



COMMONWEALTH OF AUSTRALIA

Official Committee Hansard

**HOUSE OF
REPRESENTATIVES**

STANDING COMMITTEE ON ENVIRONMENT AND HERITAGE

Reference: Catchment management

WEDNESDAY, 9 FEBRUARY 2000

ADELAIDE

BY AUTHORITY OF THE HOUSE OF REPRESENTATIVES

INTERNET

The Proof and Official Hansard transcripts of Senate committee hearings, some House of Representatives committee hearings and some joint committee hearings are available on the Internet. Some House of Representatives committees and some joint committees make available only Official Hansard transcripts.

The Internet address is <http://www.aph.gov.au/hansard>

To search the parliamentary database, go to: <http://search.aph.gov.au>

HOUSE OF REPRESENTATIVES
STANDING COMMITTEE ON ENVIRONMENT AND HERITAGE
9 February 2000

Members: Mr Causley (*Chair*), Mr Barresi, Mr Bartlett, Mr Billson, Mrs Gallus, Ms Gerick, Mrs Irwin, Mr Jenkins, Dr Lawrence and Mrs Vale

Members in attendance: Mr Billson, Mr Causley, Mrs Gallus, Mrs Irwin and Mr Jenkins

Terms of reference for the inquiry:

To inquire into catchment management, with particular attention to the following matters:

the development of catchment management in Australia;

the value of a catchment approach to the management of the environment;

best practice methods of preventing, halting and reversing environmental degradation in catchments, and achieving environmental sustainability;

the role of different levels of government, the private sector and the community in the management of catchment areas;

planning, resourcing, implementation, coordination and cooperation in catchment management; and

mechanisms for monitoring, evaluating and reporting on catchment management programs, including the use of these reports for state of the environment reporting, and opportunities for review and improvement.

WITNESSES

ANTELL, Mr Bill, Executive Group Member, Adelaide Hills Community Action Group..... 216

ASHMAN, Mr Glyn William, Acting Manager, Water Resources, SA Water 201

BROSTER, Mr Leon George, General Manager, Murray Darling Association Inc. 211

BURSILL, Professor Donald Bruce, Director, Cooperative Research Centre for Water Quality and Treatment 201

FORWOOD, Mr Michael, Executive Group Member, Adelaide Hills Community Action Group 216

MALLAN, Mr David, Executive Group Member, Adelaide Hills Community Action Group 216

WIGLEY, Ms Sarah Jane, Project Manager, Murray Darling Association Inc. 211

COMMITTEE MET AT 2.05 P.M.

BURSILL, Professor Donald Bruce, Director, Cooperative Research Centre for Water Quality and Treatment

ASHMAN, Mr Glyn William, Acting Manager, Water Resources, SA Water

CHAIR—I declare open this public hearing of the inquiry for the House of Representatives Standing Committee on Environment and Heritage into catchment management. Committees gather evidence for their inquiries by inviting submissions from the public and interested parties and then holding inspections and public hearings across Australia to talk to people on the ground, in this case people who are involved in catchment management activities. Yesterday and today the committee met with the Torrens and Patawalonga Catchment Management Boards, the Mount Lofty catchment program and the South Australian care program at Murray Bridge. At today's public hearing we will hear from the CRC for Water Quality and Treatment, the Murray Darling Association and the Adelaide Hills Community Action Group.

BEFORE PROCEEDING, I ADVISE THE WITNESSES THAT COMMITTEE PUBLIC HEARINGS ARE RECOGNISED AS PROCEEDINGS OF THE PARLIAMENT AND WARRANT THE SAME RESPECT THAT PROCEEDINGS IN THE HOUSE OF REPRESENTATIVES DEMAND. WITNESSES ARE PROTECTED BY PARLIAMENTARY PRIVILEGE IN RESPECT OF EVIDENCE THEY GIVE BEFORE THE COMMITTEE. WITNESSES WILL NOT BE ASKED TO TAKE AN OATH OR TO MAKE AN AFFIRMATION. HOWEVER, THEY ARE REMINDED THAT FALSE EVIDENCE GIVEN TO A PARLIAMENTARY COMMITTEE MAY BE REGARDED AS CONTEMPT OF THE PARLIAMENT. THE COMMITTEE PREFERS THAT ALL EVIDENCE BE GIVEN IN PUBLIC, BUT SHOULD WITNESSES AT ANY STAGE WISH TO GIVE EVIDENCE IN PRIVATE THEY MAY ASK TO DO SO AND THE COMMITTEE WILL GIVE CONSIDERATION TO THEIR REQUEST.

I CALL WITNESSES FROM THE CRC FOR WATER QUALITY AND TREATMENT. WE HAVE RECEIVED A SUBMISSION FROM YOU. WOULD YOU LIKE TO ELABORATE ON THAT?

Prof. Bursill—Thank you for the opportunity to come along to this hearing. Firstly, I would just like to emphasise that the cooperative research centre like all CRCs is a national research institution. In our case we have 23 parties located around Australia and there is detail of that in the written submission. Two underlying themes of the CRC research agenda are health risk reduction for public water supplies and water quality improvement. One of our research program areas is in the source water management area. It is under that program that our CRC is concerned with the issues that concern this committee.

JUST TO GIVE YOU A BROADER PICTURE, THERE ARE OTHER PROGRAMS BROADLY FOCUSED ON PUBLIC HEALTH ISSUES OF WATER QUALITY, WATER TREATMENT TECHNOLOGY AND THE IMPROVED MANAGEMENT OF WATER DISTRIBUTION SYSTEMS. MANY OF THESE MATTERS THAT CONCERN US, LIKE PATHOGENS, OBVIOUSLY SPAN THE FULL AMBIT OF THAT RANGE OF AREAS OF INTEREST. I THOUGHT I WOULD JUST INDICATE THAT ONE OF MY ROLES IS ALSO TO CHAIR THE COORDINATING COMMITTEE FOR THE ROLLING REVIEW OF THE AUSTRALIAN DRINKING WATER GUIDELINES. THIS IS A JOINT EXERCISE OF THE NATIONAL HEALTH AND MEDICAL RESEARCH COUNCIL AND THE ARMCANZ TEAM. IT IS FROM THOSE SORTS OF NATIONAL PERSPECTIVE THAT I WOULD LIKE TO MAKE SOME COMMENTS TOWARDS YOUR REVIEW.

THE POINT THAT I WANTED TO PUT ACROSS IS A RELATIVELY SIMPLE ONE. BASICALLY, IT IS MY FEELING THAT, AS INSTITUTIONAL CHANGES HAVE OCCURRED IN THE LAST FIVE TO 10 YEARS AROUND IN THIS COUNTRY IN DIFFERENT WAYS AND AT DIFFERENT RATES OF PROGRESS, THESE HAVE NOT ALWAYS BEEN POSITIVE IN THE SENSE OF HOW WATER AUTHORITIES CAN FULFIL THEIR FUNCTIONS MOST APPROPRIATELY. SOURCE WATERS, THE CATCHMENTS, FROM WHICH WATER SUPPLIES ARE TAKEN, HOW THOSE

THINGS ARE MANAGED IS LARGELY IN MANY CASES OUTSIDE OF THE DIRECT FUNCTIONAL CONTROL OF THE WATER AUTHORITY.

I WOULD LIKE TO MAKE A COUPLE OF POINTS THAT HOPEFULLY WILL MAKE IT CLEAR TO YOU THAT THIS DOES PROVIDE SOME ADDITIONAL RISK TO PUBLIC HEALTH THROUGH THE WATER SUPPLY SYSTEM IF THE APPROPRIATE POLICIES, STRATEGIES AND COOPERATION ARE NOT IN PLACE. THERE ARE SIGNIFICANT ECONOMIC COSTS FOR WATER AUTHORITIES IN TREATING WATER TO A STANDARD THAT COMPLIES WITH AUSTRALIAN DRINKING WATER GUIDELINES. THIS IS A POINT THAT SOMETIMES DOES NOT GET RECOGNISED IN THE NATURAL RESOURCE AGENCIES, OR ENVIRONMENTAL AGENCIES. I THINK THERE IS AN ATTITUDE THAT ONE CAN SEE IN VARYING DEGREES AROUND THE COUNTRY THAT, IF WE HAVE GOT TREATMENT IN PLACE, THEN THESE ARE ABSOLUTE BARRIERS AND THEY WORK EFFECTIVELY AND IT DOES NOT MATTER TO A LARGE DEGREE WHAT HAPPENS TO THE WATER THAT COMES FORWARD. I THINK THAT ISSUES LIKE CRYPTOSPORIDIUM, GIARDIA, AND WITH CERTAIN PESTICIDES AND HERBICIDES LIKE ATRAZINE, CONVENTIONAL WATER TREATMENT TECHNOLOGY DOES NOT DEAL WITH THESE THINGS PROPERLY. THERE ARE NO ABSOLUTES IN TERMS OF TREATMENT. VARIOUS PARTS OF TREATMENT PROCESSES HAVE FAIRLY HIGH EFFECTIVENESS AND IF THEY ARE MANAGED PROPERLY CAN BE VERY GOOD AT PRODUCING GOOD QUALITY WATER FROM SOME FAIRLY ORDINARY SOURCES. CERTAINLY, SOUTH AUSTRALIA HAS GOT AN EXCELLENT SKILL BASE AND KNOWLEDGE BASE FOR HAVING TO DO THAT BECAUSE WE HAVE GOT FAIRLY POOR SOURCE WATERS. BUT THEY ARE NOT 100 PER CENT EFFECTIVE AND THE MORE THESE POLLUTION LOADS ENCROACH ON THE SYSTEM, THE GREATER IS THE LIKELIHOOD OF FAILURE. THEREFORE, IF THAT RISK IS CONSIDERED UNSATISFACTORY THEN, OF COURSE, THERE IS THE NEED FOR ADDITIONAL CAPITAL AND OPERATING COSTS ARE INCURRED BY THE WATER AUTHORITY.

ONE PARTICULAR MATTER WHICH IS PROBABLY ONE OF THE MORE TECHNICAL THINGS I WOULD LIKE TO MENTION IS THAT POOR LAND MANAGEMENT CAN LEAD TO INCREASES IN WHAT WE CALL NATURAL ORGANIC MATTER, WHICH DERIVES FROM THE SOIL AND VEGETATION. THE CLIMATE, THE GEOLOGY AND THE HYDROLOGICAL SITUATION IN AUSTRALIA ACTUALLY GIVE US A FAIRLY POOR SITUATION WITH REGARD TO NATURAL ORGANIC MATTER. WE HAVE HIGHER LEVELS IN OUR WATER RESOURCES OF WHAT WE CALL NOM, NATURAL ORGANIC MATTER, THAN IS TRUE FOR A LOT OF OTHER COUNTRIES IN NORTH AMERICA OR EUROPE. THERE IS A DIRECT CORRELATION BETWEEN THE LEVEL OF THESE SUBSTANCES AND THE COST OF TREATMENT OF WATER. IT IMPACTS DIRECTLY ON ALL THE CHEMICAL AND PHYSICAL PROCESSES IN WATER TREATMENT AND DISINFECTION. AGAIN, IF CERTAIN CATCHMENT MANAGEMENT PROCEDURES OR POLICIES ARE IN PLACE THAT LEAD TO DETERIORATION OF THE LAND TO THE EXTENT THAT MORE OF THIS NOM MOVES INTO THE WATER SYSTEM, THEN THERE IS A DIRECT COST ON THE WATER INDUSTRY.

