



COMMONWEALTH OF AUSTRALIA

# Official Committee Hansard

## SENATE

STANDING COMMITTEE ON ENVIRONMENT,  
COMMUNICATIONS AND THE ARTS

**Reference: Water Amendment (Saving the Goulburn and Murray Rivers) Bill 2008**

TUESDAY, 14 APRIL 2009

SHEPPARTON

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**SENATE STANDING COMMITTEE ON  
ENVIRONMENT, COMMUNICATIONS AND THE ARTS**

**Tuesday, 14 April 2009**

**Members:** Senator McEwen (*Chair*), Senator Birmingham (*Deputy Chair*), Senators Boswell, Ludlam, Lundy, Pratt, Troeth and Wortley

**Substitute members:** Senator Siewert for Senator Ludlam

**Participating members:** Senators Abetz, Adams, Back, Barnett, Bernardi, Bilyk, Mark Bishop, Boyce, Brandis, Bob Brown, Carol Brown, Bushby, Cameron, Cash, Colbeck, Jacinta Collins, Coonan, Cormann, Crossin, Eggleston, Farrell, Feeney, Fielding, Fierravanti-Wells, Fifield, Fisher, Forshaw, Furner, Hanson-Young, Heffernan, Humphries, Hurley, Hutchins, Johnston, Joyce, Kroger, Ian Macdonald, McGauran, McLucas, Marshall, Mason, Milne, Minchin, Moore, Nash, O'Brien, Payne, Polley, Ronaldson, Ryan, Scullion, Siewert, Stephens, Sterle, Trood and Xenophon

**Senators in attendance:** Senators Birmingham, McEwen, Nash, Siewert, Wortley and Xenophon

**Terms of reference for the inquiry:**

To inquire into and report on:

Water Amendment (Saving the Goulburn and Murray Rivers) Bill 2008

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**Committee met at 10.31 am**

**CHAIR (Senator McEwen)**—I declare open this public hearing of the Senate Standing Committee on Environment, Communications and the Arts in relation to its inquiry into the [Water Amendment \(Saving the Goulburn and Murray Rivers\) Bill 2008](#). The committee's proceedings today will follow the program as circulated. These are public proceedings. The committee may agree to a request to have evidence heard in camera or may determine that certain evidence should be heard in camera. I remind all witnesses that, in giving evidence to the committee, they are protected by parliamentary privilege. It is unlawful for anyone to threaten or disadvantage a witness on account of evidence given to a committee and such action may be treated by the Senate as a contempt. It is also a contempt to give false or misleading evidence to the committee. If a witness objects to answering a question, the witness should state the ground upon which the objection is to be taken and the committee will determine whether it will insist on an answer having regard to the ground which is claimed. If the committee determines to insist on an answer, a witness may request that the answer be given in camera. Such a request may of course also be made at any other time. I also note that the committee has agreed that the proceedings of this committee can be broadcast by the media that are here today.

With those formalities over, I would like to welcome everybody here today. It is not often that we get such a big crowd at a committee inquiry. It is wonderful that you have all taken the time to turn up. I make special mention of our colleagues from the Victorian state parliament who are with us today. I thank them and now call our first witnesses.

[10.33 am]

**BRYANT, Mr Dudley, President, Northern Victorian Irrigators Inc.**

**CROKE, Mr Barry, Committee Member, Northern Victorian Irrigators Inc.**

**DUKE, Mr Garry John, Committee Member, Northern Victorian Irrigators Inc.**

**CHAIR**—Welcome, and thank you very much for coming along to talk to us today. The committee has received your submission as submission No. 26. Do you wish to make any alterations or amendments to that submission?

**Mr Croke**—No.

**CHAIR**—Would all or any of you like to make an opening statement?

**Mr Croke**—Yes, I would, Chair.

**CHAIR**—Please proceed.

**Mr Croke**—The opening statement that we wish to make is really important because we really see it underlining the exciting developments that are happening across northern Victoria. To appreciate that one really needs an appreciation of where irrigated agriculture has been going in recent years. It is really a story about farm viability. Over the 40 or so years leading up to the year 2000 our farms, like most farms, have had a cost price squeeze problem and that has shaped our farm businesses. So if we were going to be in either a survival mode or a growth mode, what we would be dependent on would be increased production that resulted from either more refined management or increased scale. Of course, increased scale usually means being able to find an extra farm or more water.

Fortunately, through the latter part of the last century we did have access to water. You could buy water on the temporary market in our districts so it did allow a typical dairy farm to be reshaped, and that is the sort of industry that has been the mainstay of the farming operations of the three of us and we have reshaped our businesses over that period. Say, for instance, you had been here in this district in 1969. If you had 100 dairy cows and they were producing 3,000 litres, that is 300,000 litres of milk and you were doing pretty well. The problem that we were really facing by the year 2000 was that we needed something like 400 dairy cows to be producing around 8,000 litres, so they would be producing about 3.2 million litres of milk, but we probably did not have a much better operator lifestyle than we had had earlier. In fact, it was probably a busier one. So it is in that sort of situation or predicament—and I do not want to go through all the other industries—that I want to place this water story.

Over the period leading up to around 2000 we had become extremely dependent on the high-reliability water that was characteristic of northern Victoria. It was a situation quite different to that over the river when you went to New South Wales. We had a higher reliability because of the conservative planning that had gone on in the many decades gone by. It was of such high

reliability and the rainfall was so good in those few decades that for 21 of the 25 years up to the year 2000—and I must admit that I, like many others fellows, went for broke—you could get 200 per cent of your water right; in other words, you could get what we call today the high-reliability water allocation and you could get a low-reliability water allocation of the same amount. That was because of the conservative way in which we had managed our reservoirs.

So things were going well but then 2001 came along with a drought that really set us back and made us start to think about where we were going. In the Murray Valley I think we got about 130 per cent that year but we were starting to hurt because we had cut back considerably the amount of pasture that we could grow. Of course our colleagues down here in the Goulburn system were impacted even more severely. So we had that, and then soon after that drought there was then the 80-20 proposal. Of course all of that was coming out of the Living Murray initiative. How was Victoria going to react to that? That crept up on us very quickly. In fact, we do not believe that we were fully engaged in those negotiations, but the Victorian government was exceedingly interested in seeing that it could achieve its share of the Living Murray initiative. When that came about, it really meant that we had lost 20 per cent of our sales, not that we would have ever seen them since because it has not really rained properly since then, and those days have gone. In fact, it has deteriorated to the point where we only get 48 per cent of our sales now because we really had to look at how much water was there and more water which was under sleeper licences was being taken up and when the sums were worked out the best we could ever hope for was about 148. Back then, in the context of what I have been describing, irrigators were concerned and we had no trouble bringing together fellow irrigators to discuss this sort of thing. That is when we formed Northern Victorian Irrigators, in 2004. Not only have we had a lot of meetings around the place with farmers, which have been exceedingly well attended; we have also had many meetings whereby groups of us have gone off to see parliamentarians at state and federal levels and community leaders.

A picture was emerging, and this is the important point that I want to emphasise. Firstly, the Victorian government was very keen to achieve that Living Murray obligation. Sales of water had decreased from what our expectations had been. The Victorian government's investments in infrastructure improvement were rather disastrous as far as we were concerned as irrigators. We had Minister Thwaites coming to the area, and this was about Central Goulburn channels 1 to 4, when there was the initial entry into this new way of measuring water.

What we were playing with was inadequately developed technology that replaced the Dethridge wheel. We were trying to put it into channels which were not prepared for the whole thing and, as a result, irrigators were finding themselves with real difficulties in being able to command the land and put the water on quickly enough. Consequently, field losses of water through evaporation and deep soakage markedly increased. We were quite concerned as to how we could redress this, because it looked as if that type of it bit-by-bit, incremental, investment in infrastructure was going to occur without looking at the total picture. So we attempted to redress that by asking to have a look at the total system. We did not know how we were going to overcome this problem, where periodically money came over the ranges to northern Victoria in an attempt to fix the system but really did not seem to be doing it.

At the same time, water unbundling was revealing further weaknesses in our forms of irrigated agriculture. The sorts of weaknesses showing up were water moving out of these districts to, primarily, greenfield sites and, of course, it was at a time when management investment schemes

were coinciding with it all. Large quantities of water were moving. In some districts, in 2000-07, the figure of four gigalitres comes to mind—they were very big numbers but I do not want to recite them to you just now. We had to stop that because we really believed we should be maximising the opportunities of what we had. The other thing was that, in 2004, the National Water Initiative clearly stated two things to irrigators: firstly, that you are responsible for all maintenance costs and, secondly, that you are responsible for all capital works costs associated with irrigation. When we started to put those sorts of considerations together, it meant that in the Goulburn-Murray irrigation district, although about 11,000 people take water from the system, if you boil it down to the truly commercial operators there are probably about 2½ thousand farms that are entirely dependent on irrigation and are of a commercial scale.

In our deliberations with water people in Victoria and in Canberra, we thought that a bit over \$2 billion was what was required to achieve the upgrade that was necessary on the dilapidated system, and that worked out at \$800,000 a farmer. That is a rough figure, but it is about \$800,000 a farmer if you take the 2½ thousand farms, and that was way beyond what any of our enterprises were able to handle. So, again, what we were looking at was a slow demise, which was actually becoming fairly rapid because, as the water left the district, less and less water was left to run the system—that is, the revenue from the water sold had to run the system and there was less there to achieve it. That was concerning. We were looking at a situation where, on those projections, certainly by about a year ago water was going to be worth just over \$100 a megalitre. Again, with dairying, operating and all sorts of peak efficiencies to produce that extra, that incremental, litre of milk, with water at a bit over \$100 a megalitre, there was 10c of water embodied in that litre of milk, so that starts to question the viability of the major industry of our area.

We then had another problem in that we were aware that Melbourne was running short of water. That was through our contacts, as we had got pretty good at networking by this stage. So there was the problem of Melbourne and the problem of the unbundling. On three occasions—twice here, in Shepparton, and once when I met with then Minister Turnbull in Sydney—I tried to find out about the likelihood of Melbourne being able to take that water. As only he can, Mr Turnbull looked me in the eye and said, ‘Barry, unbundling is here; water trade happens in an unfettered way and Melbourne has the best-resourced, the best-financed water authority in Australia, and they can take as much of your water as they wish.’ We got that message three times because we really wanted to see whether that possibility was for real. I am putting together a whole network of things that were happening around the 2004-early 2005 period. We were left with no doubt that Melbourne had as much right to Murray-Darling Basin water as Adelaide did. That was the example that was used on one of the occasions I met with Mr Turnbull.

Then our discussions extended to another group in Shepparton which were operating as Foodbowl Unlimited. It was in its very embryonic stages but we joined with them expressing our concerns. Their concerns were not so much directly focused on farm operations. They were more about what was happening to the industries of the region and what was happening to the communities of the region, as well as farming. Out of that grew the Food Bowl Modernisation Project Steering Committee. We brought that about through discussions with state parliamentarians—that was quite lengthy; it was over several months—and we developed the food bowl modernisation program. Has your committee had access to that document, Chair?

**CHAIR**—I think some of it is in the papers.

**Mr Croke**—There are many pages in it but ‘The Vision’ is certainly worth reading. What we are on about there is modernisation enabling more efficient on-farm water use through a more responsive water ordering system and about providing a proactive and progressive approach to rationalisation of our current delivery system and improving the efficiency of the delivery system from about 70 per cent to around 85 per cent. That document was what was accepted at our state level. After that, the Northern Victorian Irrigation Renewals Project came into being and they have taken up that vision to implement it. In summary, what I have tried to background there is the way in which we have to have a development that protected northern Victoria and the fact that around 25 per cent or thereabouts of the nation’s food comes from the Goulburn-Murray irrigation district.

We wanted to see our farms remain viable and we certainly wanted to see farms—you just did not waste water. I have only about 1,100 megalitres, and a major channel that supplies me leaks probably 50 or 60 megalitres a year in an IREU system. It is clearly in need of revision. On the other channel there is probably another 30 or 40 megalitres. It is just so obvious that the leakage has to be stopped and, from my perspective, I have to be able to get the water applied to my land in the way it ought to be if I am going to have a viable business over the next few decades. This business of volumes of water coming slowly is quite inappropriate for most of our irrigation. We need to be able to access it properly.

That is how our group, which is primarily interested in the economic sustainability of modern irrigated agriculture, got involved in the whole exercise. I started my career in the area of water. Just before I went to university, I was the first driver of a D8 series H in Australia and, of all things, I was working in constructing reservoirs. I did that sort of work quite a bit; it always excited me. My first job after I left university was working under the Chaffey grant in Mildura, which I did for 3½ years, and that had all sorts of connotations with irrigation. Then in the 1970s I was so interested in irrigation that I did a major study that got national—almost world—standing. The study looked at the dependence of irrigation systems on energy. The system we are at today is incredible in world standing, because every time a megalitre of water flows into a paddock around here it is about the equivalent of 16 litres of distillate in energy terms and is one with the nation, because we generate energy as the water gets to us. That is after allowing for all the construction costs. That led on to various work. Energy was a big issue back in the late seventies, and I worked for the CSIRO, where I reviewed the dependence of irrigated agriculture on support energy for Australia and wrote major papers.

So that perspective has been important to me, and I have no qualms whatsoever in saying I am very proud to see what I believe is a pass to the rescue of the Goulburn-Murray irrigation district, because I truly believe that back at the turn of this century we were facing a fairly quick demise of the system unless some major works were done to achieve it and also to protect us from unlimited, unfettered use of our water by out-of-basin users. I have no doubt that that will characterise water systems throughout the world in the future and that cities will want more and more access; you only have to look at the United Nations projections. But I think that here we have a system set up whereby we have tied down the amount of water that Melbourne can take. It seems strange that as Victorians we are rejoicing in that—that we have put a limit to it—but that, curiously, we have not put a limit to how much water Adelaide, Port Pirie or Port Augusta can take. But we think we have the Melbourne part tied down. I think I will leave it there, because you have probably looked at my paper. I have not read through that word for word, but I am only too happy to have questions.

