are saying the more you fragment it the more you--

Mr TONY PAGE: Yes, having seven people around the table debating it or whatever it might be, four or five, and then all of a sudden making that number 24 or 25. That is the problem.

Dr SEARSON: One of the good things is that the Murray Darling Basin Community Advisory Council has three CMA representatives from NSW.

Mr O'BRIEN: The Community Advisory Committee to the Murray Darling Basin Ministerial Council - the Minister has appointed the chair of Murrumbidgee, Murray and the Lower Murray Darling to be the catchment management representatives on that for New South Wales and the Minister has not actually said to me why he has done that, but I perceive that that would be around the issues that relate to the Living Murray process and the national water initiative. So there will be input on the Murray Darling Basin Advisory Committee.

Dr SEARSON: I think it behoves all the catchment authorities to have good relationships between them. Certainly, that is what I intend promoting and we have already done that, in that we have got a number of projects which we have got funding for, or programs, which we have put up on a cross-catchment basis. So I see that as very positive and we have good relationships with the catchments around us.

ACTING CHAIR: Is there anything else anyone would like to add? I am conscious of the time but I certainly do not want to cut off anything else if you think you have got anything to add, and apart from this process if there is additional information you would like to get back to the Committee, we are happy to take that on board.

Mr BAXTER: As said earlier, it is early days for the CMA and I am just not sure what your timeframes are, but just looking at your terms of reference, I would like to address each one of those from our catchment perspective. I think your points (a) to (f) are some quite real and meaningful issues that in some ways we have not actually addressed today one by one, and we could be all day doing it, but I think that if I could take some time to forward you some thoughts on that I would like the opportunity.

ACTING CHAIR: We can certainly do that. I have got to go and chair another meeting at one o'clock.

Mr BAXTER: No, not right now but I mean--

ACTING CHAIR: We certainly accept that and we can make those arrangements. I think we are looking to have a report completed by towards the end of the year.

Mr BAXTER: I had no idea of your timeframe.

ACTING CHAIR: It is not next week. It will be probably in the September time, the spring sitting of Parliament. We take on board that you wish to have an input into those other terms of reference and we will make the arrangements to afford you that opportunity before the end.

Mr BAXTER: Yes, I would like the opportunity to respond specifically to those.

Mr McDONALD: In regard to that, I was asked specifically this morning to ask you and the Committee to Walgett. There are a lot of issues around Walgett.

ACTING CHAIR: That has now been recorded and it will come up in our next meeting on our next sitting Thursday.

(The witnesses withdrew)

(The Committee adjourned at 12.55 pm)

REPORT OF PROCEEDINGS BEFORE

**STANDING COMMITTEE ON NATURAL
RESOURCE MANAGEMENT**

At Sydney on Thursday, 13 May 2004

The Committee met at 11.00 a.m.

PRESENT

The Hon. Pam Allan (Chair)

The Hon. R. Amery
Mr G. Aplin
Mr G. F. Martin
Mr D. Page

Transcript provided by CAT Reporting Services Pty Limited

CHAIR: I now ask the officer to read the Legislative Assembly's Standing Orders 332, 333 and 334 in order that the witnesses and other interested persons may be aware of the procedure for examination of witnesses by the Committee.

COMMITTEE MANAGER:

Standing Order No. 332 - Examination of witnesses. Witnesses shall be examined on oath or affirmation as follows:

- (1) The chairman may first question the witness uninterrupted upon the subject of the matter of the inquiry.
- (2) Other members may then ask questions.

Standing Order No. 333 - Recording of evidence.

The questions and the evidence of witnesses shall be reported by Hansard unless otherwise ordered by the Committee.

Standing Order No.334 - Correction of evidence.

Witnesses may correct their evidence. Corrections shall be confined to verbal inaccuracies. Evidence can only be altered in substance by re-examination.