IN VERY BROAD TERMS. I WOULD LIKE TO SEE NATIONAL CATCHMENT MANAGEMENT PROGRAMS AND STRATEGIES REALLY ADDRESS THE PUBLIC WATER SUPPLY ISSUES, THE PUBLIC HEALTH RISKS AND THE COST. I DO NOT GET THE FEELING THAT THAT HAPPENS ENOUGH. CERTAINLY, A LOT OF THE WORK THAT IS GOING INTO CATCHMENT MANAGEMENT NATIONALLY IS DIRECTED AT IMPROVING OUR ENVIRONMENTAL MANAGEMENT AND TRYING TO IMPROVE THE ECOLOGICAL STATUS OF OUR SYSTEMS. I DID TRY TO THINK OF IT, BUT I CANNOT THINK OF ANY EXAMPLES WHERE THESE TWO THINGS

ARE NOT MUTUALLY BENEFICIAL. SO, IN THAT REGARD, THAT IS FINE. BUT ONE DOES BECOME AWARE OF CERTAIN POLICY TOOLS AND STRATEGIES THAT ARE IN PLACE THAT ARE NOT NECESSARILY HELPFUL TO WATER SUPPLY SITUATIONS EVEN THOUGH THEY MAY HAVE OTHER BENEFICIAL ASPECTS, LIKE THE WAY IN WHICH ALLOCATION POLICIES ARE MANAGED, HAVING TRADING IN WATER ALLOCATIONS OR TRADING IN POLLUTION RIGHTS, INTER-BASIN TRANSFERS OF WATER, AND THIRD-PARTY ACCESS TO INFRASTRUCTURE, WHICH IS POSSIBLY OUTSIDE THE AREA THAT YOU ARE TALKING ABOUT HERE.

THERE IS A BIT OF A TENDENCY TO DEAL WITH THESE THINGS AS THOUGH THE WATER SYSTEM IS A BIT OF AN INANIMATE OBJECT. A THING LIKE THIRD-PARTY TRANSFERS OF WATER IN INFRASTRUCTURE HAPPEN REGULARLY WITH ELECTRICITY. AN ELECTRON IS AN ELECTRON AND IF YOU PUT IT INTO COPPER WIRE AT ONE END AND IT COMES OUT THE OTHER, IT IS STILL AN ELECTRON. BUT WATER IS A SUBSTANCE WHERE THERE IS CHEMISTRY AND BIOLOGY AND MICROBIOLOGY AND THINGS GOING ON IN IT AND IT IS NOT A PURE SUBSTANCE AS WE SEE IT. THERE ARE ALL SORTS OF THINGS AND IMPLICATIONS THAT NEED TO BE TAKEN INTO ACCOUNT.

I WILL FINISH BY SAYING THAT IN REFINING CATCHMENT MANAGEMENT PROGRAMS, THE IMPACTS ON SUBSEQUENT USE OF WATER FOR PUBLIC WATER SUPPLY SHOULD BE A KEY FACTOR IN THE DECISION MAKING PROCESS. THE OVERRELIANCE ON THE SUBSEQUENT WATER TREATMENT PROCESSES COULD LEAD TO INCREASED COSTS ON THE COMMUNITY AND/OR GREATER PUBLIC HEALTH RISK. THAT IS THE RELATIVELY SIMPLE MESSAGE THAT I WAS TRYING TO BRING ACROSS.

CHAIR—Thank you, Professor. Mr Ashman, do you want to make any comments?

Mr Ashman—Just briefly. The model of catchment management that is used in South Australia is largely based on catchment management boards. They are small boards that are generally drawn from the community, community based boards. The concern that we have as the water authority is that when you are considering drawing water for the public water supply you cross catchment boundaries, and that includes both intrastate and interstate. So there is still a need in catchment management to look wider in terms of the value of the water, where it is coming from and the impact on that. That is something that we grapple with and it is something that has to be grappled with federally in terms of things like the Murray-Darling Basin and those sorts of issues.

CHAIR—Thank you. Adelaide is probably at the end of the biggest catchment in Australia, and probably one of the biggest catchments in the world if we had some rain in it. Have we got any benchmarks going back 30 or 40 years as to what water quality was in those days, or is it just something we did not take any notice of?

Prof. Bursill—No. The predecessors of the South Australian Water Corporation had a laboratory as early as about 1932 and it was monitoring water in our reservoirs and our systems back then. Prior to that there is even some historical data where the old engineering and water supply department, before it had a laboratory in the 1930s, did send water samples to the old state chemistry laboratories. Clearly, it was not until the late 1960s and early 1970s that communities became much more concerned about environmental matters. And at that time technology developed to a point where matters like nutrient levels, nitrates, phosphates and various forms of phosphorous and heavy metals and things could be measured at the sorts of levels that are actually important in water. So some of the early information is pretty basic stuff on broad inorganic chemistry, like the hardness and salinity and so on.

CHAIR—Natural background phosphorous is probably coming mostly from the Darling, from the soils and the rocks of that area. I think it was Sturt who mentioned salinity when he went up the river.

Prof. Bursill—There have been a lot of historical problems. We have not in this continent had the benefit of a multitude of water sources of very good quality, as a country like Germany has. Water is not a problem from their point of view, it is just a question of pollution management. They have got plenty of water. But in the Murray River system, certain nutrients are naturally present in the soil and they will find their way into the water system. Our land management can aggravate the transportation and the levels considerably and also affect the forms that these materials are in and make them more accessible, for example, to algae. But certainly

the earliest scientific reports of toxic algae, for example, being noted anywhere in the world were here in South Australia at Lake Alexandrina in 1878.

CHAIR—In 1874.

Prof. Bursill—I think it was published in 1878. But, interestingly, there was another article on the South Australian register about 10 years later which referred to earlier indigenous nasty organisms that occurred in the river back in about the 1850s so it has been around for a long time.

CHAIR—I love the old explorers talking about sweet and sour water. Obviously the committee is interested in catchment management and you come to back to the practicalities of what you can do to manage those catchments, but I wonder at times if, because we can measure things today, we might just go a little bit too far as to the standards that we set.

Prof. Bursill—No. I know that there is that view and it is supported by the fact that in some cases the analytical chemistry leads the way. The new technology is available and therefore we find something that we were not expecting. One example of that might be disinfection by-products in drinking water. The technology became available in the seventies and found groups of chlorinated compounds in our drinking water which, through other knowledge, were considered to be possible carcinogenic substances, but nobody really knew whether these levels in the water were a problem or not. There has been a lot of research on that particular topic and it is still going on. In fact we have done a bit of that here in South Australia in our cooperative research centre.

THE SHORT STORY IS IN FACT THAT THE ABILITY TO BE ABLE TO MEASURE THESE THINGS HAS ENABLED US TO IMPROVE WATER QUALITY FOR THE GOOD OF THE COMMUNITY IN REDUCING PUBLIC HEALTH RISK. SOME PEOPLE MIGHT STAND BACK AND SAY THAT IF WE NEVER KNEW ABOUT IT WE WOULD NOT NEED TO DEAL WITH IT, BUT IT IS A BIT IRRESPONSIBLE IF THERE ARE UNSATISFACTORY OUTCOMES FROM A PUBLIC HEALTH PERSPECTIVE. WITHIN THE AUSTRALIAN DRINKING WATER GUIDELINES REVIEW PROCESS THAT WHOLE THING IS STRUCTURED ON MONITORING IMPROVED KNOWLEDGE INTERNATIONALLY, LOOKING AT IT AT AN EXPERT LEVEL AND MAKING SUGGESTIONS BACK TO THE NHMRC IN THE HEALTH SYSTEM, AS TO WHETHER OR NOT THERE SHOULD BE ADJUSTMENTS EITHER UP OR DOWN IN THE DRINKING WATER GUIDELINES.

CHAIR—I wonder how my grandparents survived actually.

Prof. Bursill—Yes. I have been involved in public community consultation processes in western Victoria in the last few months because of the state government's initiative to try and tidy up a lot of those rural water supplies and some communities have never had any treatment whatsoever. They have a view that they do not want any improvements, mainly because it is going to cost them more. But I have seen some of the analytical results from some of those locations and the water is horrendously bad microbiologically. The reason why it is often not pinned down to the water system is that it is extremely difficult to prove where someone actually got a certain gastroenteritis complaint.

THERE ARE COMMUNITIES WHERE ONE COULD GO THROUGH ON THE WAY TO ANOTHER DESTINATION, STOP OVER AND HAVE A DRINK OF WATER AND A WEEK LATER ONE WOULD BE SUFFERING FROM GASTROENTERITIS. ENDEMICALLY, IN A COMMUNITY WITH THE STANDARD OF LIVING OF AUSTRALIA AND NORTH AMERICA, PEOPLE ON AVERAGE SUFFER ONE SEVERE GASTROINTESTINAL COMPLAINT – OR BETWEEN ABOUT 0.7 AND ONE – PER YEAR AND WHAT IS NOT KNOWN IS WHAT PROPORTION OF THAT MIGHT BE COMING FROM THE WATER SYSTEM.

THERE ARE A COUPLE OF CANADIAN STUDIES THAT WOULD SUGGEST THAT, EVEN WITH FULLY TREATED AND DISINFECTED WATER, IT COULD BE ANYWHERE BETWEEN 15 AND 30 PER CENT OF THAT WHICH COULD BE DUE TO WATER. BUT PEOPLE DO NOT KNOW WHERE THEY MIGHT HAVE PICKED IT UP AND THAT IS WHAT REALLY MAKES PEOPLE THINK IT IS NOT A PROBLEM.

THERE IS ANOTHER ISSUE TOO AND THAT IS IN RELATION TO LOCAL IMMUNITY. THERE IS A SITUATION IN CANADA WHERE THERE WERE TWO SMALL TOWNS ON THE SAME RIVER. THE UPSTREAM TOWN HAD A VERY GOOD GROUND WATER SOURCE AND HAD BEEN USING THAT FOR PROBABLY 100 YEARS. THE DOWNSTREAM TOWN DID NOT HAVE THAT LUXURY AND WAS DRINKING WATER FROM A RIVER AND HAD DONE SO ALL ALONG.

THE UPSTREAM TOWN WAS GROWING AND PUT TOO MUCH PRESSURE ON THE GROUNDWATER RESOURCE, STARTED TO SUPPLEMENT IT FROM THE RIVER, PUT IN A TREATMENT WORKS AND EVERYTHING, AND WITHIN A MATTER OF WEEKS THERE WAS AN EPIDEMIC IN THAT SMALL COMMUNITY OF CRYPTOSPIRIDIOSIS. YET THEY DID NOT SEE THAT IN THE DOWNSTREAM TOWN BECAUSE THE LEVEL OF IMMUNITY WAS VIRTUALLY 100 PER CENT. SO THESE THINGS CONFOUND THE ISSUES. I GUESS I AM TRYING TO COME BACK TO YOUR POINT; I DO NOT THINK IT IS EVER A WISE PHILOSOPHY NOT TO BE CHALLENGING AND MOVING AHEAD WITH OUR KNOWLEDGE AND TECHNOLOGY TO TRY AND UNDERSTAND THE PROBLEM.