**CHAIR**—Thank you very much, Mr Croke. Does Mr Bryant or Mr Duke wish to add anything to that opening statement?

**Mr Bryant**—I suppose I can just say who I am and why I have been involved. Barry has covered pretty well where we started from. My point of view is that I have a dairy farm about 30 kilometres from here that my son has just bought from me, so I am not in the game for the short term; I am certainly in it for the long term, the proof being that my son is there. I just wish the same kerfuffle were on at the moment over milk prices, because that has really given us a hiding in the dairy industry. But, above that, the long term is what we looked at. I do not think any of us particularly wanted water to go to Melbourne, but we thought the deal overall, as Barry has explained, was pretty good. It is a \$2.2 billion plan, so we will be relying on your support in the near future to get the second billion dollars—which has been given, but we have not got it yet. I hope you keep that in mind over the next month or two.

It is the sustainability of this area. The big thing that was hurting us was the water that was leaving here. There is an area about 15 kilometres from here called Katandra. That was the jewel in the crown of the dairy industry. Probably 50 per cent of the water was sold out of there, and it is now not really viable for the people who are left there. We were looking at that happening all over the GMID, so that was our threat and that is what got us going. As I said, we were not particularly keen on sending water to Melbourne but we recognised that there are four million people there and they had the ability to pay to fix up our ageing infrastructure. We were being expected to pay for an infrastructure system; our grandfathers, our fathers, we, our kids and our grandkids were expected to pay for the whole lot at once through the National Water Initiative, which says ‘full cost recovery’. As Barry pointed out, we could not possibly do that. So we needed help and we got help, and part of that deal was history.

**CHAIR**—Thank you, Mr Bryant. Mr Duke, do you wish to add anything?

**Mr Duke**—No, I am fine. I want to hear what questions you have.

**CHAIR**—All right. We will go to questions.

**Senator BIRMINGHAM**—Gentlemen, thanks for your time today. The old cliché goes that politics is the art of compromise, and the message I take from your opening statements is that you have compromised in this scenario. As you just put it quite simply, Mr Bryant, you would rather that the water were not going to Melbourne but you see this as the way of protecting your future demands for water and of securing the funding you required to achieve the modernisation; it has really been a compromise that you have had to strike. Is that a fair summary or précis of the position?

**Mr Bryant**—Yes, I think that is probably fair. To go on a little bit further about myself, I am chairman of the Murray Valley Reconfiguration Group, which is an organisation that was set up after the 80-20 deal, where we were given \$50 million to look at reconfiguration and, in fact, do some reconfiguration. It was the work that has been done in that that convinced me of the water savings that were possible. The length of the channel in the GMID now is about 7,000 kilometres, which is nearly from here to Perth and back, to give you an idea of how many channels we have out here. A lot of those were built 100 years ago, and we think a lot of those can now be shut down, which we have already done.

To me, the disappointing thing is that no-one has taken us up on the offer to actually come out and look at the system to see what can be done. I agree with Barry: there are some exciting things happening out there already, showing huge improvements and great delivery of efficiencies. The federal government put up \$20,000 for irrigation infrastructure just before the election. Last year, at home, my son actually spent that money on fast-flow irrigation stops—six two-metre wide stops on big lasered outlets—and he halved his water use. Water savings are not only in the delivery system; they are actually on the farm as well. So we are quite confident that we can produce more milk with probably less water in the future. It is not something new, but it is exciting.

**Mr Duke**—I think ‘compromise’ is not the right word. It is a simplistic word. To me, when you listen to what Barry said, that Mr Turnbull said that Melbourne have got plenty of money they could come and buy it, the alternative for us was to sit back and do nothing and let Melbourne just come and buy it. Compromise is very simplistic in terms of the whole measure of what was going to happen. We did a deal that we believed was worth every penny. Compromise is not the word that covers it.

**Senator NASH**—That raises quite an interesting point. That is assuming that the sellers in the region would want to sell water to Melbourne.

**Mr Duke**—If you have any idea of what our region is like at the moment, we have sellers out there everywhere because of the drought situation. The idea of willing sellers, which has been pushed everywhere, is absolutely wrong. I do not think we have any willing sellers. We have sellers because of the dire condition we are in.

**Senator NASH**—They are mostly distressed sellers. I agree with that point. I am just interested in your perspective that Melbourne would be able to come and take water. The perspective is that, because the farmers are in such difficulty, they would have to sell to Melbourne.

**Mr Duke**—It is a commercial decision. If you are a farmer—say, Barry has 1,000 megalitres—the price that is offered decides whether you sell, and if the price is right—and there is a price—you keep going up the scale and you are going to get sellers. Melbourne has got money.

**Senator BIRMINGHAM**—It is also assuming that the Victorian government would be willing to allow the entire region to be closed down?

**Mr Bryant**—Does anyone tell me that I cannot sell my herd of cows if I decide to sell them? Does anyone tell me that I cannot? With water, tradable the way it is now—I wish water trading was not here but it is—you are not going to be able to say to someone, ‘At the moment, we look like having a ballot this year to decide who can sell under the four per cent cap.’ Those people are going to accept the best offer and Melbourne will always be able to outbid someone else.

**Senator BIRMINGHAM**—Nonetheless, that comes to the point as to whether or not the Victorian government would be willing to buy out the entire region for the benefit of Melbourne and essentially shut the region down. They have obviously shown by what they have done that that is not their inclination.

**Mr Croke**—If I could comment on that and in response to Senator Nash. Municipalities buying our water is nothing new. We have seen that with Bendigo and Ballarat with what is now called the superpipe. That water has been purchased from farmers. It was purchased from farmers a little differently, though, because it retains the characteristics that it had when it was with the farmer. If they bought 100 megalitres of entitlement they would only enjoy that proportion of entitlement that is available today, whereas the Melbourne situation is a little different in that in their first year they were wanting a particular quantity, but thereafter they were only going to be able to have a portion that was available—that is, a portion of the savings that are available in any year.

**Senator NASH**—To be really simplistic, you agreed to this so that Melbourne could get the water from the potential savings and would not come hunting for water in your patch?

**Mr Bryant**—You are pretty right.

**Senator BIRMINGHAM**—The federal money that was put on the table by the previous government for infrastructure upgrades of the type that we are talking about in your regions—of course, there is a second stage to the modernisation project that will be delivered by that federal money—is based on a fifty-fifty share: 50 per cent to the environment, 50 per cent back to the local irrigation communities. Would that not be a far preferable outcome for the local communities for stage 1 and stage 2 than this one-third, one-third, one-third share?

**Mr Bryant**—It is certainly better.

**Mr Croke**—That is what it is going to be and that is quite sensible. But, again, as I am sure that you would know far better than me, with all the realities of life as they creep up on you, Melbourne could see the likely direction in which their water was going. There was a reasonable probability of a problem, and they had to act with a degree of responsibility to shore up what they believed was a problem they defined for 2010. It was not our job to go and do their books to see whether Melbourne was on the right track. We did not do that. We accepted that there was a problem there and we had to ensure that we retained benefits from that deal. Some of those benefits included the fact that we were going to enjoy a portion of the savings. Originally, the savings were going to go into our sales pool, but we renegotiated that and we are now certain that those savings will become part of our water entitlement. I am fairly certain that they will be about four per cent of my actual water allocation increase. Therefore, on my farm, anyway, on current prices it is about \$80,000 to \$90,000 worth of extra assets which will come to our place eventually when this whole thing settles down and we know how much water saving has been achieved. I think it is a whole mix of forces coming together—it is not one or two things that shape the reality of what happens.

**Senator BIRMINGHAM**—What are your expectations of the security of the savings for each of the three parties—the environment, the irrigators and Melbourne? Does anybody get higher security?

**Mr Croke**—At this stage, no—only in 2010.

**Senator BIRMINGHAM**—And in 2010 who gets higher security?

**Mr Croke**—Melbourne gets a security if they have a shortfall of water they require. There are ifs there.

**Mr Bryant**—Only in 2010? After that, it is one-third, one-third, one-third of whatever the savings are.

**Senator BIRMINGHAM**—And there is equal security, on your understanding?

**Mr Bryant**—Yes.

**Senator BIRMINGHAM**—The impacts of climate change on future allocations and availability of water; how do you perceive those and the impact they could have on the security of each of those?

**Mr Bryant**—That is an area that none of us can speak about with any authority because we do not know what will happen. I would not think that what we are in at the moment is climate change. If it is, we are all in a fair bit of trouble. I should add that part of the deal we did had another component to it and that was a desal plant. That made us fairly confident. A desal plant can produce up to 200 gigalitres. Melbourne's total water use is about 350, so we were fairly confident that the pressure on our 75 gigalitres each year would not be there once the desal plant was up and running.

**Mr Croke**—Can I respond to that. I have a different view to Dudley on climate change. I firmly believe we are well on the track towards it, but a couple of things are happening. We are getting random amplitudes of just how bad things now are, but there is a long-term trend happening. The best data we have is that autumns in northern Victoria will indeed be very problematical things. They always were a fairly dubious entity. An autumn break could be anywhere from February through to August, but now it is erring more towards an August starter. Therefore, it is getting drier and we have all the problems of summer. I think the projections for this sort of district around here are that, in 40 years time, with all the best work I have seen is that it will have a climate more like Griffith. You could go through the Goulburn-Murray irrigation district and recalibrate the sort of climate they will have.

The big point I am trying to make is that we have to be very careful where we use water in the future if Australia is concerned about its food production. We have to use it where we can achieve the best results. My point is that we should be using irrigation water to supplement rainfall and not do what we used to do—and we used to think it was pretty good stuff—green the desert. We have to rejig our thinking where we use this valuable resource.

**Senator BIRMINGHAM**—Can I read something to you. It may be that circumstances have changed since the release of this document. Nonetheless, I will quote:

A key benefit of linking the reliability of Melbourne's entitlement to inflow triggers which are revised regularly is that Melbourne's entitlement would suffer virtually no impact as a result of climate change.

10. On the other hands, the reliability of irrigators; and the environment's entitlements from the FBMP—that is, the Food Bowl Modernisation Project—

would reduce under climate change as the 75 GL of long-term water savings for irrigators and the environment will comprise a greater portion of low-reliability water savings.

That was taken from the Food Bowl Modernisation Project's technical paper for discussion. If that type of outcome were to result where the savings for irrigators and the environment reduced over time but Melbourne enjoyed a higher security outcome then that would be the worst of all outcomes under the project, would it not?

**Mr Croke**—I have not seen the document you are reading from, and I am having trouble accepting that as fact. The figures I have show that in difficult years, the new arrangement, the modernised system, will ensure I have better access to water than I otherwise would had it not been improved.

**Senator BIRMINGHAM**—But not if the first third of savings goes to Melbourne before anybody else gets their chance to have any of the other—

**Mr Croke**—As I understand it, that clearly only happens in one year.

**Mr Bryant**—I think that what you are looking at there is the total amount of water. We are talking about the saved water. If it is 75 gigalitres—75 to Melbourne, 75 to farmers and 75 to the environment, we will all be the same. Because it is water that is saved it is a different product. It will have a better security but it will have a better security for us as well. Do you understand that?

**Senator BIRMINGHAM**—I understand what you are saying. It seems to contradict what is in the statement of assessment here.

**Mr Croke**—The other dimension to that is, I suppose, the magnitude of it all. Let us say that we will lose 75 gigalitres every year. How does it stack up against some of the other losses we have? It is the equivalent of 50 farms like mine. Fifty farms are not that much really. It is equivalent to—

**Senator NASH**—Unless you are one of the 50—

**Mr Croke**—Another example would be the Lindsay River down past Mildura before Renmark, the last reaches of the Murray in Victoria. To supply four almond growers on the Lindsay River we currently have to put 70 gigalitres down the Lindsay—it is an anabranch—to ensure that we have quality and the ability to get water out of that river. We let that water flow into South Australia without even debiting it against South Australia. So there are some very significant parcels of water which we currently live with that we really have not bothered to pick up on.

**Senator BIRMINGHAM**—One last question before the chair kills me: if only 75 gigalitres is saved in any one year, who gets it?

**Mr Bryant**—25-25-25.

**Senator BIRMINGHAM**—That is your belief?

**Mr Bryant**—It is not a belief; it is documented. That is how it is.

**Senator SIEWERT**—I might pick up where you left off, Senator Birmingham. The Victorian government is going to spend a lot of money building a pipeline to deliver its share of the water savings. What do you think will happen when it does not get its 75 gegalitres per year and it only gets 25. Some of the figures I have seen for the flows in the Murray that we are expecting look pretty dire. Have you considered the possibility the Victorian government will come in and say, ‘We’re not going to honour the one-third, one-third, one-third anymore; we’re going to take all the savings’?

**Mr Croke**—In our Water Act the minister has the ability to qualify water rights. It is a predicament that we do face. If that ever happened, society has to weigh up whether we are going to let Melbourne have a bit of water or whether we are going to tell them to just turn the tap off?. The point I really want to emphasise is that it is nothing unique to Victoria. In 1982 I was over in the San Joaquin Valley in California for a couple of weeks and the argument that was raging there was: how much water should Los Angeles be able to take out of the San Joaquin channel? It was the same sort of thing. There was a negotiated trade-off over several years. I have not been to other places but it is well documented—I have only read about it. But if you look at the Tigris River, the Euphrates, the Nile, you will see they have all suffered similar predicaments. That is why if you read the United Nations papers, where it has tried to look at world water resources you will see that is just what it is saying: if real, dire circumstances come our way then cities will certainly take more water. Currently, the rules are stacked such that that will not happen. Unless all of Melbourne’s reservoirs are dry and there is no desalination plant and everything goes bad and by some peculiar set of circumstances we have a heap of water in the Goulburn-Murray irrigation district then Melbourne could draw on it.

**Senator SIEWERT**—So you are quite happy with that scenario.

**Mr Croke**—You cannot be certain of anything in life, I believe. All you can do is have best bets, and I think we have got a best bet.

**Mr Duke**—The document was written in that way to protect us as much as possible and then you have got to go with trust from there on. You have got no choice. You have to write everything you can into the document, otherwise you go nowhere. If you do not have a document that spells out where you are heading and you go, ‘The minister has still got a right to do this and do that,’ you just do not make a move.