HELEN FOARD, Fresh Water Manager, World Wide Fund for Nature, Australia, 235 Jones Street, Ultimo, and

WARWICK RICHARD MOSS, Economic Policy Officer, 235 Jones Street, Ultimo, World Wide Fund for Nature, Australia, 235 Jones Street, Ultimo, affirmed and examined, and

STUART JAMES BLANCH, Fresh Water Manager, World Wide Fund for Nature, Australia, 235 Jones Street, Ultimo, sworn and examined:

CHAIR: Thank you for appearing before the Standing Committee on Natural Resource Management today. We are delighted to hear your evidence. You have been issued with a copy of the terms of reference and you have heard them read. We really appreciate your coming before the Committee today. As I understand it you have a presentation you would like to give and then we can have questions.

Dr FOARD: Thanks very much for having us along to your Committee. Just by way of introduction to the National Water Initiative and WWF's role and interests in that, I will run through a few slides and I am happy to have questions afterwards. Essentially from WWF's perspective and from all Australian's perspective, we see the National Water Initiative as a fantastic opportunity to secure Australia's water future for the environment as well as for all water users. It is about really striking a balance which will give us a lot more confidence in the way we use water and the way the environment is protected.

Just a bit of background, I am an irrigator from East Gippsland, a bit of a minor irrigator, but our family has a groundwater bore. That is actually me standing up there and Grandad in the background and my two sisters and we drilled a bore in 1972 and we had fantastic flow. There is Dad with his gumboots soon after we drilled the bore. It is an artesian bore. It was free flowing. The story behind it is that over the last 30 years we have lost that resource and it has been going down, losing pressure of a metre a year. The reason for that is offshore drilling has taken the pressure out of the system and water as a by-product and it has basically destroyed the sustainability of that system. Not only is that a disaster from an environmental perspective, we have ruined a fantastic natural resource, but it is an opportunity lost for other people in East Gippsland to be able to use that resource.

It is really important that we have a good set of rules and regulations in place to make sure that this kind of disaster does not happen. We have been chasing that water down the hole for ten years. We have had to put one sort of pump and another sort of pump and this was in the drought last year. This was for stock water as well as irrigation water. My background gives me an understanding of the types of challenges that the irrigating community faces and the people who use water, which is everyone, as well as the environment. I am a greenie.

We have a wetlands area on the Gippsland lakes. We are doing some work to protect that. This is the Gippsland lakes, if anyone has not seen them. They are a fantastic inland lake system. That is Lakes Entrance there. These are a few of my little photographs. There is a bird habitat there. Birds are looking for places to live and if there is nothing natural around they will look for somewhere else to live. With the National Water Initiative, the key message is a balancing act. We are looking at balancing a variety of things, security for water users versus the need for adaptive management, the need to plan and be able to know when we need to put in place a system that will give everyone an understanding of when their allocations might need to be adjusted, for a variety of reasons, but including, in particular, to make sure the environmental values are protected over time. It is about getting a system of national compatibility and consistency, and this is important for trading, versus the flexibility to allow local initiatives to happen. We need to strike that balance. It is the need for better information to prevent further deterioration and an efficient market system versus the need to put in safeguards to protect the environment and third parties.

Some key environmental aspects we want to see come through in the National Water Initiative are to address over allocation and over use. We are really looking forward to seeing to what extent the New South Wales amendments address this problem. We are not going to pass judgment today on that because we want to look through in considerable detail what was put forward in the House yesterday. We have been asking to what extent the amendments will meet the objectives of the

National Water Initiative in terms of restoring over-allocated systems. There is a lot of evidence around and discussion that the water sharing plans which are going to be signed off do not restore systems to long term sustainable levels. We need to see what else is going to be done to out-perform the plans if need be. We are particularly looking forward to seeing what New South Wales is going to put on the table in terms of the National Water Initiative in that matter. As part of the National Water Initiative we think that there needs to be much clearer specification on what the environment needs and legal recognition of what the environmental allocations are.

The environmental outcomes need to be clearly demonstrated. That includes proper measuring and monitoring of what is going on, integrated whole of system planning, and from the national perspective we want to get good direction about matters including water crossing State boundaries and how that fits in with planning frameworks and over-arching planning arrangements and where water sharing plans fit into that, and we need a really good understanding of how we are going to prepare for the future impacts, such as climate change, change in land use and so on.