CHAIR—Chris, it is your local patch, I will hand it to you.

Mrs GALLUS—Actually, my questions were not at all local, I am afraid, so I hate to do this to you. Are we doing everything the right way? Should we be doing things more inventively, like should we, when we are treating water, be treating it all the same, or with effluent, should we be trying to make some potable? When we treat water for drinking, most of us are showering in it and doing everything else in it and only a very small proportion is being drunk, yet we treat that at very high levels. I saw this especially yesterday after I saw the water in the catchment and realised exactly what we have got to do to it to get it out of our taps. Should we somehow be looking at twin systems so that you have got drinking water coming in special pipes? Would that lower costs to the community?

Prof. Bursill—That is the sort of question that the CSIRO are looking at in that big project they are doing on urban water infrastructure. I am sure they will have submitted something or be giving some evidence. It is a very big issue, so I do not know how well I will be able to answer this for you. We have already got an established in-ground infrastructure which is really, in the end, about 80 per cent of the total cost of supplying water. Only about 20 per cent of it is treatment costs, even in a city like Adelaide which has a very poor supply. In some cases, like Melbourne, it is even a smaller fraction of that. So people will talk about the high costs of treating water, but, frankly, purifying water is becoming cheaper and cheaper all the time and there are innovative technologies that are being developed here in Australia, through our CRC and other areas, which are going to be very beneficial in terms of improving efficiency of the water industry.

BUT, AS I HAVE SAID ABOUT THE MULTIBARRIER CONCEPT, IF WE ARE GOING TO DO IT PROPERLY AND PUT EFFORT IN WHERE IT IS GOING TO HAVE MOST EFFECT, WE SHOULD NOT WAIT UNTIL THE END AND THEN DEAL WITH IT THERE. IN LOTS OF CASES YOU CAN MAKE BIG INROADS INTO THE PROBLEM BY DEALING WITH IT AT THE SOURCE. PREVENTION IS BETTER THAN CURE – IT IS AN OLD ADAGE, BUT IT IS VERY TRUE IN WATER MANAGEMENT. IN SOME CASES, WE ARE SO FAR AWAY FROM WHERE YOU WOULD LIKE TO BE, CERTAINLY HERE IN THIS STATE, THAT YOU CAN ONLY MAKE SOME IMPROVEMENTS.

ON THE MATTER OF EFFLUENT REUSE AND POTABILITY, I HAVE BEEN IN THIS GAME FOR 30 YEARS AND FROM TIME TO TIME YOU HAVE THESE LITTLE MOMENTS WHERE YOU THINK, ‘AM I A BIT STUCK IN MY WAYS? PERHAPS I SHOULD JUMP OUT AND DO SOMETHING ELSE.’ I HAVE NEVER YET FOUND THAT THIS HAS GOT BORING; THERE ARE ALWAYS NEW ISSUES THAT ARISE, NOT ALWAYS THINGS THAT ARE JUST DUE TO ANALYTICAL REASONS AND TURN OUT TO BE NOTHING. THERE ARE REAL ISSUES THAT KEEP CROPPING UP IN THIS WATER MANAGEMENT GAME ALL THE TIME.

IT DOES WORRY ME A BIT THAT THERE ARE CERTAIN PRESSURES IN SOME COMMUNITIES IN THIS COUNTRY TO HAVE FULL POTABLE REUSE, EVEN WHEN IT IS NOT ABSOLUTELY NECESSARY. IT COULD BE USED LIKE YOU WERE SAYING, IN DUAL SYSTEMS FOR TAKING THE LOAD OFF THE PUBLIC WATER SYSTEM THROUGH IRRIGATION AND OTHER MEANS. WHEN YOU COME TO FULL POTABLE REUSE, I THINK WE WOULD BE A BIT ARROGANT IF WE LOOK BACK IN THE PAST AT WHAT THINGS HAVE HAPPENED AND SAY THAT WE THINK NOW WE UNDERSTAND IT ALL AND THAT THERE WILL BE NO PROBLEMS WITH THAT. THERE ARE ISSUES LIKE ENDOCRINE DISRUPTERS THAT ARE BEING RAISED. VIRUSES HAVE GOT A TERRIBLE HABIT OF MUTATING RAPIDLY AND COMING BACK TO HIT US IN SOME DIFFERENT WAY.

WHEN YOU ARE TALKING ABOUT FULL POTABLE REUSE, YOU ARE TALKING ABOUT THE SAME ORGANISMS, THAT IS, US, OUR WASTE PRODUCTS, COMING BACK AGAIN, AND WE ARE RESPONSIBLE FOR A TECHNOLOGICAL BARRIER BETWEEN THEM. I REALLY WORRY ABOUT THAT. HOWEVER, THERE ARE A LOT OF OTHER THINGS THAT CAN BE DONE TO TAKE THE PRESSURE OFF THE MAIN SYSTEM SO THAT WE CAN MANAGE WITH OUR RESTRICTED WATER RESOURCES.

Mrs GALLUS—I have two quick questions. One is picking up on when you talked about the potability of water in effluent treatment. What was the success of the Memtec experiments? There were some places in New South Wales that tried Memtec. I understand Memtec has in fact gone offshore and is doing well offshore, but as an Australian firm was not successful despite the fact it claimed that it could take effluent and change it into bottled water.

Prof. Bursill—It is a microfiltration membrane system, and its great success was this air backwash system which they could keep the performance running with. That has been quite successful. It is a more open membrane than most in that category. Therefore, there are some very small particles like viruses that go through it.

Mrs GALLUS—Viruses can get through it.

Prof. Bursill—I am not right across all the details of what all the various things were in Memtec and their trials. Basically, a lot of the Australian water industry is being very conservative about taking on new technology – I think that worked against them – whereas Europe and North America are much more ready to embrace new things. We do this so much in Australia in other areas too, don't we?

Mrs GALLUS—My key question, getting back to the Adelaide one, is that yesterday we were at Sixth Creek, and we saw this yucky water coming down – held by the Torrens Gorge Weir – and that was Adelaide's drinking water. Taking it from there, where we saw this stuff that you certainly would not even want to swim in, what do you then do to it before it comes out of the tap? I am not sure that that is actually Adelaide water.

Prof. Bursill—That is, of course, only one source. If you had been to Myponga you would have seen a different colour and different turbidity levels. The river Murray is yet another vintage. Basically, there is a storage process and there are some things that naturally happen in storage sedimentation.

Mrs GALLUS—Yes.

Prof. Bursill—There is UV oxidation and over time things improve. Viruses and other pathogens can die off in that time frame. It is a valid part of the system. It needs to be protected in terms of a reservoir.

Mrs GALLUS—A reservoir is your first step?

Prof. Bursill—A reservoir is a barrier as well as proper catchment management that might, in fact, improve that muck before you get that. In water treatment it would, and especially in the scene you saw, go to the Hope Valley water filtration plant. Aluminium sulfate is added to the water and that goes through a chemical reaction that produces a precipitate which, in very simple terms, is basically aluminium hydroxide. There are other reactions that go on and aluminium does, in fact, react faster with these natural organic substances that I mentioned before.

IT IS NOT UNTIL YOU OVERCOME THAT DEMAND THAT YOU GET THIS POSITIVE EFFECT. THAT IS WHY THERE IS A DIRECT CORRELATION BETWEEN WHAT IS HAPPENING IN THE CATCHMENT, THE COST OF CHEMICALS AND THE AMOUNT OF CHEMICALS ONE NEEDS TO ADD. THAT PRECIPITATE BRINGS DOWN WITH IT

THE COLOURED SUBSTANCES WHICH GIVE THE BROWNY COLOUR PLUS THE TURBIDITY, WHICH GIVES CLAY SUSPENSIONS IN SOILS AND SO ON. THAT SETTLES IN A SEDIMENTATION TANK. THE WATER IS FILTERED THROUGH A SERIES OF SAND FILTERS AND THAT WATER IS THEN DISINFECTED – WITH CHLORINE IN THAT CASE – BEFORE IT GOES INTO A FILTERED STORAGE CHAMBER. THAT DOES REMOVE A LOT OF CONTAMINANTS, BUT IT DOES NOT REMOVE THINGS LIKE, SAY, ATRAZINE. IF THERE ARE HERBICIDES LIKE ATRAZINE BEING USED IN THE CATCHMENT OR FORESTRY OR WHATEVER, IT GETS INTO THE WATER SUPPLY AND WILL TRAVEL THROUGH THAT SYSTEM UNLESS WE ACTIVATE A CARBON TO THE BREW TO ABSORB THESE VARIOUS MATERIALS OUT. BUT THAT IS A TREMENDOUSLY EXPENSIVE PROCESS.

Mrs GALLUS—So we do not do that?

Prof. Bursill—We do it when we have to do it.

Mrs GALLUS—You are testing all the time for Atrazine. So if you find it then –

Prof. Bursill—A lot of other things, yes.

Mr Ashman—A lot of that water you saw was Murray water that we have been pumping since probably October.

Prof. Bursill—Yes, but still the principle is the same as I have mentioned. Sixth Creek seems to be a regular source of Giardia into that particular system which, fortunately, is controlled by chlorination. In the chlorine contact time that we have in that particular plant, there is plenty of protection for Giardia. If, in fact, some of the animals up in that little catchment at Sixth Creek are infected with Cryptosporidiosis, then that would naturally increase pressure on our treatment facility.

Mrs GALLUS—You test for that obviously?

Prof. Bursill—Yes.

Mrs GALLUS—Do you put in more chlorine to deal with that?

Prof. Bursill—We always keep our plant at optimum – in terms of the way it is set up – all the time. As I said before, in terms of removal of these sorts of organisms, it is not a black and white thing that they are totally removed. One can remove about three logs – in other words, 99.9 per cent – and that is okay if there is only 10 of the organisms in every 100 litres; you can get them all out. But if that goes up in orders of magnitude, then the risk goes up in orders of magnitude and there comes a point where a satisfactory level is not going to be available at the filtered water outlet if the incoming level is so much higher.

I THINK THAT IS A GOOD EXAMPLE. WHAT I AM TRYING TO POINT OUT IS THAT IN MY DAY-TO-DAY OPERATIONS YOU COME IN CONTACT – AGAIN, I AM TALKING NATIONALLY, NOT JUST HERE – WITH NATURAL RESOURCE MANAGERS AND CATCHMENT MANAGERS WHO BELIEVE THAT THE WATER AUTHORITY CAN DEAL WITH ANYTHING IT GETS. SINCE YOU ARE LOOKING INTO, I ASSUME, THE BROAD STRATEGIES AND POLICIES, I WOULD LIKE YOU TO RECOGNISE THAT FACTOR, THAT WHAT IS HAPPENING DOWNSTREAM IS NOT AN ABSOLUTE FOOLHARDY OR ABSOLUTE FAIL-SAFE SYSTEM TO REMOVING ALL THINGS THAT CAN OCCUR IN A CATCHMENT THAT IS FULLY POPULATED.

Mrs GALLUS—So if the concentration of nasties becomes too high, then the amount –

Prof. Bursill—It will overload the system.