**Senator SIEWERT**—All the examples that we used are to my mind examples of poor water management and I would have thought that in 2009 we would have learnt from past mistakes. We have already taken too much water out of this system and isn’t it time that we stop doing that? It seems to me that what we have got here is a process where we are facilitating even more water coming out of the Murray from a system that cannot afford it. I just read in the *Australian* this morning where next year, if the predictions are correct, we will not even meet critical human need for 2009-10. Yet here we are talking about taking even more water out.

**Mr Croke**—I see the picture you are painting there, but we have got to think about the system. I think your system was the Murray-Darling Basin in the comment you just made. We take water out using different approaches in each state at present, overlaying flows—

**Senator SIEWERT**—Those predictions were for the Murray this morning.

**Mr Croke**—That is right, for the whole Murray-Darling Basin.

**Senator SIEWERT**—No, the Murray.

**Mr Croke**—Well, the Murray gets its water out of the Darling part of it. Its water comes from the Darling. We have had not record but very high rainfall events in the catchment—

**Mr Bryant**—Two years running.

**Mr Croke**—but we are not getting water out of that catchment into the river because we have got a couple of states which are very soft on rulings on the capture of overland flow, whereas in Victoria we are quite detailed about what you can do here. In Victoria we are quite different on how we go about having water in store. We have water in store for this year; that gives you your high security water entitlement. Then you put water aside for the next year; that is the second stage. The third stage is, both the environment and farmers can benefit from the water that is there in what we call sales or low reliability water share. For instance, in New South Wales that is not the case. If they have so much water, rounding it off pretty quickly, they really do go for broke each year.

**Mr Duke**—Are you talking about the 75 gigs going to Melbourne and it is wrong to happen? At the moment that 75 gigs is lost, it is gone. It goes into the underground, it leaks out, it leaks out of Barry's channels—

**Senator SIEWERT**—You are going into my next area.

**Mr Duke**—So it is wasted, completely gone. Are you taking it out of the system?

**Senator SIEWERT**—That leads into my next question, which is about efficiency. When you say water is wasted out of the system, it is not wasted out of the system, it goes to the environment, for example, it goes back to the system et cetera. That is another area of my concern, that when you are talking about efficiency gains, for a start what confidence have we in the efficiency measures, and I would like to ask you about that. Secondly, what work is being done to look at where that water goes and how it contributes to, for example, environmental benefits?

**Mr Duke**—You come back to the environmental thing and it going into the environment. That argument takes this us down the track of saying, 'Right, we don't fix any leaky channels because then we would take it out of the environment.'

**Senator SIEWERT**—No, I am not going there. I would appreciate it if you do not put words in my mouth. But I am asking whether that has been properly calculated, instead of just assuming that all the water is wasted and the water we are now 'saving' is new water to the environment. I would like to know whether you think that work has been done.

**Mr Bryant**—If I could come in here, I think what you have got to remember is that the figures were done on a 15 per cent efficiency gained of what the losses were. That is how they

came up with the figures. If you go back about 10 years ago and you had driven into Shepparton and bought a local paper, and it went on for about 10 years prior to that, the biggest threat to this region was salinity. We were actually looking at being finished as an irrigation community because the water tables were so high. That water was not going anywhere, it was just going up. I could have taken you to places on farms out around Centre Road on the best country in the district where you could not put a post in the ground because the water was right at the surface level. So it was not getting into the environment, it was not getting into the rivers.

**Senator SIEWERT**—What studies have been done? I accept your comments about salinity, but what work has been done to show where the water goes and prove the efficiency gains?

**Mr Croke**—I am not able to table today precise data that describes it but I can give you the information that I would hope your committees is able to pursue. One of the roles I have got currently is on the consultative committee for the Northern Region Sustainable Water Strategy. There is a document we have got out already—

**Senator SIEWERT**—Yes, you mentioned it in your submission.

**Mr Croke**—It is a continuing feast. Two of the items on tomorrow's agenda are on the things you have just asked. One is water savings, and it is setting up a protocol and a water manual whereby there will be an agreed process to check off on water savings. I do not want to go into the details there but I have got a paper on that in front of me. The second one is about environment. Our concern particularly as farmers, and I think a lot of us even in the wider community had, was that 'water for the environment' sounds like we should just let the water go for the environment, spill a bit of water and it is for the environment. Environmental managers are now seeing that they have to manage things within a similar set of priorities to what we do as irrigators. In the paper we have got for tomorrow they have graded environmental ecosystems into six groups. We are now developing a process whereby if you want to upgrade that ecosystem from a category 1 to a category 3, and there are all sorts of ecological measuring sticks to classify it, you can say, 'It will need 20 gigalitres. Are we prepared to make that contribution to that ecosystem?' That has got to go on right across the ecosystems that are associated with the Murray-Darling Basin in this 1 to 6 category and there is a process in place to achieve it. I am very confident we are going to have a well-managed system that does it, because it is clear that if the sort of projections I see and I think you see come about we are not going to have enough water for everything a la 1974 and we are going to have to start making choices. There is a process in place.

**Senator SIEWERT**—Thank you for that. If I understand you correctly, what you have just said is that you do not have the data yet but there is a process in place to start collecting the data.

**Mr Croke**—We do not have all the data yet but we have it for quite a few examples.

**Senator SIEWERT**—Okay. But do we have a proper understanding of all the hydrological issues and have accuracy on the efficiency gains?

**Mr Croke**—I think if you asked that question and we were both here in 200 years time the answer would be no. I do not know that we will ever achieve that. I suppose the one that we are still weak on is the relationship between groundwater and surface water.

**Senator NASH**—I have a couple of questions. Given the government's first buyback of I think \$37 million to get 22,000 megs actually on the register and of that only 2,000 megs is real water, isn't it just complete stupidity to be taking 75,000 megs of real water out of the basin for Melbourne when with all the work that has been happening so far we have only managed to save 2,000?

**Mr Bryant**—I think the stupidity is where they have bought the water from. Why would you buy a dammed Tambo Station and still not get the water? The next bloke down is going to get the water. I think that is where the stupidity is.

**Senator NASH**—You answer a different question from the one I asked. I completely agree with you there.

**Mr Bryant**—That is one of the reasons why we got involved. What we have done so far is not the end of it. There is a lot more to come on this water reform, and part of that will be strategic buyback. It will be looking at the areas that are going to be viable into the future. What we want here is a delivery system that is efficient and will see us and our families into the future. That is part of it. At the moment we are very worried with the buyback that is going on. It is not addressing the real issues.

**Senator NASH**—Regarding the savings themselves, obviously this 75 gigs is supposed to come from savings. Are you absolutely certain that those promised food bowl savings can be achieved?

**Mr Bryant**—I am absolutely certain given on a full allocation, a 100 per cent allocation—

**Senator NASH**—You can hear that people are not reacting well to that.

**Mr Bryant**—Let me remind you that if it is not a full allocation it will not be there. That is the deal it has been done.

**Senator NASH**—I understand that in an interview at the end of last year you were asked, 'Do you think the Goulburn Valley will have less water because of the north-south pipeline?' You answered, 'Yes, probably.' Given that the whole plan is designed to deliver more water to farmers, is that not an admission that the savings are not there? On one hand you are saying that the savings are there and then on the other hand you are saying that the valley is actually going to have less water.

**Mr Bryant**—Where that has come from was a YouTube document that was done over at Alexandra and that answer I gave was not to the question that was put on television. I have had an apology from WIN News because of that.

**Senator NASH**—So it actually was not relating to that question whatsoever.

**Mr Bryant**—Not at all. That is what we have got to be very careful of.

**Senator NASH**—Okay. Can I take you back to the last point you made about the full allocation. Over the last, say, 10 years how often has there been full allocation?

**Mr Bryant**—In Murray Valley we have only had two years in its history that we have not had a full allocation. The Murray Valley started in 1948. The Goulburn system has been going a hundred years and I think they have probably had—I am only guessing—five or six years of not a hundred per cent allocation.

**Senator NASH**—And the projections?

**Mr Bryant**—In answer to your question, not too many years have we not have a full allocation.

**Senator NASH**—Finally, on a slightly different issue, I think it was Mr Croke or you, Mr Bryant, who mentioned earlier looking for the second billion dollars. What audit process has been done to date on the savings from the first billion dollars?

**Mr Bryant**—I do not necessarily have that information except to say that Goulburn-Murray Water set up a process to audit those savings. They believe and I believe they have been very conservative, and probably from the practical experience I have had through reconfiguration extremely conservative. I could probably give you an example of one of the reconfigurations that we did up at Katunga and I could take you and show it to you. They replaced about a kilometre of spur channel. It used to take the irrigator every time he watered four megalitres before his wheel started turning to fill this spur channel up, and he watered 25 times a year, so that is a hundred megalitres that disappeared somewhere into this high water table. Now he has got a direct line into the channel, with a nicely lasered drain that does not take anything to fill up. In the figures we are claiming that we actually allowed 32 megalitres of losses.

**Senator NASH**—That is fine. My specific question is, are you aware of an audit process for the first billion dollars?

**Mr Croke**—I touched on that earlier. There is an audit process within Goulburn-Murray Water but it is—

**Senator NASH**—Sorry, I should have said any kind of independent audit process.

**Mr Croke**—There is not an independent one at present—

**Senator NASH**—At present.

**Mr Croke**—but I want to refer to the thing we are talking about tomorrow. First, we need to have this average run of seasons. That is a predicament, what is the base point. The document that we are dealing with tomorrow, that protocol and technical manual, certainly involves GMW, Hydro Environmental. That is an outside group. So they are developing that document to grapple with those issues, because really it is something that you cannot get a handle on until you have seen perhaps five or 10 years of average years, and then there is a degree of certainty.

**Senator SIEWERT**—The point is surely that you are about to invest another billion dollars and there is a commitment made to ship out 75 gegalitres down to Melbourne and we do not have an audit on the first lot.

**Mr Croke**—The fundamental one there is what did we see as losses in the system. We saw that in a normally operating system in the order of 800 to 900 gigalitres, from memory, were the losses. I believe they are well documented and you will be able to access that information.

That was reduced by a half and then reduced again, and we brought it back for the first stage at 250. For the second stage we are still within very conservative bounds, provided we have this average run of seasons that we have known in the region. We are not going to get all the savings if we have weather like we have had the last three years.

**Mr Bryant**—And that will still come back to a third, a third and a third. If there is a 50 per cent allocation they will not be getting the 75 and neither will we because it is not possible. It has been worked out on long-term averages and it will come down. I feel the same as you: I would like to see an independent body set up to do it, but I would have thought that with the Murray-Darling Basin Commission, Goulburn-Murray Water, NVIRP and DSE we have four organisations that have all the figures. Surely between them we can come with something, or do we just not trust government bodies at all?

**Senator BIRMINGHAM**—I would feel little more trustworthy if the Victorian government had the courage to front this committee and give the same commitments to a third, a third and a third.

**CHAIR**—We do need to move on to our next witnesses. Thank you very much, Mr Bryant, Mr Duke and Mr Croke, for appearing before the committee. We appreciate it very much.

**Mr Bryant**—Could I just offer up again the opportunity for you to come and have a look at some of these water savings, because they are very exciting.

**CHAIR**—Thank you very much, Mr Bryant. I will talk to the committee about that.

[11.26 am]

**HARRISON, Mr Christopher Barton, Member, Plug the Pipe**

**NIGLIA, Mr Frank, Member, Plug the Pipe**

**PATTISON, Mr Kenneth, Member, Plug the Pipe**

**CHAIR**—I welcome the witnesses. I bring to the attention of senators and others in the room that Senator Nick Xenophon is in Sydney and appearing via teleconference.

**Senator XENOPHON**—Good morning, Chair.

**CHAIR**—Good morning. Thank you for coming along to give evidence today, gentlemen. The committee has received your submission as submission No. 30. Do you wish to make any amendments or alterations to the submission?

**Mr Pattison**—We wish to table several substantial documents. They have become available to us since we made our submission some months ago.

**CHAIR**—Thank you, that is fine. Were there any other amendments or alterations to your original submission?

**Mr Harrison**—No, thank you.

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

**Mr Harrison**—Firstly, I thank the committee for giving us the opportunity to speak. Over the last couple of days I have been preparing for the hearing and thinking about what I was going to say. As people went on their Easter break, the media reported a red alert on the Murray River. Eight hundred kilometres of the Murray is suffering an algal bloom outbreak. This Easter, tens of thousands of Australians have been warned that, if they come in contact with that water, they may get sick. We may be looking at a snapshot of the future unless we address the Murray River system, the Murray-Darling Basin and the fair sharing of resources into the future.

The Victorian government intends to build a pipeline from one of the Murray inflows that will extract 75 billion litres of water. That is at a time when we are having such incredible environmental problems. My group represents both environmental and agricultural interests. When the pipeline was first announced, there was almost an immediate response of anger, because we were in dry times. At that time, with the addition of the promised 75 billion litres to Melbourne plus the share to the environment and irrigators, the Victorian government's total commitment to this food bowl area in terms of water savings was 520 billion litres. Over the last several years, that has been far more water than has been currently lost.

I note NVI's submission, and I ask the senators to turn to page 7 of our submission. It represents a graph of declining losses. That is the water that has actually been lost from the

irrigation system since 1994. I do not know whether you believe in climate change or you think we are suffering a dry period. That is certainly a trend by anyone's imagination. The basis of this project was 900 billion litres of water lost every year. We are down to something in the vicinity of a third of that. There is no way water savings projects in Victoria can be achieved. There is no way they could have been achieved in any time in the last four or five years. The data that was used to promote this project is fundamentally flawed.

That is the core angle of our argument in terms of water savings. Of course we have to ask the question: what does it matter? It matters because Melbourne will have a billion-dollar pipeline that is stuck into the side of the Murray, and the people of Melbourne will be expected to be supplied with water from that expensive piece of infrastructure. The concerns that we have, and which we have been investigating over the last several months, are about the nature of some of those savings. Those savings plans we will present today.

In recent times—in an *Age* article, and I have given you additional information there—we have had senior people from the department of sustainability saying that the water simply is not available. We have also had revelations that a key report, prior to the building of this proposed pipeline, said that Victoria could do without these two pieces of large and expensive infrastructure—the north-south pipeline and the desalination plant. It also said in that report that the north-south pipeline, if inflows further declined, would be of little use to increasing the water security of Melbourne. The architect of the current water plan, Mr David Downie, has recently stated that water should be considered a commodity and not an essential service. I would say to Mr Downie that if any of our farmers or any of our towns that relied on the Murray for supply suffered a sustained period of the algal outbreak that we have just had, then we would see how much of a commodity it is.