Just a little bit about why is it that getting water for the environment is so contentious. For one there is only one pie and you are splitting it up, and the water users and the environment can sometimes, or are often, competing for the resource. You can not get around it; that is a fact. But there has been a history of vague concepts and a lack of clear specification of what the environment needs, a history of arbitrary decisions both in favour of the environment and in favour of water users over time. There is this issue of politics versus facts which needs to be got rid of and that is the whole system about having a security and certainty in the processes.

There is also this situation we have of general pressure due to drought which is causing big problems and a lot of angst. We are looking at seeing some solutions come out of the National Water Initiative, and perhaps they will be in the New South Wales amendments, but, as I said, we need to analyse those in considerable detail and it is a bit of a phone book, so we will busy over the next week or two. We need clear definition and legal status for environmental water; decisions need to be underpinned by best science and community consultation; clear processes for adaptive management; water accounting to internationally agreed standards.

Some people's eyes glaze over when you talk about water accounting. We think water accounting is absolutely fundamental to our water management. The National Water Initiative needs to give direction to provide national water accounting standards. How can you trade water without really knowing what the rules are for accounting for water? It comes with business, not really a question asked, but it is not really there to back up water trading at the moment. We think a nationally co-ordinated knowledge strategy to strategically plan and fill in the gaps where there are knowledge gaps is an important outcome we want to see out from the National Water Initiative. We think that the rivers, estuaries, wetlands, ground-water systems of Australia must be given first priority call on water to keep things healthy, as the Wentworth group have advocated, and a lot of people recognise that if the environment is not given the number one priority to be protected it will lose out to everyone else. That is fundamental to our position.

I will not go into too much detail on that but basically we think that there needs to be fundamental water which is untradable and there for the environment to meet basic and fundamental eco-system health requirements, and that must be clearly set out in the plan, no questions asked, no trading, it is there, it is for the environment. Also there is room for adaptive and discretionary water which might be flexible but with the strict rules about the ultimate goal being long term environmental benefits.

Just generally, this is really important before we go too far down the track, while we do support trading as a way of getting better environmental outcomes and moving towards more efficient water use over all, we think that there need to be firm and clear rules set with lots of consultation around this issue, which we think has not been done enough yet. We are looking for that in the near future. We want to see firm and national trading rules set in place so there is guidance from the National Water Initiative on detailed rules for trading but we want to see source, destination and cumulative impacts dealt with in those rules. Where you are trading out and where you are trading to and the cumulative effects of water trading are dealt with, and the recognition that permanent trading and temporary trading will need to be sorted out and perhaps different levels of requirements for those two types of trading with permanent trading obviously requiring a higher bar or higher set of rules

than temporary trading. The question of whether environment water should be traded is important. There is some scope for trading environment water but that needs to be handled carefully for the purposes of improving long term environmental goals.

I wanted to make one comment about knowledge and science because it has been very controversial and I think misunderstood. Science is about change in a way. It is inevitable that our knowledge will change over time and we may start off with knowledge gaps but we have to have the courage to act to prevent things happening and take a precautionary approach. By way of an example, our understanding of aquatic food chains has changed in recent years. Since the 1970s and before I think every one will recognise the classic food chain, phytoplankton being eaten by little zooplankton and fish, probably everyone learnt that at school. Over time our understanding has changed and we gradually have understood that the role of microbes, bacteria and flagellates which waggle their tails, and whatnot and feed, are really important in an aquatic system and over time that has become even more complex. Our understanding of food chains has really changed fundamentally and that is all about science. It is not something which we criticise science about, we should expect that it will change over time and we need to put systems in place which deal with that. There is another little picture of these guys operating in water. Most people do not think about these guys, but it is about fundamental water quality and a whole lot of activity going on which looks after our fresh water systems. I thought I would throw that in.

On knowledge and science, if we had known what we were doing to our environment when we stepped up land clearing over this century and before, we probably would have made some different decisions and that is where a precautionary approach is really important, then we can all enjoy a much happier and healthier environment.