Mrs GALLUS—You are overloading the system.

Prof. Bursill—Like the membrane systems you talk about, you could tack them on and bring in other disinfection technologies which are much more expensive and much more effective, but you are really talking hundreds of millions of dollars for a city the size of Adelaide to deal with that. Now it may be, in the broader picture, in the end that might be necessary if other matters are more important to handle in a different way, but if it is possible to direct our catchment management in such a way that that does not have to occur, then surely that is better for everybody.

Mrs GALLUS—Mr Chairman, I do not want to hog this, but if some of the others have not asked the questions I want to ask on top of that, can they come back to me at the end?

CHAIR—Yes.

Mrs GALLUS—Thank you.

Mr BILLSON—How helpful are the institutional arrangements to implementing the type of insights your CRC reveal in terms of better water quality at the end of the day having a whole lot of factors that are contributing to that? You arrive at a conclusion, best available research, now you actually have to do something about it. Could you comment on whether the institutional arrangements are helpful in that respect?

Prof. Bursill—Can I tackle it from two levels. Firstly, from the CRC's point of view, we have been very aggressive in trying to recruit industry parties. We started with 17 agencies; we have now got 23 and that is growing all the time. Things are moving ahead in other areas where other significant bodies are joining. Therefore, with them directly involved, they get directly involved in our processes and can transfer that technology into their operations. However, at another level, what I mentioned in my introduction is the reform processes that have been in place. If you look at South Australia, water was managed in one agency from start to finish at one point because it was considered that it was better to have water authorities just working as a government enterprise and others will deal with the resource management issue. Now there are others that need to be dealt with, so there are a lot more parties that have a part to play in producing – if we are looking at it from our perspective – a drinking water system. A lot more parties are involved in making that result work. Therefore, certainly as far as the CRC is concerned, our tech transfer operations are very important to us and we have made that a separate program to make sure that our information is widely available. We have had a lot of workshops.

Mr BILLSON—What about behaviour and practice transfer which may involve the broader community? What sort of success are you having in arriving at a conclusion? We have been told that willow tree leaves are very unhelpful because of the effect they have on the oxygen level, yet people love their willow trees. Where do you go once you have got that sort of insight and who do you turn to to give effect to your conclusions?

Prof. Bursill—That is not an easy task. We have given a fair amount of thought to how we might target our information. On the one hand we certainly have done quite a bit of work with public meetings that have been set up by water authorities or natural resource agencies that we are working with who have an issue to deal with. We will go along to those meetings and field questions from the community and try to get the messages across. I think that has been quite successful. Of course, you are only picking our way a town at a time, and usually it is just a few people in the town at the time. It is a very hard thing to see how we can do a better job of it. Our strategy is to try to help that way. It gives us some grassroots feeling for the things that people think about and how they perceive the issues. Broadly, I think our success in the end is to target the decision makers in the agencies that manage the resources.

Mr BILLSON—What about in terms of demand management, where you have water use activities that seem generous in the volume they are utilising for a given activity? Do you play a role in that?

Prof. Bursill—No, the CRC has not to date been involved in demand management issues. There has been a lot of success that the industries had over the last 10 years in reducing per capita demand through pricing policies, public campaigns and the like, and that has had quite a significant effect on water demand in South Australia and in other states.

Mr BILLSON— In your view, is scarcity more of an issue than water quality?

Prof. Bursill—I think it is not far away that one could virtually treat any – you can do it now. You can virtually treat any water and produce anything you want. It is just a question of how far you have to go and how much it is going to cost. Is that outcome what we want and is it an optimal outcome for the country? I think mostly you would have to say no, especially when one sees other water use activities, other than water supply, perhaps not having to pay much for the resource use and not paying much regard to the quality of water they are putting back into the system here in some cases in very general terms.

Mr BILLSON—I have one final question. Given the insights that you have and that your client group, your strategic relationships, cover a fair chunk of the country, do you have a feel for where your insights are better embraced and implemented than others and does that give us as a committee a bit of a sense on where some of the better practice is going on?

Prof. Bursill—Yes. Managing a cooperative research centre, especially with so many parties, is extremely difficult.

Mr BILLSON—Character building.

Prof. Bursill—Yes, it is. It is quite an experience. On the other hand, I found it very satisfying to see how our stakeholders' attitudes have changed in our 4½ years only so far. Some of our parties were in because they thought that if they were not in they were out of the club – they had to be in but were really reluctant players – have become our strongest advocates and takers up of our ideas. It has been very encouraging from that point of view.

ONE OF THE KEY AREAS FROM THE OVERALL PROGRAM THAT WE HAVE GOT RUNNING IS THROUGH OUR INVOLVEMENT IN THE AUSTRALIAN DRINKING

WATER GUIDELINES REVIEW PROCESS. A BIG PROJECT THAT WE HAVE RUNNING AT THE PRESENT MOMENT – WHICH IS RECEIVING TREMENDOUS SUPPORT FROM THE HEALTH SECTOR AND THE WATER INDUSTRY, INCLUDING THE NATURAL RESOURCE AGENCIES THAT ARE PART OF THE PROCESS – IS THE DEVELOPMENT OF A WATER QUALITY MANAGEMENT FRAMEWORK WITHIN THE GUIDELINES. THE DRINKING WATER GUIDELINES AS THEY STAND ARE A THICK BOOKLET, AND WITHIN THAT THERE ARE TABLES OF NUMBERS. THE GUIDELINES ARE THE WHOLE BOOKLET AND THERE ARE CHAPTERS UPON CHAPTERS OF USEFUL INFORMATION ON GOOD WATER QUALITY MANAGEMENT FROM SOURCE TO TAP. IT IS PROBABLY ONE OF THE BEST DRINKING WATER GUIDELINE DOCUMENTS IN THE WORLD. THE WHO BELIEVE IT IS AND ARE TRYING TO PICK UP A FEW THINGS WE ARE DOING. BUT, UNFORTUNATELY, A LOT OF PLAYERS EVEN IN THE INDUSTRY JUST LOOK TO THOSE NUMBERS ALL THE TIME AND IGNORE THE ADVICE.

WHAT WE ARE TRYING TO DO IS REJIG THE WHOLE THING TO HAVE MORE OF A QUALITY SYSTEM APPROACH FROM SOURCE TO TAP, WHICH TALKS ABOUT IDENTIFYING HAZARDS AND ESTIMATING THE RISK OF THOSE HAZARDS ACTUALLY OCCURRING, TRYING TO TACKLE THE THINGS THAT ARE MOST IMPORTANT TO GIVE YOU THE BEST IMPROVEMENT IN RISK MANAGEMENT TERMS FROM SOURCE TO TAP, AND HAVING AN ANALYTICAL METHODOLOGY OR MONITORING PROCESSES IN PLACE WHICH GIVE YOU EARLY WARNING THAT THE PROCESS OR THE SYSTEM IS NOT OPERATING, RATHER THAN WAIT UNTIL YOU GET TO THE END AND YOU FAIL THE TEST AT THE END OF THE DAY. IT IS ALL RETROSPECTIVE ACTION.

THIS IS ALL BASED AROUND PROACTIVE MANAGEMENT – SIMPLE STRAIGHTFORWARD QUALITY SYSTEMS THINGS. ALL THAT IS REALLY ALREADY IN A PROBABLY NOT VERY WELL-ORGANISED FASHION IN THE EXISTING GUIDELINES, AND WE ARE REJIGGING THAT NOW. WE HAVE FOUR TRIAL PROJECTS GOING ON IN MELBOURNE, SYDNEY, PERTH – IN THE GROUND WATER SYSTEMS – AND UP IN KATHERINE IN THE NORTHERN TERRITORY. SO WE HAVE A SMALLER RURAL COMMUNITY INVOLVED, AND IT IS GOING EXTREMELY WELL. WE HOPE THAT WE WILL COMPLETE THAT BY ABOUT THE MIDDLE OF MARCH. WHEN THAT GOES INTO THE GUIDELINES OVER THE NEXT 12 OR 18 MONTHS OR SO, I BELIEVE THAT IF THE INDUSTRY AT ALL ASPIRES TO ACHIEVING THE AUSTRALIAN DRINKING WATER GUIDELINES, IT WILL BE THE BIGGEST STEP FORWARD IN WATER MANAGEMENT.

Mr BILLSON—A big if.

Prof. Bursill—And it will need to embrace the source water concept as well.

Mr JENKINS—If we just use South Australia as an example, to implement those types of things that you aspire for your guidelines, how would SA Water influence some of those bodies that control source areas?

Mr Ashman—Similar to the CRC, we would work with them. We provide funding for projects of mutual benefit in the catchments. We lobby and we work with these groups.

CHAIR—That would be within South Australia?

Mr Ashman—Yes. Also, we have representation on the MDBC as well which is, again, important from our perspective. Yes, so there is a variety of projects that we are involved with.

Prof. Bursill—We did have a three-hour meeting within SA Water, but we invited the EPA catchment board representation from the water resources part of our environment group to discuss the very thing. I mentioned this management framework and how we might progress a process. Although it is still in working progress, if you like, from an NHMRC perspective, locally we might start working on the key concepts already. So what we are seeking to do is to work with them, drag them into a working group.

Mr JENKINS—One of the things that the committee is trying to come to grips with, given this wonderful federation that we have inherited, is that there are so many different models of structures that we have struck.

We are probably seeking people's opinions about whether any of those structures make it easier to achieve outcomes.

Prof. Bursill—This is a personal opinion, but it depends on your perspective. Coming from the water industry, my background, I would say that, looking at it from a selfish point of view of the water industry, I thought that having the whole water cycle in the management of the one organisation, in fact, serves South Australia pretty well. You can be critical of various aspects of what we have done, and that is true in anything, but one needs to be thinking about the context at the time as well when certain things were done. We have got the poorest water resource situation in the country, yet, the system itself is one of the most secure. That is to the credit of the leaders of the old engineering water supply department back in perhaps the first 40 years of this last century just gone, and there were some very long views that were in the minds of those leaders at that time.

HAVING BROKEN IT UP, IT MEANS THAT THEY ARE GOING TO HAVE TO ADDRESS DIFFERENT CHALLENGES NOW, AND YOU HAVE TO WORK WITH OTHER AGENCIES WHO HAVE GOT OTHER OBJECTIVES. BUT, IF YOU ARE COMING FROM A DIFFERENT PERSPECTIVE, PERHAPS FROM PRIMARY INDUSTRY, OR FROM AN ENVIRONMENTAL LOBBY AREA, YOU MIGHT SEE IT IN A COMPLETELY DIFFERENT WAY. HAVING WATER WITHIN A NATURAL RESOURCES THING, AND TRYING TO INTEGRATE LAND, SOIL, VEGETATION AND EVERYTHING ALL SOUNDS VERY SENSIBLE, BUT THERE ARE A LOT OF INTERFACE ISSUES WHEREVER YOU GO AND SOMETIMES YOU JUST INCREASE THE BOUNDARY.

Mr JENKINS—But even in the identification of your potential hazards, there are quite often offshoots of other pursuits. We cannot just have a narrow water view; there has got to be that inter-relation between those issues.