Anyway, that basically sums up our argument that it has created such anger amongst country people. The claims have been astounding. I really thought, when I became involved in trying to do something to stop this, that it was a joke. If you said to an ordinary person that the Victorian government can create twice as much water as is actually being lost, they would think you were being silly. I would like to close off there. Would you like to add something, Ken?

**Mr Pattison**—I am the irrigation spokesperson for Plug the Pipe. As I indicated before, I tabled three documents that demonstrate the totally flawed nature of this proposal for new water where everyone is a winner and we will all go away happy. This refers to a pilot economic evaluation on total channel control on the CG2 channel. This was commenced in 2002. There was an evaluation of this project. This was a project involving Goulburn Murray Water, the Department of Sustainability and Environment and a private company that makes doors and equipment to be installed in channels. In that report, in considering the outcomes of the first year of the trial, after claiming to have eliminated outfalls and losses of a substantial amount of megalitres, they said the efficiency should have been 93 per cent. Unfortunately they came up with a figure of 79 per cent, which they did not expect, and they were in a quandary as to what was wrong. They could have said that the equipment that was installed was inaccurate, but they chose to take the view that the water going into this pilot program was in fact incorrect, ignoring 10 years of consistent inflow figures into this project.

The special project working group that was running alongside this project said that the figures must be wrong. At this stage, the private consultants URS were conducting the review and the

audit of this project. At a meeting in Melbourne on 27 April 2004, they agreed by consensus that 4,000 megalitres of water should be added to the inflow of this channel, and that gave birth to what we are here about today. They inflated the figures and they then had to readjust all the other figures through the system. But that gave them sufficient water to get the balance in that system. That became real. Those reports went in. That then became Shepparton total channel control. Shepparton total channel control says this is merely a bigger version of what is happening in the Goulburn system. They adopted those figures as being real and they accepted that these savings could be made. Then followed the food bowl modernisation—and you heard the story told just prior to this.

Yet again, these figures have now become real and these savings are genuine, ongoing and, every time the system runs, could become available. Therein sits the lie. They are now claiming double what the losses are for the system this year. They are not there, they were never there and they have become part of the psyche of what the Victorian government and the previous speakers supposedly negotiated.

What does it mean to the Murray-Darling Basin? The Murray-Darling Basin is in crisis—there is no argument about that. Why would the Commonwealth government be looking to buy back water, to invest money—a second billion? Why would we be comfortable and happy with water being taken away from the environment and taken down to a population of over four million people in Melbourne when Melbourne has other alternatives? They have other alternatives. They always have, and had they been implemented at the right time—the upgrading of the Eastern Treatment Plant—100 gicalitres of water could be made available to Melbourne people today for secondary uses, for industrial purposes and for parks and gardens, freeing up 100 gicalitres of water for the people of Melbourne to drink.

There are other suites of things that Melbourne have available to them. We do not wish to deny any person the basic right to pure, fresh water. We never will, and that is not what we are about. But this project is based on a lie, on the documents that I will ask your technical people to take. We are more than happy to work through and point in the right direction as to how to get to the bottom of this. We are happy to work with them and show them where it has gone off the rails and I am quite happy to offer suggestions as to how it can be got back on the rails.

**CHAIR**—Thank you very much, Mr Pattison. Mr Niglia, did you have anything to add before we go to questions?

**Mr Niglia**—No, not at this stage.

**CHAIR**—We will go to questions then.

**Senator NASH**—On that report that has been tabled today, Mr Pattison, obviously if what you are saying is correct—

**CHAIR**—Which report?

**Senator NASH**—Sorry, the one that Mr Pattison referred to, with the inflated figures. What is the name of that one?

**Mr Pattison**—*Total channel control system CG2 pilot economic evaluation*. It was done by URS.

**Senator NASH**—That one. If it is indeed the case that those figures have been skewed, doesn't that then throw into doubt all of the data forming the basis on which decisions have been made around getting water through the pipeline?

**Mr Pattison**—Absolutely. That is the fundamental position that I put to you. Having altered the figures to meet the criteria they wished to achieve from this project, it then went on. That company is now the beneficiary of hundreds of millions of dollars worth of work, untendered for, and none of its equipment has been independently assessed as to its accuracy.

**Senator NASH**—Would you see, then, that it would be appropriate for there to be an immediate independent audit of that?

**Mr Pattison**—Absolutely. We believe that is the only way we can get to the bottom of what is going on here. We believe it is in the Commonwealth government's interest. Minister Garrett placed several restrictions when agreeing to the pipeline, one of them being that he was given a guarantee that water could be made and would be made available out of the Food Bowl Modernisation Project. I believe that the Commonwealth government or the Senate should immediately have an audit of what has gone on. Several hundred million dollars has been spent and not one glassful of water has been independently audited to say it is a genuine saving has not been removed from the environment or from the consumptive use of agriculture.

**Senator NASH**—Indeed, it would seem to be irresponsible of any government if that did not happen immediately, given the nature of the information that has come forward today. It would seem that perhaps a body like CSIRO might be an appropriate body to do that. Would that be your view?

**Mr Pattison**—Absolutely. The previous speaker said DSE, the Department of Sustainability and Environment; Goulburn-Murray Water; SKM; and others. Every organisation is tied to government projects and is a beneficiary of the government of Victoria. I think it should be nothing short of the CSIRO, who we would honestly hope would be independent and would have the qualifications and the expertise to do a thorough audit of what has gone on.

**Senator NASH**—And if the government were sure, as I am sure they will say, if they were absolutely certain that everything is appropriate and above board in what has been happening so far, then they could really have no objection to some kind of independent audit, surely?

**Mr Pattison**—Given that the word is that the second billion is just out there, just within grasp, and given the state of the Murray-Darling Basin and the environmental health of the Murray-Darling Basin, it would be proper process to have an audit, because in the agreement between the Commonwealth and the states nearly every page talks about 'subject to due diligence'. 'Due diligence' is an independent audit that we can all trust. If we can have an independent audit and it comes out that there are savings—and there will be some—we will trust it.

**Senator NASH**—Given that these are taxpayers' dollars—the government does not have a bucket of money underneath Parliament House; these are taxpayers' dollars—that are going to be

spent on taking water from the Murray-Darling Basin and giving it to Melbourne, the people of Australia would certainly seem to have a right to know immediately, and an audit process should be done immediately.

**Mr Pattison**—Given that the pipeline is being constructed—10-odd kilometres, I believe, has been constructed—it is not too late to have an audit. We have gone down this track. This document is dated 2004; this is 2009. We should be able to demonstrate that many programs are reaching completion. They are asking to alter the bulk entitlement without audit, and the agreements are that it should be audited before any transfer is made, so I agree with you.

**Senator NASH**—I just have one quick question on a different subject that I think is really quite important. In your submission on page 5 you talk about new water targeted from losses and you refer to three previous water savings programs. The government certainly seems to be giving the impression that the 75 gigs of water is going to come from savings from the food bowl modernisation, but according to your submission there are three programs where there have already been water savings identified and committed to. My understanding is that those have not been committed yet to the Living Murray. Is my reading of your submission correct that the government is planning to use that water as part of the water to go to Melbourne, so it is not just the food bowl project but those other programs where it looks like the government is going to hijack the savings from those projects?

**Mr Pattison**—You have picked on a very important point here. The Commonwealth government, New South Wales and Victoria have contributed to the Central Goulburn and Shepparton modernisation and of course the Eildon quality reserve, which is currently being made available to Ballarat and Bendigo. Melbourne Water plan to utilise that and store up. Those savings that have been contributed to for the environmental health of the Murray are going to be stored up in Eildon to start the pipe on the basis that they have not been allocated. That is where Victoria cleverly outmanoeuvred the Commonwealth when convincing Minister Garrett to approve of this project. I think Minister Garrett actually believed that he was stopping the environmental water going down the pipeline—his words say that—but there is a term there, ‘yet to be allocated’, or ‘not allocated’. That means, of course, that it has not been audited, but they are going to put it away. Chris, could you explain ‘not allocated’ please.

**Mr Harrison**—Yes. When water savings projects are conducted, that generates water. That water is in limbo. When it finally gets allocated, it gets transferred to its pre-described destination—in this case, the Living Murray programs and the Snowy River programs. So you conduct your water savings programs and that water just sits there. It is owned by the Victorian government. It is not allocated to where it was paid for or delivered to it. I am sorry if anyone would like a clarification; I cannot explain that any better.

**Senator NASH**—No, that is very clear. Obviously this water was intended to go back to the environment.

**Mr Pattison**—Yes.

**Senator NASH**—It has been hijacked halfway along to go to Melbourne.

**Mr Pattison**—Yes.

**Mr Harrison**—It is in limbo.

**Mr Pattison**—If it is in fact there—that is what the process of the audit will determine. But, yet again, 95 gigalitres are promised as prior commitments to these projects: Water for Rivers, the Living Murray and the Snowy. Mr Garrett says these savings must be audited and available before they can be sent down the pipe. He says all that, and yet there is that one term there, ‘not yet allocated’. I believe the Victorian government had that term inserted into his statement, which totally reverses what I believe the federal minister had in mind. I think it is in everyone’s interest—and particularly that of the Commonwealth government, because the Commonwealth government is talking about purchasing water, trying to improve the environmental health of the Murray-Darling Basin—that we draw a line in the sand, have this audit and see what comes out the other end. When your technical people have the chance to go through this material and the information that we have, I am sure they will see how the building blocks of this program are in fact faulty and are crumbling down due to the tragic nature of the ongoing dry period that we have. They will see that the environment is being cheated, the irrigator for consumptive use is being cheated, and another customer, Melbourne Water, and Melbourne people are going to win.

**CHAIR**—Thank you, Mr Pattison.

**Senator SIEWERT**—Can I just go back to this issue of the audit. I asked the previous witnesses about access to data, in particular the environmental data. How confident are you that we have the baseline data on which to carry out the audit to work out whether we have actually had savings through efficiency measures and what order of magnitude those savings are?

**Mr Pattison**—I think we have adequate information to come up with a picture of what happens in the hydrological cycle—that is, it is all interactive. You claim a saving in this part of the world; you stop an outflow back into the Goulburn River; it is picked up as water that is carried in the river, water that is then used for consumptive use in another district or in fact flows through to South Australia. So it is that setting the criteria of what is actually a saving and what is not. In the literature it is called depletive and non-depletive, according to whether it has a beneficial use and so on, but I will not go into that. I think there is enough science in the Murray-Darling Basin, given the effort that has been put in by CSIRO in assessing where we find ourselves. I am confident that we can come up with a reasonable basis.

What we just heard from the previous speaker was of course that the Department of Sustainability and Environment are actually writing the rules for what constitutes a saving. If there ever was a fox in charge of a chicken house, that has to be the classic case. We have asked and asked and asked to have exposure to this document, and we have not got it. If you have an independent audit, which they propose, and the auditor is then given the rules and told, ‘This is how you will audit,’ you will get exactly the answer that you want. This is what happened with the independent audit back here. They were able to convince URS to use dodgy figures to come up with the outcome that they wanted.

**Senator SIEWERT**—That was my next question. We obviously have not had time to read the three documents. Even a good speed reader would not be able to get through those in the time that we have been able to see them.

**Mr Pattison**—No, you would not have.

**Senator SIEWERT**—How long have these documents been publicly available?

**Mr Pattison**—They are not publicly available. We have deliberately waited for this Senate hearing today to release those documents to the Senate because of the privilege that we obtain by releasing them today. I had a telephone call from a senior member of the Department of Primary Industries. He said: ‘Ken, I have been following what you have been doing. Do you know what is wrong?’ Senators would know that Chris and I have been to Canberra four times and our message has been the same every time. We have never deviated from our message over two years. The officer asked: ‘Do you realise what they have done and how they have got these figures to add up?’ I said no, and he supplied those documents to us. He was involved in the early stages of establishing what were savings, which goes to your earlier question: what constitutes a genuine saving that is ongoing, is sustainable into the future and can be altered to take from somewhere to give to somewhere else? The people involved did not like what he was saying, and he was subsequently excluded from the workings of that group.

**Senator SIEWERT**—So this information has not been available for people in the community to carry out their own evaluation based on this information.

**Mr Pattison**—No.

**Senator SIEWERT**—This is the first time it has been publicly available?

**Mr Pattison**—Yes.

**Senator SIEWERT**—What is your expectation and understanding of any future environmental assessment of the food bowl project itself?

**Mr Pattison**—We and most of the people behind us are here today not to protest but to support your committee and the amendment to the Commonwealth Water Act. When we were in Canberra in the spring session, when the act was going through—and you would recognise our faces from there—we wrote an amendment for you. Senator Birmingham has stretched it out a bit, but it is basically what we wanted to have at that time. So we would urge the committee and we would urge the government: you have your Commonwealth Water Act now. It is in place and lined up. The heat of the argument is on other things, but I would urge the government to seriously look at this and say, ‘It has got merit’. It has to have merit. If it has not got merit, what are we about in the Murray-Darling Basin? What is the government about if you cannot draw breath, have an audit and look at what is going on?

**Senator SIEWERT**—I asked the previous witness whether the Northern Victorian Irrigators expected that the third, third, third agreement would be honoured in the event of the pipeline being built. It will be a very expensive pipeline and I could not imagine any government being happy to see that empty for a large part of the time. Would you expect the government to honour that?

**Mr Pattison**—No. They have already broken their commitments and undertakings on several items that were critical to the agreement on food bowl modernisation. The pipe will not cost \$750 million; it will cost substantially more than that. It beggars belief that they would accept that, and in fact they are introducing rules called ‘carryover’. Melbourne Water will have

carryover, where they will accumulate water in Eildon and make it available. Of course, 75 gegalitres is actually equal to 100 gegalitres because there are run-of-the-river losses and they are asking the environment and the productive use of irrigation water to carry those losses. So even that figure does not truly represent the draw on Eildon. Eighty-two per cent of the Eildon catchment is burnt to a cinder—absolutely burnt to a cinder. We have a dry and drying environment, we believe, this side of the divide. Melbourne has a much wetter climate. It has many more inflows and has way more opportunities to get the security that that city obviously needs. We do not dispute that. But, as far as the government honouring the agreement that has been made out, I have no faith in that whatsoever.