CHAIR: Stuart, Warwick, are you going to comment at this stage or not? I am sick to death of asking questions about ABARE and Young and McColl, so perhaps you could tell me what you think of those questions. You have referred to a number of the issues. Is it relevant for us to be asking those questions or not?

Mr MOSS: I think not. The most important things we would like to talk about are really in relation to the overall institutional relationships of the issue of integrated catchment management and how water is being treated in the whole scheme of things.

CHAIR: We are interested in your vision of who would make those decisions.

Mr MOSS: Maybe talking about market based instruments in a more general sense and what we think is good about them is probably worthwhile. The focus on the Young and McColl and ABARE stuff has been very focused on a particular aspect of water salinity. We have a short and a long answer. The short answer is fundamentally we agree - it seems that ABARE and Young and McColl are saying: These are complex issues. The way we thought they might work has led to complications that we did not recognise. We thought if we got water use efficiency savings we would solve our problems. That created a stir. The real upshot is that there is nothing in that that we have a disagreement with. We think if a salinity credits scheme could be set up appropriately and did not cause other damage by way biodiversity issues, it would be fine. We tend to support trading on the whole, as long as environmental harm does not occur and preferably if environmental benefit could be assured.

CHAIR: Who will determine that?

Mr MOSS: We have talked about this quite a lot. I guess you need to have appropriate rules, and these would be established through the National Water Initiative framework. The MDBC have done a lot of work on those type of rules and the States would have a lot of ideas. Our view also has been the catchment plans have to drive a lot of that.

CHAIR: The current system as it is developing you are not dissatisfied with in terms of them having the power?

Mr MOSS: No. Would that be fair? We think there are issues within the system.

CHAIR: Accountable power.

Mr MOSS: The accountability would probably be acceptable to get to the right rules.

Dr FOARD: I need clarification on who we are talking about as "Them".

CHAIR: I don't know who they are, that is what I am saying, because I think it is evolving. It will be the CMAs.

Mr MOSS: The CMAs cannot have the sole role I guess is the answer we have always had. Mars and Jacobs did a review of the national water trading framework a few years ago which was looking at devolving that responsibility. What we have said is you need more local input and community involvement in establishing the rules and managing the resource but you cannot devolve it to the point where there is no guidance and the overall national needs are not clearly articulated and put down.

Dr FOARD: What we want to see come out of the National Water Initiative is clear direction on various levels of responsibility and we think there needs to be certainly some leadership from above to be able to audit what is going on. It is very important. We are thinking as far as this plan and whole of system approach, we want to see clear specification of planning areas, scales and nested planning arrangements at the basin and catchment or aquifer scales for systems that are linked, so getting a really good picture. It should become much clearer. At the moment it is a bit vague on how everything is integrated. We want to see maps, designated managers for the planning areas of various scales. The CMAs will have responsibility for that more localised scale but there are going to have to be over-arching arrangements. That is where the National Water Initiative can provide some good direction and clarity on this issue.

The Hon. RICHARD AMERY: Do you see the National Resources Commission as being pivotal to all that, Professor Parry's new group?

CHAIR: He has the auditing role.

The Hon. RICHARD AMERY: It is an auditing role but still it is overseeing.

Dr FOARD: Certainly in the State of New South Wales, sure. We are really looking forward to meeting with the commissioner and being able to discuss that role and we think it is a valuable new process in New South Wales, but remember rivers and aquifers do not stop at State borders. Beyond that we need something to be able to see what is going on from a broader scale than that. It is quite artificial. We are victims of our history and the fact is that there are State borders which are putting a whole lot of barriers in the way of a really effective and nationally compatible water management system.

The National Water Initiative was all about trying to get over that problem and we are hoping, we are wanting to see how that is going to be delivered and really it is about the States co-operating and having the will to participate in this fantastic opportunity. We are worried actually that the States may be being recalcitrant on this and we are nervous that they will not go as far as they could.

The Hon. RICHARD AMERY: Any State in particular? Queensland? When the Murray Darling cap situation came into play most of the catchments were in New South Wales. As a State we got up to a cap management strategy. The whole State collectively as far as volumes were concerned complied very rapidly. Every now and then one catchment might be over and one might be getting close to breaching that cap management deal that was put in place in the mid 1990s, but Queensland just ignored it and as of a year or so ago was still not coming up with a period of time when they were going to cap their period of development, arguing some political argument about the timing of their own development.