Prof. Bursill—Yes, we have to live with the system we have got, and the water quality management framework is just a means of working through the process of identifying what the hazards are with the situation we have got. There are natural situations, too, which South Australia has, which are completely different from Perth, for example, or Melbourne or Hobart. So you have to take account of that, too, apart from our administrative structures which are also different.

ONCE YOU ANALYSE THE LIST OF HAZARDS AND TRY AND WORK OUT WHAT THE ACTUAL RISK OF ANYTHING GOING WRONG MIGHT BE IN THOSE INDIVIDUAL AREAS, YOU CAN CONSTRUCT STRATEGIES TO DEAL WITH IT, AND IT WOULD DEPEND ON WHERE THE HAZARD WAS. IF IT WAS A SEMITRAILER OVERTURNING ON THE BRIDGE ACROSS THE MILLBROOK RESERVOIR, FOR EXAMPLE – AS AN EASY EXAMPLE – THEN CLEARLY THE RESERVOIR MANAGEMENT IS IN GLYN ASHMAN'S AREA WITHIN SA WATER. WE CAN DO SOMETHING ABOUT THAT, AND PERHAPS ADDRESS THE ISSUE OF ROAD TRANSPORT WITH ROAD TRANSPORT, IF WE DID NOT WANT THOSE SORTS OF VEHICLES TO BE ANYWHERE WITHIN COOE OF THE RESERVOIR. I AM TRYING TO MAKE THAT POINT – IT DEPENDS ON THE HAZARD, IT DEPENDS ON THE RISK AND HOW WE PERCEIVE IT AND WHAT WE NEED TO DO ABOUT IT. YOU NEED TO TAKE INTO ACCOUNT THE VARIATIONS IN NATURAL CIRCUMSTANCES AS WELL AS THE ADMINISTRATIVE CIRCUMSTANCES. I AM NOT ADVOCATING THAT WE GO BACK TO THE PAST, BUT CERTAINLY FROM A WATER SUPPLY PERSPECTIVE I THINK THE HISTORY OF ITS MANAGEMENT IN THIS STATE HAS BEEN PRETTY GOOD WHEN IT HAS BEEN INTEGRATED.

Mr Ashman—One issue that I wish to raise is that there does not seem to be legislative authority for anybody to be responsible for the state's public water supply. I think that is a gap in the current situation because although SA Water consider that they are responsible, the SA Water Corporation Act does not actually say that, and it is similarly the case with the Water Resources Act.

CHAIR—It is not vested in the minister like in New South Wales – the water?

Mr Ashman—Not that I am aware of, no. I think we have got the other aspects of catchment management reasonably well catered for in South Australia, with the catchment boards and various other organisations, but that is a gap that needs –

Mrs IRWIN—There are two questions in one regarding potable water supplies: how can potable water supplies in catchments be better protected? How do you feel that they can be better protected? Should public access – because this is what I have been hearing when I have been talking to various people –to streams, dams and rivers in drinking water catchment areas be restricted?

Prof. Bursill—Those are big questions. Certainly, in the context of the best management of drinking water, as I said, the Australian drinking water guidelines and the World Health Organisation guidelines for drinking water were founded on a basis of having a multiple barrier approach, so that one has not got all one's eggs in one basket if something fails there and you end up with a catastrophe. That has to start at the beginning. Clearly, if you have got a protected catchment, which Melbourne has the benefit of having, where their water authority, through an agreement with a natural resource agency, actually manages that whole catchment area and only authorised individuals are in there, the risk of things going wrong in their catchment is very, very low. They can factor that in to the rest of the things that they have to do to ensure that the overall water supply is safe.

ON THE OTHER HAND, PROBABLY AT THE OTHER END OF THE SPECTRUM, IF YOU LOOK AT ADELAIDE'S SITUATION, THE MOST ARABLE LANDS ARE PROBABLY THE MT LOFTY RANGES; WE ARE AT THE END OF THE MURRAY-DARLING BASIN, AS THE CHAIRMAN POINTED OUT – ONE-SEVENTH OF AUSTRALIA AND ABOUT ONE-THIRD OF ECONOMIC ACTIVITY. CERTAINLY, WE HAVE NOT GOT MUCH CHANCE OF REDRESSING TOO MUCH OF THAT, ALTHOUGH THERE ARE CERTAIN ISSUES ONE CAN DEAL WITH. ONE THEN HAS TO RELY ON OTHER BARRIERS.

ACCESS TO CATCHMENTS HAS TO BE DEALT WITH IN THE CONTEXT OF WHAT ELSE NEEDS TO HAPPEN AS A RESULT OF THAT. IF YOU ARE PREPARED TO GIVE UP A BARRIER, THEN YOU CANNOT JUST SAY, 'THAT IS FINE.' SOMEONE NEEDS TO THINK ABOUT THE IMPLICATIONS TO ENSURE THAT WHAT ELEMENT OF RISK IS INCREASED THERE IS DEALT WITH SOMEWHERE ELSE. DOES THAT HELP YOU? IT IS A VERY BIG AREA.

Mrs IRWIN—Yes, it is a very big area.

Prof. Bursill—In my opinion – and I think a lot of water experts would say the same – cryptosporidium was always felt to be a veterinary issue prior to about 1978 when it was first realised that it could be a human pathogen. Nothing too much happened even then until, really, into the 1990s, when some serious problems occurred with cryptosporidium in human populations. It made it clearer to the international water industry that our current technologies, unless completely tuned up and very carefully managed on a day-to-day basis more than was the case normally, were going to be at risk. Our chlorination, which is still by far the biggest approach to disinfection internationally, as well as here in this country, is ineffective for cryptosporidium. It throws a whole new light on the whole system. Then one has to pay much more attention to catchment management in preventing animals and humans who might be carrying this organism from putting it into the water system. If you think about that, in relation to cows wandering in streams and having free access to the River Murray banks and other streams in the catchments, it is not a good situation for water supplies.

CHAIR—It is fairly clear that the federal government does not have too many powers of management in this area, but what we are looking at is whether, in fact, there is coordination between the three tiers of government and, most particularly, between states. Do you have any comment on that?

Prof. Bursill—Again, that depends where you are at, really, doesn't it? Certainly, here in South Australia, it was an integrated system, and it has now been a bit more fragmented. I have been a member of one of the catchment boards – the northern Adelaide and Barossa board – and those people are working very hard at trying to do a good job in the catchment for multiple objectives and are working very well with local government, in particular. But, clearly, they are addressing state government priorities too. These mechanisms can work as well. I am not trying to say that they are not, but certainly, when you change something, some priorities might go down and others come up in their place. From that point of view, if the water authority wants to be sure that it is delivering a safe product to the community of South Australia, in this case, then it now has to work harder at its relationships than it has in the past with the upstream players, because there were none apart from the MDBC issue, which is an interstate matter, of course, and which is also very important.

Mrs GALLUS—Are we getting close to the maximum chemical load that we can put into Adelaide's water? You talked about the aluminium sulfate and, obviously, the chlorine. How close are we to maximum on that?

Prof. Bursill—I think that is a wrong concept. What we put in in aluminium sulfate precipitates out. In fact, the level of aluminium that is in the water prior to treatment is higher than what it is at the end, because there is a lot of aluminium in soil.

Mrs GALLUS—So it is no problem.

Prof. Bursill—Chlorine, of course, goes in and reacts with organic materials and forms by-products of various sorts, some of which are considered a health concern and others not. It is a very complex issue. Certainly, all water authorities would prefer to be using fewer disinfectants and, again, that depends on the levels of organics in the water in the first place. It is not related to microbiological contamination.

Mrs GALLUS—Is there a level of chlorine in the water where it becomes untenable to have that much chlorine?

Prof. Bursill—There are requirements in the Australian drinking water guidelines that set the levels for chlorine and so on.

Mrs GALLUS—How close are we to those?

Prof. Bursill—Not too far away in some cases in country systems.

Mrs GALLUS—So we are getting nearer maximum chlorine level?

Prof. Bursill—There are no upwards trends to worry about. I do not think it is a concerning issue in that respect. It would be good if we could get them down, but there is not a move –

Mrs GALLUS—It is good if we can get them down but you are not worried that they are up?

Prof. Bursill—No, they are not heading in an upward direction and there is no reason why they should.

Mrs GALLUS—Do we have a salinity problem in our drinking water, considering we are getting it out of the Murray? Is the increased salinity in the Murray affecting the salinity of our drinking water?

Prof. Bursill—From a public drinking water perspective, the Australian drinking water guidelines set an advisory level of 500 milligrams per litre of total of dissolved solids. There is some other information there to do with aesthetics; if a few people in the community start to be able to taste the saltiness in the water at that level or above. For up to about 1,000 milligrams per litre it is considered that that aesthetic fault is not serious. Perth, for example, is often over the 500 milligrams.

Mrs GALLUS—So are you saying that our water supply is actually less salty than Perth's?

Prof. Bursill—Yes, because half of it is from a ground water system.

Mrs GALLUS—Why does Adelaide water taste so absolutely terrible?

Prof. Bursill—I would like to say that it has improved a lot over what it used to be, and I hope that people acknowledge that. There have been great improvements.

Mrs GALLUS—I hate to disillusion you. I accept the fact that it might have improved, but I have to say that it does not have a pleasant taste.

Prof. Bursill—I agree that it is not perfect and that it needs to be improved further. The things you can smell and taste are very low levels of natural substances that are produced by algae and other organisms in the water and in the soil. The two compounds that are most often detected by smell as earthy musty odours in our water as well as in other water supplies around the world are methylisoborneol and geosmin, which are two natural products that come from a range of plants, algae and soil organisms.

Mrs GALLUS—But it would be better if the water did not have them. That is the bottom line.

Prof. Bursill—That is right.

Mrs GALLUS—Thank you very much.

CHAIR—Buy a rainwater tank, Chris.

Mrs GALLUS—It is all right. I get spring water delivered to my household every week. I do not drink tap water.

CHAIR—Thank you, Professor Bursill and Mr Ashman.

Prof. Bursill—Good luck with your work. It is a very big issue.

CHAIR—Yes, it is.

[3.03 P.M.]

BROSTER, Mr Leon George, General Manager, Murray Darling Association Inc.

WIGLEY, Ms Sarah Jane, Project Manager, Murray Darling Association Inc.

CHAIR—Welcome. We have received your submission and authorised its publication. Would you like to give us a brief outline of that before questions?

Mr Broster—I am the face behind the phone this morning. I thank you for that indulgence. As I said in our submission, we are an association of local government municipalities, community groups, businesses and individuals with an interest in the Murray-Darling Basin. We have a membership in our organisation throughout local government – from the Queensland border to the foot of Mount Kosciusko to the sea at Goolwa in South Australia and as far west as the rural city of Whyalla in South Australia.

WE SUPPORT VERY STRONGLY THE CATCHMENT MANAGEMENT PHILOSOPHY. WE ARE CONCERNED AT TIMES THAT THE INSTITUTIONAL ARRANGEMENTS, PARTICULARLY ACROSS STATE BORDERS, CREATE SIGNIFICANT DIFFICULTIES THAT NEED TO BE OVERCOME. WE HAVE SOME CONCERNS ABOUT SECTION 100 OF THE CONSTITUTION WHICH I THINK INHIBITS THE CAPACITY FOR THE FEDERAL GOVERNMENT AND THE COMMONWEALTH TO BE INVOLVED. SOME OF MY MEMBERS HAVE SUGGESTED THAT WE SHOULD ENTER INTO DISCUSSIONS ABOUT THE MERIT OR OTHERWISE OF TREATIES BETWEEN THE STATES AND THE COMMONWEALTH TO OVERCOME THAT DIFFICULTY.