**Senator BIRMINGHAM**—Gentlemen, thanks for your time today. You have appeared before numerous committees into these matters. You previously mentioned, Mr Pattison, the CSIRO reports that have been done in terms of assessments of the river and in terms of the assessments of this region, amongst others, and especially the sustainable yields reports they have done. In general, they show a significant downturn in likely inflows into the future, don't they?

**Mr Pattison**—They do. That is obviously worrying, not only for irrigated agriculture in the basin, but, of course, for the environmental health of our river systems. I just hope they are not right.

**Senator BIRMINGHAM**—We all hope that they are not right, indeed. Yet what you are telling us is that the reports tabled today show the government has built all of its assessment models on the premise of higher than average inflows.

**Mr Pattison**—That is right. They have cleverly done that. You can model anything—

**Senator BIRMINGHAM**—Lies, damned lies and statistics!

**Mr Pattison**—and what they have chosen to do is use 112 years of modelling to demonstrate that the annual losses are 900 gegalitres from the Murray and the Goulburn system. What they have failed to look at is what has happened to our system and how we run our system. I was on the board of Goulburn-Murray Water, bless my heart, for three terms. Coming to end of my term, proving the efficiency and how we run the system was clearly on the agenda because of the need for environmental water and the need for higher efficiency. So we do not oppose the spending of money in our systems to bring them up to standard. What we say is that it should not be done on the basis of so-called saving water to take out of the Murray-Darling Basin at this point in time.

**Senator BIRMINGHAM**—So we have this truly remarkable situation in which, rather than on scientifically proven, long-term statistics by the CSIRO that suggest a likely lower than average future in terms of inflows, the government has built its case on some sort of trumped up higher than long-term average inflows. Is that your contention?

**Mr Pattison**—The dam inflows are reducing. How can I say it? It is politics. This was the only thing that they believed that could be built prior to the next election. We get upgrades; they get some water. What has happened, of course, is that the CSIRO report has graphically pointed out that the Goulburn River, which Eildon is the major storage on, is going to experience substantial reduction in inflows. Go on, Chris.

**Mr Harrison**—I think there is a misunderstanding. ‘Inflows’ in reference to the channel system is quite different to inflows into a dam situation. What Ken was trying to explain before with the CG2 example was that the long-term measured movements of water into that channel system have been adjusted by a committee rather than based on—

**Senator BIRMINGHAM**—Done by evidence.

**Mr Harrison**—Yes, by evidence.

**Senator SIEWERT**—Can I clarify a point. Mr Pattison, when you were talking about reduced inflows you were talking about long-term climate change impacts rather than the bushfires—is that right?

**Mr Pattison**—Tragically, both. We have had the absolute tragedy of the burning of our catchment, which will possibly give us an increase over five years, but over 30 years we will have less. Climate change or no climate change, the science says it will be less as the forest regenerates and it takes up that available water.

**Senator SIEWERT**—So in fact you have both.

**Mr Pattison**—We have the worst of all scenarios.

**Senator BIRMINGHAM**—I put this question to the earlier witnesses about the fact that Commonwealth governments have pursued a fifty-fifty sharing arrangement between the environment and irrigators. Would that be a satisfactory outcome for you?

**Mr Pattison**—Yes, it would have been, because there was no pipeline to Melbourne. The water legislation and the whole thing that happened stalled for 12 months because the Premier of this state would not agree to that arrangement. He wanted to have a pipeline. He is holding the Murray-Darling Basin and all the states to ransom, and it is high time that the Commonwealth, who have the power under the Commonwealth Water Act, stepped in and stopped this nonsense in the water industry to get a better outcome for the environment and for all our communities.

**Senator BIRMINGHAM**—Is it your understanding that, as the previous witnesses suggested, the environment and irrigators will enjoy security over their water entitlement equal to that of the pipeline to Melbourne or that, as is suggested in the technical discussion paper of the Food Bowl Modernisation Project Steering Committee, in fact the pipeline may enjoy higher long-term security?

**Mr Pattison**—Had this shocking drought not prevailed, I am quite confident that the Ballarat and Bendigo superpipe would have had their irrigation entitlements made into high-security water availability now. Three hundred and twenty million dollars has been spent on those pipelines to secure water for those regional towns, and they are on stage 4 water restrictions. They are on stage 4 water restrictions because they bought agricultural water. Melbourne and Melbourne Water are not looking to go down that path; the technical paper clearly states that. The fact that we have not seen any advance on that documentation is clear, because the drought continues and the last thing they would want to do is bring that information out at this time.

**Senator BIRMINGHAM**—Lastly from me, since aspects of these reports that have been tabled appeared in the media over the last few weeks, have you seen any satisfactory response by the Victorian government to rebut the allegations?

**Mr Harrison**—It has been a couple of days.

**Mr Pattison**—The first article appeared on Sunday. Given what has happened on my phone this morning and the media that are here today, I would hope that the Premier and the Minister for Water will stand up and—

**Interjector**—Resign!

**Mr Pattison**—I do not need coaching from the crowd! I hope that this will bring it out into the open and that we can move forward with better outcomes for everybody.

**Senator BIRMINGHAM**—I would hope the Premier and the water minister might agree to come and sit at that table where you are at some stage.

**Mr Pattison**—I will make one more comment. I believe the Premier and the water minister have been very badly advised. I think they have been given very bad information—incorrect information—and when your committee goes through the documents that we have tabled today and they advise you I think you will understand what I mean. I hope they have.

**Senator XENOPHON**—Mr Pattison, can you verify the credibility of what effectively is a whistleblower and tell the committee why he has not been available to testify?

**Mr Pattison**—Yes, I can. He is a senior man. He was registered to be a witness here today. I think he felt that he could not stand the pressure of the media interviewing him, coming into his private life—

**CHAIR**—I will stop you there, Mr Pattison. Senator Xenophon, we are mindful that persons are not able to be identified unless they want to be.

**Mr Pattison**—I was not going to identify.

**CHAIR**—Well, speak very carefully, Mr Pattison, so that we do not give out so much information that the person that we are talking about can be identified.

**Mr Pattison**—I will start again. The person who gave us the information is credible in that he has a lifetime of work in this field. He is regarded as an expert in this field. He felt that he could not face up to the pressure of what would be the outcome of the release of these documents. This is probably the most serious thing that I have put my name to in my life.

**Senator XENOPHON**—Following on from that, Mr Pattison, as a result of the documents that you have tabled today and the information contained in them, what does Plug the Pipe say should be the terms of reference for any audit, given that you have called for an audit previously? With this new information what do you say the terms should be?

**Mr Pattison**—The terms should clearly be open and transparent, whereby the process is conducted in a way that people can have access to what is going on. It should not be conducted behind closed doors or on the basis that someone wanders down from Canberra and knocks on the doors of the various government authorities in Victoria and they have a cup of tea and they exchange a few documents and he goes home and says, ‘Well, it’s not too bad. It’s really okay.’ It is not okay, given the DSE, the Department of Sustainability and Environment, are writing a document, as indicated by the previous speaker, that sets the ground rules for what constitutes a saving. In particular, with Plug the Pipe I said to the person who was writing it, ‘If you don’t release this by putting “Draft” all over it, which covers everything, and we are not happy, you are in for a lot of hardship.’ So we want it to be open and transparent for the government, senators, committees and the community. If the community have got faith in this process going forward, they will be prepared to accept the outcomes. I am prepared to accept the outcomes provided it is open and transparent.

**Senator XENOPHON**—I have a question for Mr Harrison. There was a report that was revealed by the *Sunday Age* recently called *Review of Victorian water supply demand: options and risks*. Mr Harrison, do you have any comments in relation to that report?

**Mr Harrison**—Yes, certainly. It really does highlight the difficulty that we have with this project. One of the key points from that report said that Melbourne did not actually need to build this infrastructure to secure itself. It also said—

**Mr Pattison**—that they should perhaps plan. The Auditor-General in Victoria criticised the planning that went into this. He said that, based on a private lobby group, the Victorian government committed itself to a billion dollars and the Commonwealth government added another billion. He questioned the veracity of what took place. The information that we have tabled here today confirms that the auditor was in fact correct—and that is why they panicked. I think the government panicked. They saw this as an opportunity to benefit northern Victoria. I think people genuinely believed there was going to be a win-win outcome. But when you start selling a project on new water you are just about up to where you can walk on it—and not many people can do that. So that is why we have got to come back to basics. Where is it at? What is the best way forward for the Murray-Darling Basin and the communities that depend on it? Melbourne should get on with getting the funds there for stormwater harvesting, refurbishing the treatment works and upgrading them and then seeing where things are at and what should happen after that.

**Senator NASH**—I seek a clarification. Is it correct that the government is refusing to release that report?

**Mr Pattison**—Yes. They have refused all FOI requests. The whole process is embroiled in the nonrelease and the unavailability of the documentation that would substantiate what they are saying. I challenge the government to come forward and answer what we have submitted here today.

**Senator BIRMINGHAM**—Gentlemen, should construction of this pipeline cease pending the conduct of this independent audit that takes account of all of these new and serious allegations?

**Mr Pattison**—Mr Garrett, in giving his approval for this, linked the construction of the pipeline back to the availability of savings in the food bowl project. It was clearly linked. Victorian Minister Madden now has this project out there to say that everybody is a winner. I think the Commonwealth—via Mr Garrett and the provisions that he has under his act—should call an immediate halt until these matters are resolved.

**CHAIR**—As there are no further questions, thank you very much, Mr Pattison, Mr Harrison and Mr Niglia, for appearing before the committee today. We appreciate your submissions and your attendance very much.

**Mr Niglia**—We thank the Senate.

**Mr Pattison**—Senators are welcome to come across into the park and talk to any of our people who have come here to support us today and have a chat with these people, who have been so concerned that they have come here to listen to these proceedings today. I certainly thank you for coming down here. I know it has been terribly difficult for everybody to get here. We know what it was like to drive up to Canberra. It was a challenge.

**CHAIR**—Thank you very much and we appreciate your invitation.

**Proceedings suspended from 12.18 pm to 1.20 pm**

**GAUDION, Mr Ken, Life Member, Warby Ranges Landcare and Rabbit Control Group****REID, Mr Michael, Member, Warby Ranges Landcare and Rabbit Control Group**

**CHAIR**—We will now resume proceedings. I welcome the witnesses. Thank you very much for your submission and for coming to talk to us today. The committee has received your submission as submission No. 17. Do you have any amendments or alterations to that submission?

**Mr Gaudion**—Yes, there is some information we would like to add.

**CHAIR**—Perhaps you could include that in your opening statement.

**Mr Gaudion**—Certainly. We thank the committee for being able to put our case directly. It is not often that disadvantaged rural people have that opportunity, so we are pleased to be here. I will hand over to Mr Reid.

**Mr Reid**—I am a member of the Landcare group and one of the authors of the submission. I farm in the local area, as does Ken. I would like to point out to the committee the importance of our submission and emphasise some of the points that we made in it. We feel that, as far as ecological sustainability is concerned, it is imperative that we try to keep water within its own catchments. We welcome the proposed amendments. We see the bill as a way of taking water out of the political football field, if you like, and not allowing it to be available to politicians to trade out of one catchment where they do not get votes into another catchment where they do get votes. We see that happening a lot in Victoria at the moment and it is quite alarming for lots of reasons that we have outlined in our submission.

We have to learn to live within our own means, domestically in our houses, in our businesses, in the state, as a nation and as a planet. Once we start allowing water to be shifted from one catchment to another, it is the thin edge of the wedge and we end up not only stressing that catchment but stressing the one next to it. We have to be doing things within the catchment to enhance water efficiency to the best of our ability, not just putting in another pipe and getting it out of another catchment.

As we mentioned in our submission, water must be allocated to the Living Murray initiative. We think that is imperative. A lot of horse trading has been going on with a lot of the savings the Victorian government is supposedly making, and those savings are not being returned to the Murray and the environment but are being used for trading and against other measures. But, most importantly, we consider that amendment (3), that the basin plan not permit water to be taken for additional uses outside the basin, is imperative. Not only is it imperative for a sustainable ecology; it is also imperative for food production. Too often now we are seeing imported foods coming into this country at the expense of local producers. That food is coming from other catchments that do not have the stringent requirements that our catchments have. We are importing food from Chile, China and Argentina that is coming from highly stressed catchments. Not only that, they sometimes do not follow the same food health and safety guidelines that we have. We see additives in some of the foods. There have been quite a few

scares in the press. That is going to happen to us here and it could be quite disastrous. So we have to try to enhance our own food producers here and keep food production happening in Australia to the best of its ability.

There is also the problem of decentralisation. It used to be a buzzword many years ago, but it seems to have fallen by the wayside. I make no bones about the fact that I have always been a Labor voter, but I am very critical of the Labor Party for ignoring the rural areas and only looking to enhance cities because that is where their votes are. Decentralisation has gone by the wayside. To me, that is a way in which we can relieve the stress in catchments, but very little work has been done on that. Very little work is done on future growth of places like Shepparton. When we start taking water out of the Goulburn River to enhance Bendigo, Ballarat and Melbourne, what is Shepparton going to do in the future? There is not enough work done on decentralisation and moving people out of the cities.

The other thing is that the storages in the upper catchment should be enhanced so that the water can be kept here. I irrigate off Lake Mokoan. You have probably heard about its decommissioning. We think that is a travesty of justice and an ecological nightmare. We are quite critical of the federal government for passing the environmental approvals under the Environment Protection and Biodiversity Conservation Act to decommission Mokoan because it is a known habitat of endangered species. What is the use of the federal Environment Protection and Biodiversity Conservation Act if governments can just override it? It seems pointless.

It is also going to mean that food production in the Broken Valley is going to be curtailed. They will have to buy back, maybe, 10,000 to 15,000 megalitres of water rights, and each gigalitre of water in that valley produces \$2 million a year in farm income. If they start buying back 15 gigalitres, that is \$30 million a year in farm income lost out of the Broken Valley. That is something that they just do not seem to care about. They have never done a proper cost-benefit analysis of it. So we see the importance of these amendments to stop that sort of thing happening. Governments just play political football with our water, and it has wide-reaching ramifications.