The National Water Initiative is fine, but you said we are captives of our history. I suppose that is true. Unless there is legislative constitutional change as to how we can get compliance from the States, a lot of this is going to depend on good will and recalcitrant States can continue to do what

they want to do. The pressure is on New South Wales and the Murray Darling Basin. That is fair enough; we are probably the larger slice of it. The biggest problem was that it was all meaningless unless we could get our northern friends to start complying. I think there have been some nice sounds coming out of Queensland in recent times but they have never been keeping up to speed with the other States as far as compliance to this. I was thinking when you said some States were being recalcitrant, that the Queensland situation is still continuing on.

Dr FOARD: I just make the point that we will reserve our judgment until we see what is on the table because at the moment there is nothing on the table but there is a deadline, and again it is a moving feast, but 25 June has been set down as a COAG meeting. So we are looking to see how that pans out as far as the degree of specifics which are in the intergovernmental agreements. We are looking for some specifics. They might be able to come up with high level principles. If that is high level principles, we would be disappointed and see that as a missed opportunity. I am going to, at this point in time, reserve judgment beyond that.

The Hon. RICHARD AMERY: One of the ones they used, the competition policy, has financial penalties. In one particular case in Queensland, Queensland just copped the financial penalty; it was better for them to cop that than comply with a water reform process.

Mr MOSS: I agree with you and I think what happened in that case, in terms of Queensland not signing onto the cap the way they did, is that they negotiated an agreement about equity in the first instance but then they consistently failed to meet requirements after that, and the audit group continued to say, "You are in breach", and they ignored it.

Related to that and Helen's concern is that we are worried about the role of the MDBC, and the impression we had is that it was doing a lot to bring together the States and get that co-operation. It is a speculative comment to you, but from our perspective it seems that that is breaking down, those teeth are disappearing even more and the States are forced to try and develop bilateral approaches, and in the whole context we would say that the MDBC really needs to be revisited and worked out in a way that it can get back to some of its original principles to get the States to work together. It is fairly speculative because that might be controversial with other people.

Dr BLANCHE: I suspect this is the last chance for a negotiated whole of Australia jurisdictional approach for water management, particularly for the Murray Darling. We have another COAG agreement this year. In the next five or ten years if we cannot find the adequate resources and regulatory approach, particularly for the Murray as a resource, then I suspect the Commonwealth will take a much stronger role, using whatever constitutional capacity it has. It will not be able to amend the constitution easily but there is adequate head of power there for a stronger role, both through some sort of regulatory approach and constraining trade, and this is a challenge. I suspect this is a decade of opportunity and the National Water Initiative is the vehicle.

I would like to get back to your question about integration. The CMAs should not be allowed to be a vehicle for reducing the environment Minister's concurrence powers. At the moment they are already quite constrained, I think politically within Cabinet and only legislatively through the Water Management Act, through gazetting the water sharing plan. In terms of auditing and annually accounting for environmental water, whatever class it is, there should be a role, in our view, for the environment Minister, perhaps on an annual basis, perhaps through the NRC, or perhaps through a different mechanism, to do that.

Secondly, DIPNR and the Minister are, in our view, potentially liable to a significant legal action from third parties for failure to conduct adequate environmental assessments on issuing of water licences, extraction, water use, water works approvals under Part 5 of the Environmental Planning And Assessment Act. We received legal advice on that in the past. We understand DIPNR's legal unit is hoping that we might have the correct legal advice but are waiting for a challenge to occur. If a conservation group, an indigenous group or a fishing group, took action over the issuing of a licence, say in a big regulated valley, the Murrumbidgee, and the Land and Environment Court found that that licence was not issued for the purposes of Part 5 of the Environmental Planning And Assessment Act, that would greatly undermine the security for water users in the State, 130,000 licence holders, and there would be a mad panic for six or twelve months for the department to retrospectively approve all of those licences through the water planning process. It would provide

adequate assessment; there would not be adequate science invested in doing environmental assessments, particularly with the reduction in the capacity of DIPNR's scientific units to do good science. That is a major liability ahead for the Government if that does occur. That is something that does need to be taken into account, because the water sharing processes do not come nearly close enough to sufficing the requirements for environmental assessment.