CHAIR—You don't want a referendum?

Mr Broster—Referendums have not got a very good track record. One of the points we have made is that we have a very strong commitment to and support for the Murray-Darling Basin Commission and the initiative. If we were to be asked to address our views about whether it is strong enough or could do more, we would err on the side that it needs to have a stronger capacity rather than a lesser capacity. To do that, it probably means that the Commonwealth has to take a greater role and the states potentially have a reduced role. We believe this will become increasingly important. When I wrote this submission some months ago, the issue of salinity was not quite seen as the issue it is now. We believe that has created a new paradigm – I even know that word, although I do not know what it means – because we believe that that will require a significantly different and greater effort to overcome those problems than we have ever experienced before. Our organisation believes that the issues of cross-border, whether they be local government cross-border or state cross-border, are issues that need to be dealt with.

WE BELIEVE THAT THE ROLE OF LOCAL GOVERNMENT HAS BEEN UNDERPLAYED AND UNDERUTILISED. WE BELIEVE THAT CATCHMENT MANAGEMENT AND THE MANAGEMENT OF NATURAL RESOURCES HAVE MISSED AN OPPORTUNITY BY NOT BEING ABLE TO ENGAGE LOCAL GOVERNMENT CORRECTLY TO, IF YOU LIKE, UNLOCK THE \$2,000 MILLION PER YEAR THAT LOCAL GOVERNMENT SPENDS ON ENVIRONMENTAL PROTECTION COMPARED WITH THE SPENDING BY STATES IN THE SAME PERIOD OF \$1.215 MILLION. SO IT IS APPROXIMATELY DOUBLE. ONE OF THE DOWNFALLS OF NOT HAVING ENGAGED LOCAL GOVERNMENT CORRECTLY IS THAT THIS IS NOT SPENT OR DIRECTED STRATEGICALLY ENOUGH ACROSS THE CATCHMENT PHILOSOPHY, IN OUR VIEW. WE BELIEVE THAT IS SOMETHING THAT NEEDS TO BE CORRECTED.

I HAVE BROUGHT SARAH WIGLEY ALONG TODAY. SARAH WORKS FOR OUR ORGANISATION'S PROJECT MANAGER ALMOST EXCLUSIVELY IN ADELAIDE IN RELATION TO RAISING AWARENESS OF MURRAY-DARLING BASIN ISSUES IN METROPOLITAN ADELAIDE. SHE RUNS SEVERAL PROJECTS, THE MAIN ONE BEING WATERWISE, WHICH IS MAINLY FOCUSED ON GETTING PEOPLE TO UNDERSTAND THAT THERE IS A RIVER OUT THERE AND THAT THEY CAN MAKE A DIFFERENCE, BECAUSE THE WATER DOES NOT COME OUT OF A TAP; IT COMES OUT OF A RIVER.

WE HAVE JUST PRODUCED A BOOK CALLED *SOUTH AUSTRALIA'S MAJESTIC MURRAY*, WHICH WAS LAUNCHED BY THE FEDERAL ENVIRONMENT MINISTER JUST BEFORE CHRISTMAS, AIMED AGAIN AT PROVIDING A VERY USER FRIENDLY DOCUMENT THAT PEOPLE CAN THROW IN THE BACK OF THEIR CAR WHEN THEY VISIT THE RIVER. IT HAS BEEN AN OUTSTANDING SUCCESS. THE FACT THAT IT IS FREE HAS PROBABLY GOT SOMETHING TO DO WITH IT BUT WE DO NOT THINK SO BECAUSE PEOPLE ARE OFFERING TO PAY FOR IT. IN JUST

OVER A MONTH, WE HAVE DISTRIBUTED 7,500 COPIES. THE DEMAND IS PROBABLY GOING UP RATHER THAN DOWN.

CHAIR—Is that in South Australia or elsewhere?

Mr Broster—It is a South Australian document. We have a bit of a vision –

CHAIR—Have copies gone anywhere else?

Mr Broster—Yes, they have. They have gone into every state of Australia. They have also gone to Great Britain – but that was just a fluke, I think. Every state in Australia has seen it and they keep asking when we are producing one about their patch of the Murray-Darling Basin. That is an idea that we have but we do not know where it is going to go.

WE ARE PROBABLY THE LARGEST NON-GOVERNMENT ORGANISATION IN NUMBERS IN THE MURRAY-DARLING BASIN, WITH SOMETHING OVER 70-PLUS MUNICIPALITIES, AS I SAID BEFORE. ONE OF OUR MAJOR CONCERNS IS THAT, WHILE THE COMMUNITY IS NOT ENGAGED AS WELL AS IT MAY BE, THERE ARE A GREAT MANY IN THE COMMUNITY WHO FEEL AS IF THEY ARE BURNT OUT. THEY HAVE BEEN PLANNED AND CONSULTED TO DEATH. IT IS NOW BECOMING QUITE APPARENT THAT THERE ARE PEOPLE WHO ARE STEPPING OUT OF THE SYSTEM – AND THAT IS UNFORTUNATE. WE NEED TO WORK OUT HOW BEST WE CAN DO THAT. THAT IS MY PRELIMINARY STATEMENT, MR CHAIRMAN, AND I AM HAPPY TO GO WHERE YOU LEAD ME.

CHAIR—Thank you, Mr Broster. If my memory serves me well, I think your association was the first association that was formed to look at the problems of the River Murray. Is that correct?

Mr Broster—We believe we were. We were formed in 1944, and one of the first statements we made in 1944 was about seeking to overcome the parochialism of state borders; I am not sure that we succeeded. The second thing, and it is interesting, is that in 1944 – you have got to put it in context – at the very first meeting, there was a resolution moved that we should not encourage development at any price in the catchment and that there should always be checks and balances. While there was a vision of a million people living in the basin, there was also a vision that there was, in those days, probably a very pristine catchment that needed to be protected. Yes, we have been there for a long while, and we intend to be there a fair bit longer. Time will tell about our success in that area.

CHAIR—One of the areas that we are looking at fairly closely is the coordination between governments' efforts to facilitate catchment management – the Murray-Darling, of course, being the biggest catchment. You have a reasonable amount of experience in this area. Do you have any opinions as to how it could be done better?

Mr Broster—I think the Murray-Darling Basin is a good initiative, so, starting at that point, I think –

CHAIR—This is the ministerial council?

Mr Broster—The ministerial council, the commission, the office. An organisation that I am a member of is the Community Advisory Committee, which met in Canberra yesterday, where we provide advice. It has 25 people from every subcatchment of the area; we do not always agree but we get there.

CHAIR—How many people does that constitute altogether?

Mr Broster—I think it is 25.

CHAIR—Altogether?

Mr Broster—Yes. There are 21 or 22 who are regionally based. I represent urban Adelaide. The other four people represent special interest groups. There is a representative of the Aboriginal community, of the Australian Local Government Association, of the Australian Conservation Foundation and of the National Farmers Federation. I think I have missed one. There is another one, so it might be 27. The other one is the National Landcare Council, which has a seat on there. For all that, in particular New South Wales and Victoria, the fact that the river is a border is an absolute pain in the neck.

CHAIR—The river is not a border in New South Wales.

Mr Broster—It is not a border in New South Wales except that there is a bit of New South Wales on the south bank. If you go to Echuca, you will see the peg in the ground which says 'New South Wales'. However, be that as it may, it is a nuisance. That is why we believe that there could well be a strong case that the states need to identify where they could forgo some of their present responsibilities and vest them in a national organisation such as the Murray-Darling Basin initiative I used at the ministerial council. This is not an easy exercise to suggest could happen. But I believe that we need to clearly identify what the Murray-Darling Basin

is – and I will concentrate on there rather than on another catchment because it is the one I know best – where the Murray-Darling Basin should have authority and what should remain a state authority, and I make that quite clear. Again, we should draw in local government more significantly to provide them with an opportunity to properly participate and, at their level, undertake their actions within the structure of an overarching catchment structure. In our view, that would be stronger.

CHAIR—So are you asking the states to give up their planning, their water allocations and their controls over land management in that particular catchment?

Mr Broster—It could happen, because there is overarching legislation – or regulation or rules – within which the states would have to operate. Similarly, at the local government level – which certainly has planning responsibility in some states – there is some responsibility coming down. For example, I could take you to a municipality in South Australia that wished to refuse some applications for some development but was unable to because the state legislation said that there was no difficulty with it. It is not coordinated and insulated. It does not always mean taking the authority away from one and giving it to the other – although it may do – it means layering it and giving it status, in my view. It is not easy.

CHAIR—We have heard a lot of evidence from different people about the issue of trying to keep stock from the river, especially from watering at the river. Given that the Darling, in particular, is such a huge river, what is the practicality of that?

Mr Broster—There probably is not a lot of practicality in many parts of it. It is an ideal, and I believe it is an ideal that we should attempt to start. To say it is too hard means that you never start. But I agree with you. If we were to say that people had to fence two metres down the banks everywhere, from one end to the other, I would not mind shares in some fencing companies. It is an enormous task, but I believe we need to start looking strategically at how it can be done better where it is critical, particularly in relation to soil erosion and vegetation decline. I believe some work was done in the lower lakes in South Australia. I had a photo at one stage which showed an area that was fenced off and an area that was not. The native reeds had been able to crawl back and re-establish the bank in the fenced-off area, whereas the bank was back some feet where there was access. I am not saying exclusivity – and in this case there was not exclusive exclusion – but very targeted access so that you can always manage that access rather than having free-range access.

CHAIR—You mentioned – and it has been mentioned before in submissions to the committee – about community burnout, particularly for volunteers. We have also seen a lot of completed plans where people have done the hard work, I suppose, and the plans are available. Obviously there are some land holders who, having heard of the problem, are starting to do things for themselves. Do you think there are enough plans out there at the present time so that everyone, including individuals, can work within a coordinated plan to try to address some of this?

Mr Broster—I believe there are enough plans out there. I am not saying that every one of them is complete, but there is enough planning out there. The next stage, as I am sure you were told this morning, is in some of the efforts we are making under another hat that I wear to try to integrate some of this planning. One of the concerns we have is that, while communities want to do the right thing, they are not sure where to actually go. They go to this issue and there is that plan and to another issue and there is that plan.

CHAIR—So you need to coordinate that?

Mr Broster—Yes, we need to coordinate that.

CHAIR—Do you need a coordinator?

Mr Broster—Yes, there does need to be some sort of coordination.

CHAIR—Someone to coordinate.

Mr Broster—Yes – somebody, some organisation, some structure. This is what the discussions this morning were about. We are trying to get to where there is some coordination so that you do know where to go if it is this sort of development or that sort of activity. It does not mean that you usurp the rights, but you go there and it is from there to here; you know that if you do it there you are not going to get into trouble with them.

CHAIR—Sarah, I apologise. I did not ask whether you wanted to make any comment before I started questioning Mr Broster. Did you want to make a comment?