The fourth amendment was prohibiting water infrastructure operations from going ahead. We support that too. Putting in infrastructure that may be used at a future date is pretty scary. There are lots of examples of that happening. There is not much more I want to add there. Thank you, Madam Chair. I will hand it back to Ken to finalise it.

**CHAIR**—Thank you.

**Mr Gaudion**—Thank you. Our group would also like to see increased storages in the north-east. As a past chair of the North-East Catchment Management Authority, I can tell you that 38 per cent of the Murray-Darling Basin flow emanates from the north-east of Victoria. So, for the greater control of the Murray system particularly, I would see that as really important to even out those flows, particularly for the sustainable production of product and also environmental flow. You have to have both. I think we can say that climate shift might be happening now, but rain will still continue to fall in the upper parts of the catchment. It makes a lot of sense to use water closer to the source for food production, so I think there are still some opportunities there for that to happen.

We also have an inequity between New South Wales and Victoria with farm dams. New South Wales can harvest some of its flow; Victoria has to buy the water. So that is an inequity that needs remedying. With water trading rules, there is a concern that outside interests are buying up water, and we have seen an instance supposedly of US companies buying water recently. What are the controls on that? Apparently there cannot be too many. I think we have to have control of where the water stays within catchments, and that further supports our submission. In closing, I say that people and communities are also part of the environment. Thank you. Do you have any questions of either of us?

**CHAIR**—Mr Reid, you said that the group does not support movement of water from one catchment area to another. Is that in any circumstances? What about the fact that already, for example, Melbourne and Adelaide take some water out of the Murray-Darling Basin—are you saying that we should not be doing that?

**Mr Reid**—That becomes the definition of what is the catchment—is Adelaide part of the Murray-Darling Basin catchment? In principle, no, it is not, and if we are to follow that principle we have to look seriously at that sort of thing. Should Adelaide be allowed access to water? Obviously they should, but how far do we take this? These amendments are going to have ramifications not just in the next few years but in the next 50 to 100 years as population pressure increases. Where are we going to start getting our water from to feed cities like Adelaide and cities in the drier areas? Even at a micro level, when you look at the Keiwa Valley or the Broken Valley—in smaller catchments—I am sure there is a lot of surplus water that goes out of that catchment that can be used in the greater Murray-Darling Basin. All of that has to be documented and logged, and you have to try to retain as much as you can in the upper catchment. But there are upper and lower catchments and it then becomes a political decision as to how far you take that. Water is now going to Bendigo, will be going to Ballarat and will probably end up going to Melbourne, and I believe that these amendments are not going to affect those pipelines, anyway. Is it correct that they have been given special dispensation?

**CHAIR**—If they were in existence before 3 July 2008.

**Mr Reid**—I guess those things have to be put in. To me, they were always just knee-jerk reactions and things that our community did because we could. Maybe the pipeline to Adelaide is an example. We did it because we could, but that is not to say that we should be doing it in future.

**CHAIR**—Are you saying that we should stop the extraction of water from the basin to Adelaide?

**Mr Reid**—No, and I am not saying we should stop the extraction to Bendigo. Those things are things of the past and they should be given an allocation but, in the future, should that allocation be increased is the decision we have to make. I would say that they should not be increased, that they have to learn to live within their means.

**Mr Gaudion**—In other words, we would support Victoria's current four per cent trading cap.

**Mr Reid**—Yes.

**Senator WORTLEY**—On what basis do you believe that access to water from the Murray-Darling Basin should be determined and allocated? You have just made a statement with regard to Adelaide that you think they should continue to access the water, but you were talking about into the future. I am just wondering whether you have any basis on which you think water should be allocated from the Murray-Darling Basin.

**Mr Gaudion**—I think the community will be watching very closely to see what happens with the new arrangement with the Murray-Darling Basin Commission and how it operates and how it operates with the states. It is a whole new ball game and we are hopeful that there will be positive outcomes.

**Mr Reid**—You have to look to the science to help answer that question. Firstly, water has to be allocated for essential human needs and then you have to look at where the most efficient use of the remaining water is going to be, and it is obviously going to have to be in the upper catchment. We can produce, per megalitre of water, nearly 10 times what it earns in the lower catchment, because we use so much less of it and we produce higher value crops. Once you start putting the economics into it and the agricultural science behind it, it becomes fairly obvious that we have to do all we can to retain the use of water in the upper catchments. Anything else has to have a damned good argument for any more elsewhere.

**Mr Gaudion**—I would be disappointed if the commission used scientific arguments selectively without having a balanced approach. I am sure that will happen, but I just wanted to make that point.

**Senator BIRMINGHAM**—If the economics stack up so well for the upper catchment in terms of the production value of irrigation water, what do you have to fear from trading with the lower catchment?

**Mr Reid**—Not much if trading were fair but, at the moment, it is not. The lower catchment can buy a megalitre out of the upper catchment and use a megalitre in the lower catchment, but they do not pay the cost of getting that water to them and they do not pay the losses in getting that water to them. So the trading at the moment is not fair. We do not compete on a level playing field. They should be paying the full cost of getting that water to them. We do not have to buy so much water. The other unfair aspect of it is that, at the moment, land is a lot cheaper in the lower catchment. Our Land Care has not discussed this, but I personally believe water is too cheap. We have managed investment schemes in the lower catchment buying cheap water and cheap land for taxation benefits, not for any agricultural or environmental good.

**Senator NASH**—Hear, hear!

**Senator BIRMINGHAM**—Let us step back from intra-district trading and irrigation related trading. In terms of environmental flows, what do you believe is the minimum requirement for the system? How would you define a healthy river?

**Mr Reid**—We have been through that process on the Broken system. We have worked out minimum passing flows for the Broken River, and that has also been done on the Goulburn River. You just need a stream flow management plan and all those things put in place so that the experts can get together and agree on the minimum flows for a particular river or a particular

reach of the river. All that can be done. We have the science and we have the personnel to be able to do that. There is no one set amount.

**Senator BIRMINGHAM**—No. But do you accept that minimum flows for the Goulburn will influence minimum flows in the Murray and what outcomes you have to achieve a healthy Murray as well?

**Mr Reid**—Yes, absolutely.

**Senator BIRMINGHAM**—And do you recognise the importance of those environmental flows through the entire Murray-Darling Basin system and the connections that exist within that?

**Mr Reid**—Too right.

**Senator BIRMINGHAM**—We will come back to your core argument, because we have strayed a little bit. Anecdotally or in terms of the evidence you have, what has happened to food production in your local communities over the last few years? Has it dropped?

**Mr Reid**—Drought has decimated food production in this area; that is quite certain. But, quite apart from that, there is another unlevel playing field. Most fresh food in particular is now controlled by supermarkets. Supermarkets do not have a priority to provide quality food; they only have a priority to provide cheap food. So they do not really care much about quality and where they get it from. They would prefer to sell tinned food. You only have to walk through the tinned food section of the supermarket to see that. I do not think there is much tinned food from Australia anymore anyway. It is all from Chile, China and Argentina. That is really scary stuff, because you just do not know what is in it. I used to grow stone fruit. I had 8,000 trees. But I have shut the gate on that because I cannot make money on it anymore. We were being beaten down lower and lower on our prices, and the cost of production just was not being met. I have been growing wine grapes for a long time, and I value add. That is my business.

**Senator BIRMINGHAM**—If the CSIRO estimates on sustainable yields of inflows into the river systems are correct, you will need more water somehow to sustain some sort of average levels of production in the local area, won't you?

**Mr Reid**—Yes, that is exactly right. So the more we move our production away from places like Mildura and Wentworth and into places around here and in the upper catchment, the less that impact will be.

**Senator BIRMINGHAM**—And the impact of the pipeline proposal and the third-third-third arrangement is that, at least potentially, a third of that water is exiting the region and is of no benefit to either the environment or your food production capacity in terms of your ability to even maintain current food production, let alone even increase it into the future, given those declining estimates.

**Mr Reid**—I would prefer to have seen that infrastructure renewed and those savings kept for food production because of those problems, because we are going to need more water for food production. I see a great problem with that north-south pipeline in that, in the years when Melbourne needs it, there will not be the water there to fill it, there will not be the savings to be

made to fill it. So they will only be able to use that pipeline to enhance their existing storages in good years. They will then rely on their existing storages in the dry years, because the pipeline will not be any benefit to them.

**Senator BIRMINGHAM**—What is your expectation in those worse years? In those bad years, when there is only 75 gegalitres of available water, potentially, out of their projected 225, who do you think will get it?

**Mr Reid**—If these sorts of amendments are passed, it will take the politics out of it, and they will only be allowed to use their existing amounts. But if you do not take the politics out of water, yes, the politicians will grab that water. They will step into the market, and they will buy water rights out of here for Melbourne Water to sell. They say, ‘We’ll buy from willing farmers.’ At the moment, the farmers are not all that willing; they are stressed. They sometimes have to sell. That megalitre of water they buy for, say, \$2,000 also renders redundant another—I estimate, and others might differ with me—\$8,000 worth of infrastructure. I estimate there is about another \$8,000 worth of infrastructure that is then rendered redundant because they have taken that megalitre of water for \$2,000 out of this rural community. So all that farmer’s channels and pipelines then do not get used properly. All the infrastructure used to deliver that water to the farm does not get used properly. Goulburn-Murray Water have to lay off staff because they do not have to deliver so much water anymore. The stock and station agents, the tractor salesmen, the chemical salesmen all have to lay off staff. So there is a whole heap of infrastructure that is in behind that megalitre of water that governments are ignoring at the moment. They say, ‘We’ll just buy it from willing sellers.’ That is only because these poor sellers are really struggling. One might sell and another might sell and suddenly 20,000 megalitres is gone out of the district and you are wondering why schools are closing.

**Senator BIRMINGHAM**—One last question slightly out of left field. As a land care group—and I am not sure in terms of geography where your land care group goes and where the pipeline’s construction is—has your group, or in its discussion with other land care groups, had any feedback about the methods of construction of the pipeline and its impact on appropriate land care principles?

**Mr Reid**—Yes, we have talked about it often.

**Mr Gaudion**—Firstly, our land care group is fairly unique in that it is also in the Goulburn Broken catchment as well as the north-east catchment, so it has the Warby Range as the centrepiece of it. It is now becoming a national park, along with the Ovens River. Our group have talked to surrounding groups about common issues, and we have two networks that take up a common interest in both catchments.

**Mr Reid**—I think most of the group are appalled at what has happened down there. Given the recent bushfires, too, we have been restricted in the past to do any clearing around our properties, yet the government can step in and do what they did for that north-south pipeline, and have not been doing what they should have been doing in forestry management and clearing. Those fires are probably something that is going to change the way, hopefully, the Victorian government sees land management into the future.

**Mr Gaudion**—You may have been along the road and seen the clearing of the forest there. I am sure the green lobby have been bought off or put to one side on this, because it would be front-page news normally.

**Mr Reid**—Yes, definitely. Have you been down that road where they are putting the pipeline in?

**Senator NASH**—Yes.

**CHAIR**—Yes.

**Senator SIEWERT**—I think you were here earlier when the Plug the Pipe group were talking about the unallocated water, which is the water that has supposedly been saved through previous efficiency measures and that was supposed to be contributed to the Living Murray project. Do you have any comments on that? Do you have any knowledge about that unallocated water, as Ken called it?

**Mr Reid**—Not really, no. We were not here earlier. We do know about that issue. It is a bit of an issue with the Lake Mokoan decommissioning in a totally different area. The unallocated water that you have been talking about is savings that have already been made but have not really gone to the Murray yet, but there is also an amount of water which was outside the Murray-Darling Basin cap and that was left in Mokoan because they had not finished all the works and they were working out how to use Mokoan. It had only recently been built—it had been built for about 10 or 12 years—when the Murray-Darling Basin cap came in. So there is also an amount of water there that the government sees as a bonus for them. They are saving, supposedly, 45 to 50 gigalitres of water in evaporation, but there are probably another 30 gigalitres that they are going to get and will be able to use. I do not know whether the federal government knows anything about that, but it is an amount of water where, if you ask them questions about it, you get these airy-fairy answers.

**Mr Gaudion**—The plan is to store some of that extra water in Lake Boga. They are saying it supposedly has lesser evaporation rates than those of Lake Mokoan. I would question that.

**Mr Reid**—They are enhancing Lake Boga. Lake Boga is down near Swan Hill on the Murray River. They are enhancing Lake Boga so that the surplus flows out of the Broken system that are now not going to be stored in Mokoan are going to be stored in Lake Boga. The main reason they are doing that is to help prop up the managed investment schemes further down to use Lake Boga as a rain rejection storage so that they can release water from it. They try and keep this seven-day ordering period, releasing water so that when an irrigator orders water they can get it within seven days. So they cannot release it out of Hume Weir; they have to have storages further down the system, and they are doing that with Lake Boga with the water coming out of the Broken system.

**Senator NASH**—Gentlemen, I just want to briefly explore a bit further the comment that I think you made, Mr Reid, about extending the storages in the north-east of Victoria—how that would work and what sort of volumes you are talking about. Perhaps you could explain for the committee why that would be a benefit and where any impediments are at the moment.

**Mr Reid**—Have you got any figures on Buffalo?

**Mr Gaudion**—Yes. The land was bought by the Victorian government at the time when Lake Buffalo was built, and I think there was a design plan which would have been for a million megalitres of storage, if I am right. That is still owned by the state government, and there are no plans to extend that currently.

**Mr Reid**—What they are saying is, ‘No more dams.’ That is their catchcry, and I think it is a bit of a head-in-the-sand attitude. We should be able to put in more dams under certain circumstances. What is a little bit scary at the moment is that we have recently been seeing advertisements requesting expressions of interest for the use of that extra land they own around Lake Buffalo to develop for tourism. If that happens, it will therefore preclude ever extending Lake Buffalo. It gets to the heart of what I have been trying to talk about; we must try and enhance these storages in the upper catchment, keep the water up there and create irrigation and more agriculture in the upper catchment. It is the same thing about Lake Mokoan. We are plugging at the moment. There is still a thin glimmer of hope that we may be able to have a partitioned storage at Lake Mokoan as they did in the Barren Box Swamp. They partitioned off that swamp and had a permanent storage and an ephemeral wetland on either side of it. We want to do that with Lake Mokoan so we have a win-win situation: a storage that they can use for food production so they do not have to buy back that 15 gegalitres of water and an ephemeral wetland on either side of it.