CHAIR: Do you see the CMAs as picking up the scientific resource or knowledge?

Dr BLANCHE: They could. As Helen says, it is unclear.

CHAIR: They are picking up a lot of staff.

Dr BLANCHE: In relation to water trading and aquatic matters, there are a lot of CMAs in the inland that do not have any or nearly sufficient aquatic management or aquatic ecosystem expertise on boards. They may take those resources as part of staff from DIPNR, but the reason we are going down this path of natural resources reform ostensibly is because there is great concern that the way water resource management is being conducted by the department at the moment is not adequate. So if we are taking the culture and a lot of the expertise from the department into the CMAs, it is no guarantee that that expertise will be in the CMAs to adequately manage and enforce regulations under these various pieces of law. We do not have that confidence yet. It could turn out that way, but the experience in Victoria and South Australia where you have devolved authority to the boards with the capacity to raise levies or not, they are still held on a short leash by Government through funding arrangements or replacements of boards if they displease the Minister. There is no guarantee the CMAs will provide that opportunity.

CHAIR: We had senior officers from the environment and conservation come in last week and we asked them what their role was going to be in terms of providing this important scientific advice to CMAs and they said, "Yes, we will be able to provide it. It will be available. They will be able to come to us and get the same advice they currently get". What do you think about their continuing role? Other than the Minister for the Environment's concurrent role, what about on the ground, these people, previously national parks and previously EPA, assisting us at the moment?

Dr BLANCHE: Very unclear and I would not have the confidence that across all their portfolio they would be able to do that. There is minimal experience in relation to water trading salinity within regions. They could have that role. I suspect they will be pulled in by CMAs formally or informally to advise on how to manage environmental water trade, et cetera. I suspect that there is a need to have clearer, more formal lines of concurrence for the Minister and higher level interagency sign-off between DIPNR and DC, and at the moment I do not believe that is in place.

(Short Adjournment)

CHAIR: We decided that we were not confident in the ability of the conservation agencies. You are right that they have good expertise and they have blanks, but this area we are dealing with has blanks across the agencies. I do not think that they are exceptional from that point of view.

Dr BLANCHE: I think the whittling away of the role of the CNRs, the natural resources in DIPNR, which is Armidale based, is devolving those out to the regions.

CHAIR: Which one is this?

Dr BLANCHE: The one based in Armidale, next to the university, which is the think tank for most of DIPNR's centre for natural resources.

CHAIR: Is their equivalent going somewhere?

Dr BLANCHE: That is the science group.

CHAIR: Aren't they going to Wellington?

Dr BLANCHE: The vegetation reform unit is going to Wellington. I think their role is

being distributed out to the regions. So the capacity for them to be a bit removed from, in point of pro water use groups, will be reduced and their capacity to provide independent long- term research will be reduced.

The Hon. RICHARD AMERY: You have the unit up there that is within the university which is independent of the DLWC, but also there is the DLWC unit. I could not tell you where they are going. I would be surprised if there was any movement up there.

Dr BLANCHE: That is the group that Richard Torbay essentially got put in to Armidale, working with the university.

CHAIR: He was the Minister at the time.

Dr BLANCHE: I remember. My understanding is that that group has been whittled down or shut down. I think that was a great initiative and moving out to the regions will weaken it. DIPNR's capacity for science is weakened. The senior managers might be saying all is well in DEC and they are having buy-in, they are at the senior NRC levels, like Richard Kingsford has been doing good work, but the people on the ground that have to manage the Macquarie Marshes Nature Reserve to make sure it gets enough water, RAMSA sites, when New South Wales Fisheries finally establish aquatic reserves across fresh water ecosystems the on ground people and the scientific people in the regions, there is a disconnect between the capacity to influence senior level policy.