Ms Wigley—No, that is fine.

CHAIR—We might ask you some questions, though.

Mr Broster—I told her that she was coming only about three hours ago.

Mrs GALLUS—Mr Broster, I agree with you. I think one of the problems is that we have interstate divisions in a catchment area. That is considerably to the detriment of South Australia, especially as New South Wales has over-given some of its rights to take water out of the Murray. You said that you had looked at treaties. Had you, in your musing on this, ever considered whether the Commonwealth might use its

corporations powers to overrule the states to set up a single authority which has no state bias whatsoever but simply looks after the health of the Murray-Darling catchment?

Mr Broster—No. I have not. I think that would be –

CHAIR—Courageous!

Mr Broster—Courageous is a word. However, I believe you do not want to chuck the baby out with the bathwater. There is a tremendous amount of knowledge in the state agencies. There is not as much as there was, but there is still a tremendous amount of knowledge and you would not want to throw that out. It is the structure, the overarching structure and the authority that I believe are important. You might be interested, as a member for the western suburbs of Adelaide, that I was given only a few days ago the papers of Mr Ralph Jacobi, who has been thinking about this for some years. He gave them to me about two weeks ago. I have not really looked at them.

Mrs GALLUS—I must ring Ralph up. Ralph Jacobi was the member for Hawker, which was my seat before Hindmarsh; it was abolished. He was a Labor member and very popular.

Mr Broster—In fact, we have just named our small boardroom, which is just across Victoria Square, the Ralph Jacobi room, because he was a great fighter for Murray-Darling Basin issues. That is an aside, of course.

Mrs GALLUS—Thank you.

Mr BILLSON—When we spoke on the phone this morning I posed a question to you, when you were suggesting a natural resource management structure of some description. I invited you to point to what were useful models. You spoke about the Victorian catchment land management arrangement. Can you talk a bit more about what the virtues are in that, what you like about it and whether there are some deficiencies that, if we were looking to start from a fresh piece of paper, we would want to pick up on?

Mr Broster—With respect to the deficiencies as I see them, you need to be aware that my background is that of elected local government, so I always fall back to my background, which is that I have a strong affinity with government being run by people who are elected. One of the downfalls of the catchment management structure, as I see it in Victoria, is that it does not have that – or New South Wales.

CHAIR—Consciously so.

Mr Broster—I am aware of that. I am aware that democracy is a lousy form of government but it is better than the rest. So that would be the main failing that I would see. It is harder to go democratic; it is harder to get there, but I think that once you get there, you bring more people along with you.

Mr BILLSON—But you don't have to go to extremes either.

Mr Broster—No.

Mr BILLSON—If you supplement the skills based boards with a handful of elected people, is that a reasonable way to go to get that representation, but also make sure that you have the technical horsepower on the boards?

Mr Broster—It could be, but I think the technical horsepower can be purchased or acquired. It is very important to have it. If you have an administration or a technical base with an elected base that is working in an integrated way and working together properly, I believe you have the best of both worlds. Our organisation would have a view, with respect to the statement you sometimes hear that catchment management is the fourth tier of government, that they are not until they are elected to be, and they are not.

Mr BILLSON—What were the good things about the model, in your mind?

Mr Broster—I thought the good things were that they had revenue raising capacity.

Mr BILLSON—They used to.

Mr Broster—More importantly, I believe it pulled the disciplines in together under an umbrella. That is the strength. That is the area that we, in the group that you met this morning, are battling with. We are probably trying to pull them in in a more voluntary way than is being done in Victoria. I think ours will be harder and slower, but I hope that if we do it successfully, it will bring a greater degree of support and recognition from the community. After all, it is the community that actually lives in the basin and it is the community that actually wears the mistakes and rejoices in the successes, and invests in both, too.

Mr BILLSON—So when you are persuading the state government here in terms of its search for some natural resource management arrangement, do you point to metropolitan Adelaide and the \$20 per household that everyone kicks in as a way to go, or do you favour what we heard this morning, where they are paying a levy of 0.3c for a kilolitre and 1c for the urbans?

Mr Broster—I do not really have a view on the way the revenue would best be raised. Again, my local government background says that land based taxes are sacred to local government, so keep off them, on the one hand, but on the other hand I can see some merit in it. More important than the system is that there is a

sufficiently large quantum of money that is available for natural resource management in its broader sense. It needs to be able to be carefully and clearly identified as available for that source and not, as is the case with a lot of other income that is raised by government, with respect, spent in one specific area, but where the former Treasury contribution gradually sits over here and you are left with the remainder. I have a fear about that. There is a bit of history on that.

Mr BILLSON—I share your heritage in local government.

Mr Broster—I thought you were a very intelligent looking person.

Mr BILLSON—Thank you for that.

CHAIR—We might have a different opinion.

Mrs GALLUS—That will go to his head.

Mr BILLSON—I doubt it; these guys will sort me out on that. Why is it that local government has not picked up the ball on natural systems management? We went to Gunnedah and talked with its civic leaders and they were saying, 'This is so crucial to our future, to our mere existence as a community.' 'What are you doing about it?' 'Well, not much.' It just seemed to be odd that when you talk to people freely and easily about the pressures, they recognise that community vitality and natural systems management go hand in hand, yet when push comes to shove, there is preference for sealing a bit of road or whatever the case may be. Do you have a feel for that and do you see any trends that give us some encouragement that that is changing?

Mr Broster—I believe it will change in the Murray-Darling Basin. I believe it will change fairly quickly and it will be changed because of the issue of salinity. In fact, the very shire you are talking about, Gunnedah, has asked my salinity officer to go up there this month. Local government, as I said, spends \$2,000 million a year – this is a 1997-98 ABS figure – on environmental protection. I think they were left out of the debate.

CHAIR—How was that spent? Have you got any idea?

Mr Broster—No, I have not got that, except that it is spent under the definition of environmental protection that the United Nations agreed to in 1993 in chapter 8 of agenda 21.

Mr BILLSON—Yes, it is largely environmental health.

CHAIR—It is probably drainage issues; it is nothing to do with this.

Mr Broster—Yes, there are a lot of areas. Cat control is in there too, I would imagine, but it is a nice figure for me to quote and I will continue to do it. Nobody asks me very often what it means. But the biggest impediment to local government's involvement in any new activity is the history that shows that when a responsibility changes from one sphere of government to local government, funds are usually forthcoming for a while and then dry up.

CHAIR—That is true.

Mr Broster—Local government is very, very suspicious of this. It is my view that that is the biggest single impediment. The other impediment is a feeling that local government is another community group and not a sphere of government. I believe that is a difficulty. I believe that local government has never been engaged in a respectful way to get them to properly participate at a serious level.

Mr BILLSON—To take your municipality, if \$750,000 has fallen off the back of a FAG grant truck, untied, where would it go?

Mr Broster—My shire is not a very good example right now in what I think you are looking for an answer for. I reckon they ought to do the footpath in front of my house.

Mr BILLSON—Leon, that is the issue when we talk to our constituents.

CHAIR—That is the answer to your original question.

Mr BILLSON—That is exactly right.

Mr Broster—The issue is that I believe local government does listen to its electorate. It is the electorate that is demanding roads in the bush. You give them the capacity financially and they will embrace it. I am confident about that. I am not involved directly in local government except through the Murray Darling Association now and on small committees. I believe they are a bit keener to involve themselves in that source of management than they were. I think some of it would be spent on roads. I do not live in the basin or the city. I live just north of Adelaide. I was a former chairman of the council and a former president of the South Australian Local Government Association but in a very previous life. I believe you might be surprised if it was spare and real new money. They might have a crack at doing something, but they would spend a bit of it on roads.

Mr BILLSON—You would have to tie the grants really, wouldn't you, because there is never going to be spare money in local government? Rates go down.

Mr Broster—It is nice to be able to be popular. I would have to agree with that.

CHAIR—I do not think we have any other questions.

Mr Broster—We would like to leave one of these books for everybody. It is the best read you will get about the River Murray, even though it is about South Australia a bit of it is not about the South Australian bit. It is a really interesting read. It is the stuff that I know you busy people would have time to read.

CHAIR—Thank you very much, Leon and Sarah.

[3.40 P.M.]

ANTELL, Mr Bill, Executive Group Member, Adelaide Hills Community Action Group

MALLAN, Mr David, Executive Group Member, Adelaide Hills Community Action Group

FORWOOD, Mr Michael, Executive Group Member, Adelaide Hills Community Action Group

CHAIR—Welcome. We have received your submission and have authorised its publication, so it is part of our documentation. Would you like to outline your case before we ask any questions?

Mr Mallan—Certainly, Bill and I – and to a lesser degree Michael – are rather new chums to the whole of this procedure. It is a course of events that has seen us take an interest in water catchment, and one of our concerns is the use of pesticides in water catchment areas. Our initial submission to you was really a fairly general type of thing just to show our interest. We presumed that we might have had some other communication coming to us giving advice where there were going to be hearings or what could happen, and I think in our submission we say that we would be happy to do that and further it with you. It was fairly short notice when I made contact with Bronwyn, who has been absolutely marvellous by giving her responses to us in time. We found that you were actually sitting here in a matter of a very short period of time, which has caused an enormous panic in doing some research.

SO BEFORE WE GET GOING I HAVE SOME DETAILS HERE TO TALK TO. THEY PROBABLY WOULD HAVE BEEN A LOT BETTER OFF IF THEY HAD COME IN WITH OUR ORIGINAL SUBMISSION. HOWEVER, THERE IS RESEARCH AVAILABLE, AND OVER THE PERIOD OF TIME WE HAVE DONE A LOT OF RESEARCH OFFSHORE. WE HAVE REALLY DONE THAT THROUGH NECESSITY. WE HAVE HAD TO DO IT THROUGH THE ABSENCE OF MATERIAL HERE OR SUPPORT IN VARIOUS AREAS ON PESTICIDE ISSUES – THE UNITED STATES BEING ONE OF THE MAIN SOURCES. WHAT I WOULD LIKE TO KNOW DOWN THE TRACK IS, IF WE GO ON WITH A STANDARD PRESENTATION AND IT GETS BORING, YOU CAN SAY, ‘NO, LET US TALK IT OVER,’ THEN WE CAN TABLE THAT WITH YOU LATER ON. I WILL ALSO DISTRIBUTE THESE COPIES. I HOPE I HAVE GOT ENOUGH. IF I HAVEN’T, I AM SURE BRONWYN CAN DO THAT. I AM NOT EXPECTING YOU TO READ –

CHAIR—Is it to do with Atrazine?

Mr Mallan—No, we have a complete list of things. We have got information from the federal geological body in America, where they are concerned about their pesticide levels in water sampling from across the United States. We have details on a wide range of pesticides, including Atrazine, which has been identified here in the Barossa Valley, coming out through the pine plantations. Then there is Tripoclyr. We have got details about usage of pesticides in water catchments. Probably what has come of concern to us – and we are not against pesticide usage – is what we consider to be an overusage and a lack of accountability in our areas where they are used, and there is very little documentation on residual levels in water as in overseas work. We found it very difficult to find any work here in Australia where we are actually studying these levels in preparation for what is starting to emerge – the complications that are becoming apparent. But that is really starting to give the –

CHAIR—Have you approached the state government authorities that are in control of these areas?