That area is 20,000 acres, 8,000 hectares, and we are talking about probably 2,000 acres of permanent storage and the rest as ephemeral wetlands. Ecologically, ephemeral wetlands are a bit passe. There are thousands of them everywhere, because everything is drying out. What we want is permanent storages, permanent wetlands, and that is what we are trying to get with the partitioning of Lake Mokoan and enhancing other storages. They can then become permanent wetlands for migratory birds and everything else.

**Senator NASH**—Okay.

**Mr Gaudion**—The city of Wangaratta twice in the last five years has been within one day of running out of water for the residents. There was a plan to run 38 semitrailers a day from Yarrawonga to supplement it. If we are going to see another 300,000 or 350,000 people in the Hume region in the next 20 years, which is what some of the figures are saying, there need to be more water storages.

**Senator NASH**—Mr Reid, you made some comments around the food production side of this and the issues of importation. Obviously you are not happy with the current arrangements. Do you have a view about how that could be changed and improved? Do you think there should be government intervention? Is there a role for government to play? Should we have less importation? Should we have more strictures around it?

**Mr Reid**—We as primary producers face huge restrictions. They are not onerous; we are not against the environmental restrictions, the food production restrictions, the guidelines on occupational health and safety, the chemical use guidelines and all those things. We have lists of things that we have to conform to. They do not in China. They should either be taxed because of that or have a levy put on them or should be made to conform, so that we will only import food

that meets the same guidelines that our producers have to meet. If you could do something like that—I do not know whether taxing is the right way, because that allows the government to make money and let shonky food in, so that is not going to work. But there must be some restrictions on the import of food products to stop them coming into this country.

**Senator SIEWERT**—I would like to follow up this issue about transferring water from catchments. Do I understand you correctly in that you are saying that overall you do not think there should be any more transfers outside the catchment, which is what is in the bill?

**Mr Reid**—Yes.

**Senator SIEWERT**—Okay. On the issue, though, around the allocation between catchments, do you mean catchments or districts?

**Mr Reid**—It is like I said before: how do you define a catchment? There are catchments within catchments, so you have to start working out what the minimum passing flows are, for a start, for that stream in that subcatchment.

**Senator SIEWERT**—Do you mean minimum passing flows for environmental health?

**Mr Reid**—Yes.

**Senator SIEWERT**—I wanted to check that that is what you meant, for a start.

**Mr Reid**—Yes, absolutely. So we have to keep the rivers healthy, first and foremost, and then do all we can in our power to retain that water for agricultural production. Already most of it is going down the Murray and being used elsewhere. We have to encourage the trading of water back up the catchment so that water is used more in the upper catchment, so we have to impose costs on those people using water in the lower catchment—the costs, the losses, that are incurred. No-one has even done a study.

There is hearsay, scuttlebutt, that environment Australia was told to keep quiet about the problem. I hope none of you are members of environment Australia, or nobody here; I might be speaking out of turn. In any case, the environmental lobby was told to keep quiet about the damage being done to the Murray River in passing large flows out of season in return for returning 1,500 gigalitres to the Murray River. ‘Don’t say anything about the damage that is going to occur from all the irrigation water going down the Murray River,’ and it is quite extensive. There is destruction of habitat and erosion of bed and banks down the Murray River that is quite extensive because we send so much water down there for irrigation, and no-one is doing anything about it.

**CHAIR**—As there are no further questions, thank you very much, Mr Gaudion and Mr Reid, for your submission and for taking the time to appear before the committee today. We appreciate it very much.

**Mr Reid**—Thank you very much for your time.

[1.56 pm]

**CALDER, Dr Donald Malcolm, Private capacity**

**SEETHALER, Dr Rita, Chairperson, Acheron Valley Watch Inc.**

**CHAIR**—Welcome. Thank you both for talking to us today. The committee has received your submissions as submission No. 5, from Acheron Valley Watch, and submission No. 8, from Dr Calder, respectively. Do either of you wish to make any amendments or alterations to your submissions?

**Dr Seethaler**—An amendment.

**CHAIR**—Yes, please, Dr Seethaler.

**Dr Seethaler**—I would like to mention the handouts that I have brought along today. There is a list of concerns that give a bit more context to our submission, and there is a paper by Dr Jon Nevill issued recently, in January 2009, about the entire complex situation of groundwater and surface water interaction. Then there is a handout by Professor Sam Lake—he did a keynote speech at a recent forum—and a Goulburn Broken CMA discussion paper on environmental flows.

**CHAIR**—Thank you, Dr Seethaler; we have all those. Dr Calder, do you have any amendments or alterations to your submission before we go to opening statements?

**Dr Calder**—I do not have any amendments or alterations to the submission, but I have given you a brief outline of what I intend to say in support of my submission today.

**CHAIR**—That is fine. I now invite you both to make a brief opening statement. I will start with Dr Seethaler.

**Dr Seethaler**—Thank you, Madam Chair. I think, in our list of concerns, at the top is the whole of catchment accounting. We need to get a better handle on what happens in the entire Murray-Darling Basin and its subcatchments and subsubcatchments. The Acheron River is such a subsubcatchment of the Murray-Darling Basin because it is a tributary to the Goulburn. We think that environmental minimum flow and stream flow management plans need to be conducted for all rivers, be they regulated or unregulated, because many things happen in the upper catchments that have cumulative effects downstream and that are not really well understood. We also think that river health objectives need more environmental water reserves with higher reliability. In fact, I found it quite interesting when I did a bit of research and looked at what water is sitting up in the Eildon Weir. We do have the 112 gigalitres of bulk entitlement for the Living Murray, but it has a very low reliability. So, even before every irrigator gets their 100 per cent share, that water will never get to see the Murray for its environmental purpose, and hence the legal arrangement of that bulk entitlement defies its purpose.

We think also—and I am now pointing at the relevant paper: the Northern Region Sustainable Water Strategy of Victoria)—that taking into account the groundwater and surface water interconnection is really important. I was not aware, until I heard scientists talk, about the double counting problem. In the past, we had the situation where these two systems were looked at independently. Hence, figures were added up and allocation was then based on an overstated total amount of water. Thankfully, we have the eWater CRC, which is looking into that. The CSIRO is also looking into that problem, and some of the scientists are now collating the necessary figures. But we need to also then translate that into a combined formulation of caps. It is really important that the caps for surface water and the caps for groundwater be basically articulated as a combined entity. Also, importantly, we need to incorporate into these considerations the sustainable yield calculations that are now coming out from the CSIRO.

This brings us to a sort of step back, looking at the larger view: catchment accounting as input for land use decisions and planning. We read the draft Northern Region Sustainable Water Strategy, which, you might be aware, having gone through the submission, has now been redrafted. The Victorian government has suggested that population growth of over 33 per cent by 2050 may occur. They are also aware of the danger of revitalising or reactivating sleeper licences on a local council level and also on a general, more urban level. That can cause a problem. We then start to wonder what the carrying capacity actually is in a semi-arid zone, because that is what we have here. There are all of these very well-intended projections, and here I think it would be interesting to listen to a bit of what Dr Ian McPhail has had to say. He was the author of the *State of the environment* report recently released for Victoria, and he asks for integrated land and water capacity management.

On a small scale, we find that already, such as in the Torrumbarry irrigation region, not far from here. Some of the farming communities using Goulburn-Murray water sit together and work out a three-light system. For example, they say that the green-light areas can remain irrigation areas, the red-light areas should be transformed into dry land farming and, in the amber-light areas, they are not sure yet and need to do more scientific research. Also, stock and domestic needs need to be metered. Associate Professor Michael Buxton, in his peri-urban study for Melbourne, showed us how dramatic the increase in stock and domestic dams and groundwater bores will be. The figures will be quite exponential, and I think that is not really integrated into the entire picture at the same level of legal control as the other waters.

That brings me to the environmental water entitlements that I mentioned before. The low priority of environmental water entitlements is, in my view, a main problem. Interestingly, I read a submission by Environment Victoria on the Northern Region Sustainable Water Strategy in which they talked about the critical human need concept. It is a good concept but it has been misused or has different definitions circulating, so in some instances they even found water for critical human needs was used for golf course irrigation. So, here again, what is the control that we have?

Looking at the forecasts, we are certainly aware of scenario B, which is the prolongation of the 11 past years of drought. In that strategy we think that something that is not compatible with the Murray-Darling Basin plan, which is yet to come, is that the river health objectives are, all of a sudden, given up. The Victorian government goes ahead and says, 'We will make a categorisation now. River health category 6 would be full environmental flows, whereas now we are focusing only on categories 1 and 2—that is, protection of drought refuges.' So, all of a

sudden, you see a step back from the initial goals under the Heritage River Act to something at a much lower level, and that concerns me.

The subject of the north Victorian water grid has been raised in the hearing this morning, and I think that, again, we need to take a step back and think, 'What is the paradigm here? Water trading made simple—fast and simple, opening the market.' As an economist I have learned from studies that markets are good things; they speed up circulation of good services, they create jobs and they help boost the economy—but only under certain conditions. Our markets need a good formula here. I think that one of the problems, which you will not really find in the paper, is the external effects. Our economy has imposed external effects on our natural environment which are not taken into account in the market price. All you get are distorted market prices under these conditions.

The second problem is different elasticities and different purchasing power. That was mentioned this morning. A farmer with his back to the wall has infinite elasticity. If the price goes up only a little bit he needs to sell. Somebody very wealthy in a scheme in Melbourne has very little price elasticity. Even if the water price goes up he or she can still go on the water market and buy. What we would see in an open water trading market without any taps or restrictions would be the water going to where purchasing power and elasticity is the lowest. In this case, that would be Melbourne. Thankfully, we have the cap, but I warn that there need to be other restrictions. If you take every piece of the puzzle by itself—the north-south pipeline, with 75 gigalitres, for example—it is not very big, but if you start adding them all up and look at the whole system we will have impacts that are much more powerful on the environment. I think that is where we need to head. We need to integrate what scientists say. The first group here this morning was talking about negotiations, and I applaud that—they were very good negotiators, obviously. However, I feel negotiations are a natural political process but that they should not be happening without scientific foundations. That is my first concern.

The environmental effects statement would have addressed a lot of points, but it was abandoned. The terms of reference of the planning panel that would have looked at this system together—the food bowl modernisation and the north-south pipeline in a wider context—were curtailed into something very narrow. That is a problem. Another problem is that we need to have a strategic and environmental impact assessment. That is something that is widely used in Europe. What it does is to look at every single project and how it fits into the entire system.

Here we are talking of the different pipelines and different programs and how they fit into the Murray-Darling Basin agreement. I think it would be really wise if the Murray-Darling Basin Authority kept a close look on this strategy, because the strategy will be enforced in 2010, just a year before the Murray-Darling Basin plan comes into force and we may have one project or another again sneaking under the radar simply because it is one year earlier. Do you see what I mean? A holistic approach, more science and more rigorous impact assessment are the three major issues here.

**CHAIR**—Thank you very much. Dr Calder, would you like to make an opening statement?

**Dr Calder**—In the paper that I have given you today, there are five points of summary that I wish to draw your attention to, and they are essentially the points that I want to make. But, before I get into that, I would like to say that it is clear to me that water is now becoming the No.

1 natural resource issue for Australia. This Senate inquiry and the debate held in the community indicate that over the next few years we may be moving into the water decade.

There are two definitions that I need to clear up in my own mind—one is the catchment. You can talk about geocatchments in the sense of the Murray-Darling Basin; you can talk about smaller catchments as, for instance, the Yarra catchment or the Yea River catchment and so on; or you can talk about really quite small catchments. The word ‘catchment’ is appropriate to all of those geographic areas and each catchment has its own characteristics determined by the topography of the land, the amount of rain and so on. So the word ‘catchment’ can be used in a whole range of different ways, and that can lead to some confusion.

The other definition that I have concern about is ‘environmental flow’. If that means just the flow that maintains the natural environment, I do not think that adequately covers it, because environmental flow means the health of the environment of that catchment area, and that includes the human populations as well as the natural populations that live there. So, when we are talking about degraded catchments, we are often referring also to the farming enterprises, the communities that live there and so on. It seems to me that that is an important concept to grasp.

To the submission, like many Australians I am deeply concerned about the current state of both the Goulburn River and the Murray River and their future viability as both environmental and economic resources for our people. As a botanist and environmental scientist, I consider that these river systems are seriously degraded and crying out for urgent attention and help. Many people and families who live in these catchments are suffering economically and socially, directly caused by the state of the rivers. It is essential that all governments that have legislative responsibility for the management of these rivers take urgent action to recognise the disastrous state of these catchments and stop the decline as far as possible immediately.

I draw your attention to five concerns. First, any recommendation or policy arising from this inquiry must be based on the acceptance of the fact of global warming. Current scenarios predict higher temperatures and lower rainfall in south-eastern Australia. As a consequence, the average annual yield of water available for both the Murray and the Goulburn River will be well below the long-term averages. This trend is already apparent and clearly quantifiable in the annual rainfall records over the last 10 years. We face a future of reduced rainfall and higher temperatures.

Second, it is clear that the present irrigation allocations exceed currently available water resources. Current irrigation licences exceed supply, resulting in an unsustainable expectation on the part of irrigators. All allocations must be reduced substantially and immediately, with transition compensation arrangements to irrigators to enable them to adjust their businesses.

Third, the ecological viability of rivers and river catchments is essential for the socioeconomic wellbeing of all the communities who live within such catchments. This is not just an esoteric academic point of view; it is a fact that we are all part of the catchment environment in which we live. We use water; we use soil nutrients; we grow the crops; the sun provides the energy that drives this system. As residents of planet Earth, we are dependent upon the health and viability of our local catchment ecosystems.

Towns and rural communities of the Goulburn-Murray catchments are in stress because the rivers and catchments are in stress. It is essential that we work to produce catchments of ecological viability. That includes both farming enterprises and the conservation of the natural environment. It is a matter of creating the right balance, and currently we are seriously out of balance.