CHAIR: Has anyone any increase in resources to be able to do that? Has there been any commensurate increase of resourcing of those issues? In theory there has been but on the ground has there been?

Dr FOARD: One of the things I said before about knowledge strategy, and that is funding, we want to see lots of funding. There is a lot of pressure of getting accountability in the systems and measuring, monitoring, you need resources to do that. Out of the National Water Initiative we want to see real funding, long term, from the Commonwealth and the States.

The Hon. RICHARD AMERY: We had a presentation here from the new Department of Environment, national parks, and although they answered a question here that they had taken over no roles of the former Department of Land and Water Conservation, let's find out whether any of those new agencies, or combinations of agencies, have some of the scientific role now. Although their answer to us was pretty clear, that they did not inherit anything from the Department of Land and Water Conservation.

Mr MOSS: I cannot say on the ground. I have not done the figures. I would not know. But certainly a concern we have with the nature of the reforms and devolution to the CMA is that there does not seem to be the same focus on the regulatory aspects that are left. It is very unclear to know whether the overall integration is in fact going to happen. The classic example at the moment is State Water corporatisation, the draft bill. The whole focus is on what the role of State Water will be and what it will manage and what it will take over. There is an enormous amount left for DIPNR and the other agencies. None of that is articulated; we do not know whether there is more money for that. Our argument is that there will be more money needed there, but the reforms are scaring us quite a bit because there is corporatisation and devolution, that there will be quite a trim, lean regulatory system left over which will need even more funding to do some of the core things needed. I cannot answer if there is more or less but we are concerned that there will be less focus on that aspect.

Dr BLANCHE: I suspect things like metering, which has always been a major problem for water, it is expensive and cost sharing through IPART is problematic.

Mr MOSS: Unregulated rivers are still unmetred.

Dr BLANCHE: More gauges in unregulated rivers for implementing water sharing plans, they are the easiest things to chop from the agenda and that is what has happened in the last six to twelve months. DIPNR has put more resources into compliance at a head office level and that is good, but the dollars for auditing annually or in five years or ten years to make sure water sharing plans meet the objectives, it is one of the unsung heroes of NRN that has to be resourced. It is not a

high profile.

The Hon. RICHARD AMERY: The metering program was a result of the fact that budget money was allocated and it was a gradual progressive project. I am not aware of how that is going, how many properties are being connected, how many catchments, how many river systems are being metered and the like. We might be able to find out some information on that.

CHAIR: Was Tom Parry in favour of metering or anti-metering? I imagine he is going to push meters.

Dr FOARD: Fundamental to the whole water management system is accurate accounting, measuring.

The Hon. RICHARD AMERY: They have to allocate water to area and volumetric conversions.

Dr BLANCHE: The majority of unregulated rivers and perhaps even non-high profile groundwater resources are not metered and a quarter of regulated river licences are not metered river pumpers. Gravity fed irrigators in the big irrigation corporations are a different issue; they have their Dethridge wheels. If not tampered with, which still happens, they can provide some level of accuracy. In unregulated rivers where trading is going to commence on 1 July, and in ground water, there is a dearth of metering. Through the IPART process there is a cost attribution to Government and water users to say who pays. If adequate money is not allocated by Treasury to fund a meter, IPART does not have capacity to reclaim through an annuity process money from irrigators to pay off those meters, so the meters just do not get put on. The irrigators may be told you have to pay fifty per cent for metering, or twenty-five per cent or seventy-five per cent, but unless Government provides the money to buy them and then claim water money back from IPART from water users, they do not happen.

The Hon. RICHARD AMERY: We need to find out what has been the progress in that area. It is an ongoing program. Particularly if you are going through volumetric allocations, you have a process of allocating an estimated volume and then you have to give them an opportunity to make a submission, and then you go through a process of giving them the final allocation. I think, to be fair to the organisation, it has never been the number one item but it has been a progressive program over many years. Whether it has slowed, you are suggesting it might have stopped.

Dr BLANCHE: The discretion of the regional directors is very important.

Dr FOARD: The other thing we have to think about is the opportunity for restoring over-allocated systems and over-extracted systems. One of those is being able to invest in metering and realise that there have been errors there and be able get some of that water back in a pretty straightforward way. That is an opportunity being lost at the moment because irrigating districts are investing their own money, the policy being let's keep the savings. If the Government was prepared to put the money in, there is a real opportunity to get water back that way. Done fairly, it should be looked into more.

Mr APLIN: Can I focus on salinity for a moment? In relation to the regulatory aspects we have been talking about, how do you see the impact of water trading on salinity?

Dr BLANCHE: Potentially detrimental. I don't think there are any regulations yet under the Water Management Act to constrain the discretion of DIPNR bureaucrats to what sort of level of assessment is required. If you investigate the water management procedures that the department has drafted which are supposed to be the administrative process for assessing salinity impacts on trading, they are potentially going to end up a "tick a box" exercise rather than adequate assessment for the purposes of the Environmental Planning and Assessment Act.

My understanding is that the salinity thresholds which will impact on biodiversity, which largely start around 600 EC, do not rate a mention at all in the guidelines for assessing impacts of trading on salinity. It is the impacts on cropping and human use, understandably, which are the numerical thresholds which really start to bite. So the department I don't think is adequately looking to ensure that biodiversity is protected through trading. There is certainly not an adequate level of

assessment at the catchment level.

The Hon. RICHARD AMERY: If the Minister was here I think he would dispute that. You would not be satisfied with the trading but there is a process of impacts of trading before those approvals are given. You are saying they are not strong enough?

Dr BLANCHE: I think they do assessments. For example in the Barmer Miller choke in the Murray you can not trade downstream. That is great. That is one of the most obvious and well known ecological impairments to trading. There are others inland which are not as obvious and are not as much in focus and it is difficult to work out what the constraints should be numerically without some obvious physical constraint flooding the flood plane. There has been no public release of the integrated assessment procedures by the department for comment. They may be very good on paper, but with the emasculated regions it will become, a "tick a box" exercise is a threat. With inadequate research by DIPNR through the CNR emasculation or DEC, you do not have the level of science to guide junior DIPNR officers going out and saying, we should not allow that trade or we should allow that one but not that one. It becomes an exercise of existent trading.

Dr FOARD: I would like to flag an overarching issue too, and in a way this may or may not come out of the National Water Initiative as well, but it is really about what kind of framework you have in place as far as requirements for water use permits as well. You might think of a trade in a number of ways. That comes down to the robust separation type of situation, where you have your ownership of a right to a defined resource through a share of that resource, but that does not actually give you the right to take and use the water as such. So, you can be trading that right without having any impact on the environment at all because you are not using the water, it is just a change in ownership. That is that separated element. It is all about how well you regulate how the water that is taken and used. If the rules are strong you are going to be a long way down the track. The framework is fundamentally important in terms of trading. We support a robust separation model. We will be able to provide the Committee, if you are interested, in the next week, with what we would see as the best practice framework.

Mr MOSS: Back to Stuart's point where he is talking about the assessment of the actual trades, in relation to that water use aspect we are also quite concerned that in the lead up to July, with so many changes happening very rapidly, that as you are inquiring into various aspects of what is happening, looking at the assessment process for the water use approvals would be a great thing for the Committee to do. Our concern is that in the rush, that is becoming so streamlined that a lot of the complexities mentioned in the reports is lost.

CHAIR: We really would like to pursue a practical and purposeful relationship with you. We would be interested in some follow-up on that framework and also if you think we have managed to ignore the obvious, we are going to be ongoing and monitoring the situation, we are very proactive on the issue and we realise there is immense environmental change out there politically as well as practically on the ground. We would like to develop an ongoing relationship with you and talk about the sort of things that we are trying to work into our reports and we would be happy for your continued input.

The Hon. RICHARD AMERY: Thanks for alerting to us for some things that may be happening.

Mr MOSS: There are a number of points we would like to make.

CHAIR: Helen, did you have anything else you wanted to say.

Dr FOARD: Not at this stage.

(The witnesses withdrew)

(The Committee adjourned at 12.30 pm)