Fourth, the nationally and internationally significant ecosystems of the Murray red gum woodlands and the Coorong lakes and wetlands depend entirely on the viability and health of these river catchments—the Coorong of course bringing into play the Darling element of the Murray-Darling Basin—and we have an obligation to secure these.

Fifth, in a policy which totally ignores these fundamental dependencies of rural communities on the health and viability of catchment ecosystems, the Victorian government is installing a pipeline designed to remove 75 billion litres of water from the Goulburn River annually. The consequence of this policy is to ensure further degradation of the Goulburn and Murray catchments and to place in dire jeopardy the downstream communities and rural industries so dependent on the health of the river. Further, there is considerable input of electric energy to pump the water from the Goulburn River over the main divide into the Sugarloaf Reservoir. By the way, there is increasing evidence to show that water may not even be available for this enterprise.

This policy does not and cannot produce one more drop of rainwater within the catchments. Therefore, the bottom line outcome is that 75 gegalitres of water currently within the water cycle of the Goulburn-Murray catchments will be taken to augment the water supplies of Melbourne. There would be a net loss of water to the Goulburn-Murray system of 75 gegalitres annually, supposing that water can be accessed. The upgrade of the Victorian food bowl irrigation system is simply an engineering solution contributing to the possibly better management of water resources at the bottom end of the Goulburn catchment. It will not produce any new water. Further, a significant section of the Goulburn River between the pipeline take-off near Yea and the lower Goulburn, where the savings are to be made, will suffer major reductions of river flow. This section of the river is already severely stressed, as is evidenced by a number of reports that have been recently published. This pipeline must be stopped immediately.

Based on these concerns, it is my opinion that the allocation of irrigation licences from the Murray and the Goulburn rivers must be drastically reduced immediately and that the construction of the Sugarloaf interconnector pipeline must be halted before further irreparable damage is done to the environment and before the economic and social values of these river systems and their national values are lost forever.

**Senator BIRMINGHAM**—Thank you both for your time and evidence today. Would you agree that under present irrigation arrangements throughout the region—indeed, you could argue, across the basin—there are irrigation inefficiencies and water is in some way lost, wasted or put back into the system as a result of those inefficiencies?

**Dr Calder**—If you talk about inefficiency as the dollar value production of a litre of water, yes, there are inefficiencies, and they have arisen as a result of the age of the current infrastructure that delivers the water. It reflects a time when there was less concern about the amount of water that was available. So it probably did not impact greatly on the economic

viability of these operations. But it seems to me now that they are inefficient through the potential for evaporation in open channels, through the loss of water to ground—which I think is not necessarily an ecological loss, because it gets into the groundwater system and becomes part of the water cycle. But certainly from an economic point of view there are inefficiencies in the current system.

**Dr Seethaler**—We expressed our support for the Food Bowl Modernisation Project in a different submission, which was just targeted at the Food Bowl Modernisation Project technical report draft from October 2007, I believe it was. We think gaining water inefficiencies per se is of course an important step, and by that token I would like to add that we also need to take a step back from the paradigm of using drinkable water only once. I think many urban centres and cities use drinkable water only once and then discard it. There is a lot of potential here to gain water just by using it twice with a treatment section in between. This would be one other means to add to the volume of usable water for different uses.

**Senator BIRMINGHAM**—I welcome those comments. I will stay with the irrigation cycle for now, but I wholeheartedly welcome those comments as well, as an addendum and certainly something that urban water suppliers should be looking at across the board. In terms of water that is taken out of the system for irrigation, you have indicated some of it seeps into groundwater, some of it probably seeps back into river systems and some of it evaporates. In a modernisation project—and you have indicated broad support for that upgrade of infrastructure—what would be the appropriate and reasonable uses of the so-called savings from such a project, if you are preventing them from evaporating, going into groundwater or seeping back into the river?

**Dr Calder**—My opinion would be that, if those water savings could be measured, a proportion—and I do not know what proportion this might be—should go to providing the irrigation that irrigation farmers have anticipated over the longer term. They have much less allocated now than they have had. Some should go back into that and some should go into the Murray River. I get quite emotional when I think about the state of the Murray River, and particularly the downstream environments of the Murray River, like the Coorong. I think that if we are serious about saving those sorts of national, natural icons then we do have to see how we can improve the amount of water flowing into the Murray.

**Senator BIRMINGHAM**—And you believe that, with the projections from the CSIRO and others of the likely continued decrease of inflows into the river, it is more important than ever to put such savings as we were just discussing to those two purposes?

**Dr Calder**—I would say yes.

**Dr Seethaler**—If I can add something to that, I wanted to say that there is an association that is somehow deceptive in that notion of saving icon wetlands. There is nothing iconic about this. The icon bit for me is really used for the purpose of communicating something to people who are not always so well educated who cannot have the time to read all the scientific reports. But in fact what we are saving here is an ecosystem that still functions. We need to contribute or attribute sufficient water to the functioning of the ecosystem—and, for example, Dr Jon Nevill said in one of his earlier papers in 2008 that, in order to maintain the ecosystem, flooding needs to happen every two to three years. Otherwise you will shut down certain ecosystems around the

Murray River that are actually bringing in the levels of dissolved oxygen that you need in order to keep the river alive, and so on and so forth. It is really about saving the whole of the system, and that whole system is the underpinning of our economy and of the regional survival of the people living out there. This is nothing to do with fancy icons, something esoteric or something that we just want to save for the sake of our tourism, to have something pretty to show. No, this is about maintaining a viable system that underpins the ecosystem services that underpin the economics.

**Senator BIRMINGHAM**—Very well put.

**Dr Calder**—I think we are saying the same thing. The river red gum forests will self-sustain in annual rainfall of above 500 millimetres. But with rainfall of below 500 millimetres they need periodic flooding—maybe once every five years or seven years—to maintain their viability as an ecological system.

**Senator SIEWERT**—Dr Calder, I would like to go to the comments you have made, both in your written submission and just now, around the impact of taking 75 gigalitres out of the system. You have made a general comment but, if I understand it correctly, you are saying that the water is being taken out further upstream from where the savings are being made and that that is going to have an even greater impact in terms of degrading parts of the river.

**Dr Calder**—That is right. Below the Goulburn Weir, which I presume you have visited or will visit, is where the food bowl starts. The water removed from the Goulburn River will be taken out just upstream from Yea, which is below the Eildon Weir. Therefore, that water will be taken out before it even gets into the irrigation system, and the section of the Goulburn River between that off take and the Goulburn Weir will be deprived of that amount of water. That will be made good further down the river, but the problem is that the Eildon Weir is about 15 per cent full.

**Dr Seethaler**—I looked at the website yesterday. At the moment it is 13 per cent full, which is about 436 gigalitres.

**Senator SIEWERT**—I want to come back to that issue in a second. I want to follow up on the issue of the savings that are made by water efficiency and how it relates to the water that is entering the groundwater through losses. I am not necessarily arguing that we should not be doing the water-efficiency measures. What I am concerned about is that a lot of that water does go back to the system—it is not lost from the system—

**Dr Calder**—That is right.

**Senator SIEWERT**—and it seems to me, from the evidence we have heard so far, that we do not have a handle on how much there is and how it is contributing to the maintenance of environmental systems.

**Dr Calder**—I think all of these figures are fairly rubbery. We do not know exactly how much goes to groundwater and we do not know exactly how much evaporates. What we do know is that both of those losses are losses to the system. But they are not losses at all; they are part of the water cycle of that catchment.

**Senator SIEWERT**—So the claims that are being made by the proponents of food bowl modernisation—that one-third of this water is going to the environment, one-third to the irrigators and one-third to the pipeline—seem to me to be without foundation. There is no clarification and data that says how much is going to be saved, because we are not necessarily losing all that water from the system now.

**Dr Calder**—There is no new water coming into the system as a result of this policy. All of the water is there as part of the system. There will be 75 gegalitres taken out and given to Melbourne, so the net effect is 75 gegalitres lost per annum from the Goulburn catchment. So I think we can say that what goes into the irrigation system will now be more efficiently allocated. There are a whole lot of figures that the Victorian government have had over three or four years now. How much they have been updated I do not know, but clearly the figures are very difficult to measure.

**Senator SIEWERT**—Yes, we have had evidence about that this morning.

**Dr Seethaler**—I would like to add two things. One person who could really give you a bit of an overview about the groundwater and surface water interaction that we are talking about here, because that is what is happening in the Shepparton irrigation district is Dr Richard Evans, but he works for SKM. He had a very good report in 2006 which explains that interaction a little bit. The other problem is that in the past we did have a problem here in the Shepparton irrigation area that the water tables were bringing up too much salinity to the surface and hence it was actually a good thing to somehow lower the water table in those reaches. However, our argument to the planning panel last year was that now, with drastically reduced inflows in the upper catchment and also in the reaches around the Shepparton irrigation region, that water table is going down, so the salinity problem was sorting itself out. Hence you cannot bring the argument, ‘We are actually glad that we are having those losses because of salinity.’ That is no longer there. We really need to have the figures to ascertain what is happening exactly.

**Senator SIEWERT**—Before I get the windup, I would like to ask a question around the comment you made about Lake Eildon and the low reliability water. Do I understand you correctly when you say that the water that is being held there as part of the unallocated water is low reliability water?

**Dr Seethaler**—I am a lay person, coming from a different field; transport and environment is my normal occupation. But I tried to assemble the most figures I could. I also went to talk to with different experts with Goulburn-Murray Water and I found somebody who directed me to all the bulk entitlements that I should look at. I listed them and started to read them and then went back to the person, asking what is the state of the thing. I am really sorry I have not completed my homework yet for today; I live in Taggerty and the bushfire swapped the agenda around a little bit. What is really interesting is that apparently that was allocation from Eildon Weir for the season 2007-08. I will happily send you that document as well that I put together. You have 112 gegalitres that is the bulk entitlement for the Living Murray. That was created from the transition from the old water rates to the new water shares by this unbundling process. So this is lower reliability allocation and needs to wait in the queue, basically.

There is something else I really want to direct your attention to and you might ask somebody who knows better than me. Reading the sustainable water strategy for the northern region, with

the water trade what might be happening is that the farmer or the water holder who wishes to trade water on the water market trades it to the best bidder and often that can then change the category of reliability. Hence you could end up with somebody selling water that has a different reliability than the buyer, because it becomes urban water or some entity buying that water. Then all of a sudden you have another kind of overallocation problem because water shares from lower reliability to higher reliability and must be allocated. You see what I mean. I have not found the answers completely yet and I have looked at some of the submissions that were coming in to that strategy and there is a general confusion about this, but this is a real issue, because if that happens you do not have a good handle on the overallocation.

**Senator SIEWERT**—My understanding is that in other states where that happens not all of that has been changed. If you are in New South Wales you are going from low to high. Only a certain percentage of that water goes from low security to high security. I must admit; it is different in each state.

**Dr Seethaler**—Yes, it is very confusing.

**Senator NASH**—Dr Calder, in your submission you refer to the fact that you believe the Victorian government had not adequately considered other alternatives for Melbourne for their water. I think this is one of the key issues that have come out of all of this. What do you think are the other alternatives that Melbourne should have looked at? Why do you think the government didn't?

**Dr Calder**—One can never be sure whether governments have considered it all or not, but it is not apparent to me. The recycling of water is one issue. The use of recycled water, not necessarily of drinking water but as second-grade water in house and industry systems, would be very sensible. There is still much in the way of water savings that could be achieved through education and so on, and there are other alternative sources of water which the government could be considering on the southern side of the main divide—for instance, additional lake storages or dam storages on the rivers in Gippsland. So there are alternatives that could be available, particularly recycling. We have thought about recycling but we have not come to terms with it.

**Dr Seethaler**—On pages 8 and 9 of my handout I put some calculations of Dr Brian Finlayson from Melbourne university. It was interesting in that he looked at gardening water and toilet water. That made 35 per cent and 19 per cent of water in Melbourne that is used once. You use that once and then it is discarded. It goes into outfalls into the sea. He then looked at a program by which—if you look at the figure on page 9—you gradually introduce recycling of that greywater. Just with those two things alone—what we flush down the toilet and what we use on our gardens—he realised that this measure, implemented stepwise until 2030 or 2050, could actually provide abundant space, so to speak, to make the desal and the north-south pipeline unnecessary. That was one of the points that the Auditor-General pointed out. You have not done a cost-benefit analysis that would look at the alternative options, and that is a real problem. Basically, you have a bad business case. It will be a stranded asset. If what has been leaked in the press is correct, and we look only at 10 gigalitres, when you think about it the north-south pipeline will be an incredibly expensive stranded asset.

**Dr Calder**—I can add to that. Like many rural people, I live on tank water at home and we have to look after that very carefully. It would be possible to install tanks at almost every house

in Melbourne at no more, and probably a lot less, cost than the north-south pipeline and certainly the desal.

**Dr Seethaler**—I also find it interesting that, about half a year ago, or a bit longer, five-star rating building codes were discussed in the press and installing tanks to make water-wise homes was an option that architects were discussing. During that time there were press releases from the water minister, who came out and said, ‘No, tanks are not good; I’m not satisfied with my own tank,’ and almost vilifying tanks, whereas, behind the scene, the planning minister was trying to encourage having tanks in the new building code. So a little bit of argy-bargy was going on. But what we need is life cycle assessment. I do not know whether you are aware of the economic tool of cost-benefit analysis from the cradle to the grave of a project. You look at all the inputs and all the outputs in terms of carbon footprint but also water footprint and energy footprint and the costs and benefits and then you make your decision.

I think that should be applied also to projects such as desal and the north-south pipeline or the alternatives that are given. I might add: countries like Singapore are doing these things and going water self-sufficient with those decentralised, household based technologies combined with recycled water.

**CHAIR**—Thank you very much, Dr Seethaler and Dr Calder, both for your written submissions and your additional papers and for appearing before the committee this afternoon. We appreciate it very much.

**Dr Calder**—Thank you, Madam Chair.

**CHAIR**—Before I conclude proceedings, I need a senator to move that we accept the tabled documents.

**Senator WORTLEY**—I will move that.

**CHAIR**—There being no objection, it is carried. That concludes today’s proceedings. I would like to thank all the witnesses for their presentations, the members of the audience were coming along and Hansard, Broadcasting and the secretariat for their assistance today.

**Committee adjourned at 2.41 pm**