Mr Mallan—We have started off with the grassroots – local government weeds officers – and we have worked our way right through. We have ended up in the minister’s office discussing – what would you call it, Michael? – the group that he is wanting to set up.

Mr Forwood—It is really a research or study group to assess the impacts of the use of chemicals and chemical trespass on the local environment. One of the points of contention is the extent to which the damage that is quite evident over the last decade in the area where we live in the Adelaide Hills – which is part of the water catchment area – is attributable to chemicals and their inappropriate application, or to other causes.

TO COVER A BIT FURTHER WHAT DAVID WAS SAYING, WE HAVE TALKED EXTENSIVELY WITH, SENT MATERIAL TO AND HAD DISCUSSIONS WITH THE

PUBLIC AND ENVIRONMENTAL HEALTH PEOPLE IN THE SOUTH AUSTRALIAN HEALTH COMMISSION, WHERE I USED TO WORK AS GENERAL MANAGER, AND WITH THE STATE DEPARTMENT OF PRIMARY INDUSTRIES AND RESOURCES AND THE STATE ENVIRONMENTAL PROTECTION AUTHORITY. BECAUSE OF THE LACK OF RESPONSE FROM THE STATE AGENCIES, AND WITH THE ONE OR TWO COMMONWEALTH AGENCIES WITH WHOM WE HAVE DEALT, THERE IS AN INVESTIGATION BEING UNDERTAKEN BY THE STATE OMBUDSMAN INTO THE LACK OF PROVISION OF THE DATA FOR WHICH WE ASKED. WE HAVE JUST LISTED NOT THE FULL EXTENT OF OUR ACTIVITIES BUT THE AUTHORITIES WITH WHOM WE HAVE BEEN TALKING IN THE LAST 3½ YEARS.

WHILE WE WELCOME THE OPPORTUNITY TO MEET WITH YOU, ONE OF OUR CONCERNS IS THAT IT SEEMS AS IF THE ONUS LIES ON A LIMITED NUMBER OF MEMBERS OF THE COMMUNITY WHO HAVE SOME KNOWLEDGE AND AWARENESS. THE APPROACH THE STATE TAKES SEEMS TO BE TO PUT THE ONUS ON US TO PROVE THINGS, AS OPPOSED TO TAKING THE PRIMA FACIE EVIDENCE THAT THERE IS A SERIOUS PROBLEM AND INVESTIGATING IT AND DOING SOMETHING ABOUT IT ITSELF.

Mr Mallan—They will identify a problem very readily if it is outside of Adelaide and somebody is spraying at a golf course and there is some drift onto vines. In the urban areas and sensitive ecological areas there is an embarrassing avoidance of addressing it.

CHAIR—You have an interesting situation. I had never seen the catchment before yesterday, and it is rather interesting compared to other cities. That is all I can say. What about the National Registration Authority? Have you been in contact with them about chemicals?

Mr Forwood—David has been in touch with them and he might like to outline that.

Mr Mallan—I can give you some details of that. I could at another time give you the list of attendance at one of our meetings if you wanted the details. The list was quite comprehensive, including Transport SA, the primary industries people and also the contractor to the rail corridor. The chemical supplier to them attended this meeting. We were very interested and had initial concerns over what we were observing along the rail corridor – the demise of plantings and of other things in the hills shortly after they had come through with these routine treatments to sterilise which we found out is actually total sterilisation. In the course of our meeting, it was disclosed that they had been using a product with the generic name of Sulfometuron methyl which is a knockdown and total sterilant. It had been put out at quite a hefty rate. A person told me the weight subsequently, and that was total sterilisation. They also said they were using glyphosate.

AT OUR MEETING THAT MIKE AND I WERE AT, THE MANUFACTURER AND THE CONTRACTOR TO THE RAIL CORRIDOR SAID THEY HAD BEEN HAVING BREAKDOWN PROBLEMS WITH THESE GRANULES BREAKING DOWN TO DUST. PICTURE THAT THEY HAD BEEN DISTRIBUTED FROM A HIGH RAIL VEHICLE TRAVELLING AT 30 KILOMETRES AN HOUR ALONG THE RAIL TRACK BLOWING THESE GRANULES OUT AND IN THE MIDDLE OF WINTER WHEN WE HAD TERRIFIC INVERSIONS. WE EXPRESSED OUR CONCERN AT THAT TIME. SUBSEQUENTLY, THERE HAS BEEN A DENIAL THAT THE PRODUCT WAS EVEN BEING USED. WE HAVE HAD CONTACT WITH THE NRA. THIS IS WHERE YOU START TO GET THE MUSICAL CHAIRS. THE NRA PUSHED THE RESPONSIBILITY BACK TO CONTROL AND USE AT THE STATE LEVEL. THEY WILL QUOTE THAT THEY ARE ONLY TO THE POINT OF SALE. WE SAID THAT IT HAD BEEN IDENTIFIED AT POINT OF SALE IN THE COURSE OF CORRESPONDENCE WE HAD. WE WERE CONCERNED THAT THIS COULD BE PRODUCT FAILURE AND BREAKDOWN AND THESE SORTS OF THINGS SHOULD GO BACK TO THE NRA FOR CONSIDERATION FOR REGISTRATION OF THEIR USE. IF THEY ARE NOT GOING BACK, HOW DO WE EVER KNOW WHEN SOMETHING IS FAILING?

CHAIR—They do reassess chemicals on a regular basis with current information, but I am not sure how regular that is.

Mr Mallan—They register them on the information supplied by the manufacturer to approve or otherwise.

CHAIR—True. They have to go through quite a research process and then they register them.

Mr Antell—Going to local council level got us absolutely nowhere. There are some forms of licensing for spray contractors, but it appears that nobody audits how these fellows perform in the field. They say it is the rail people down the corridor and nobody really audits what happens there.

Mr Mallan—The great defence is that people are licensed and qualified –

Mr Antell—I am not a scientist; I come from an engineering background. To give you a bit of background, David first pointed out to me – and I thought he had possibly flipped his lid or something, or that my gardening techniques were bad in the Aldgate hills – that when a tree suddenly defoliates totally in 24 hours, or there are yellow patches going through the hills, which David has documented with photographs, you just ask questions.

CHAIR—How close was the tree to the railway line?

Mr Antell—This is not near the railway line at all. These are the sorts of things that happen. You will get half a tree that goes off, so you say, ‘Maybe I did not feed the thing properly in the ground.’ This is where this thing started.

Mr Mallan—It is not confined to –

Mr Antell—We are really here out of the frustration, I suppose, of starting with local government, moving up a few cogs and then on from there.

CHAIR—Does South Australia have an EPA?

Mr Forwood—Yes.

CHAIR—What did they do?

Mr Forwood—They have come to some of the meetings that we have attended.

Mr Mallan—The deputy chair of the authority is our mayor.

Mr Forwood—There seems to be a fair bit of cross-fertilisation between the various environmental bodies in South Australia. The same names keep cropping up. We have written to them, they have sent us their guidelines and they have invited us to come in on their reviewing and their changing regulations. I worked in government for 20 years and know how long these things can take unless they are given a very high priority or they are politically or electorally sensitive. They really are not doing anything, are they?

Mr Mallan—No. The more frustrating thing is that, in the face of an enormous weight of evidence now coming to light overseas that you need care in the use of these things – and I am not saying they shall not be used – there is complete and actually belligerent denial in certain places at very high levels and you are just pooh-poohed away. They just do not want to give any information.

Mr Forwood—I will give you a short history. What happened was that David was the first, and he has a background in chemicals, having worked for CSL. He observed the deterioration in his garden because he has a magnificent garden. We are neighbours, and there are a number of us now who formed the action group and who live within a reasonably short distance of each other. We started observing these things, and then we started talking to CSIRO, the Waite Institute, the botanists and a whole range of technical scientists on an informal basis. They put us on to other tracks and David started using the Internet. We started raising concerns with the local council and with the state government departments that were relevant and supplying the stuff on. That happened initially over a period of 18 months to two years with undertakings that things would happen that were subsequently – probably for good reasons, and I am sure the officers are all working very hard – not honoured.

WE UPPED THE ANTE AND WENT TO THE OMBUDSMAN. IN AN AREA LIKE OURS, APPARENTLY A HUGE AMOUNT OF CHEMICALS ARE NOW USED BY A RANGE OF USERS, SO THERE WOULD BE SOME MISAPPROPRIATE USE ON A DOMESTIC BASIS. AS WELL AS PEOPLE LOOKING AFTER THEIR GARDENS, A LARGE AMOUNT IS USED BY GOVERNMENT AUTHORITIES AND THE LOCAL COUNCIL IN MAINTAINING ROADS AND THINGS. BUT THERE IS ALSO A RURAL INTERFACE – AND I HAVE AN INTEREST IN A VINEYARD – AND THERE IS A LOT OF GRAPE GROWING. THERE ARE VEGETABLE GARDENS AND A WHOLE LOT OF OTHER ACTIVITIES LIKE HORSE STUDS AND THINGS. IT IS NOW APPARENT THAT THERE IS A HUGE AMOUNT OF CHEMICALS BEING USED AND REALLY NOBODY IS MONITORING THE AMOUNT OR THE HOW. THERE ARE NOW QUITE TECHNICALLY ADVANCED WAYS OF SHROUDING SPRAYERS AND USING THE RIGHT SIZED NOZZLES AND SPRAYING ONLY IN PARTICULAR CONDITIONS.

ANOTHER PARTICULAR FACTOR IS THAT DAVID'S RESEARCH LED HIM TO A NUMBER OF METEOROLOGISTS CURRENTLY PRACTISING AND ON THE RESEARCH SIDE. THEY HAVE GIVEN ADVICE ABOUT THE CLIMATIC CONDITIONS IN THE ADELAIDE HILLS WHICH RESULT IN POISONS BECOMING SUSPENDED IN PARTICLES. THEY CAN THEN TRAVEL VERY LONG DISTANCES. THEY WILL SIT OVER WATER BODIES AND THEY WILL SIT IN GULLIES AND PARTICULAR DELLS. YOU DO NOT GET WIDESPREAD AND UNIVERSAL DAMAGE. YOU TEND TO GET IT IN CORRIDORS AND POCKETS. IT GETS INTO THE SOIL AND THERE WILL BE LEAKAGE IN DRAINAGE AND SO ON.

Mr Mallan—Just recently on Friday – a day where the temperature approached nearly 40 degrees – 2,4-D was in the air all day. It is not uncommon. We went for a month with it – it is most distinctive.

Mr Forwood—We have been out eight days in a row. You can stand on the block between David's property and my property and it just blows through you.

CHAIR—So do you keep a record?

Mr Forwood—We keep a diary.

Mr Mallan—The information that is here is quite straightforward once you have confirmed it. Things do not have to be volatile. The whole thing with chemical trespass, the size of the droplet, the water carrier, the temperature and the humidity at the time is that once the droplet becomes airborne – and it is very prone to it if you have got an exit speed out of a high pressure nozzle or booms – the water evaporates off, and you get nothing else but a concentrate. Up in the Adelaide Hills they have not divulged what they are using – we are talking about public areas now – and they are using the most complex cocktails that primary industry is pushing because they have a woody-weed problem. But their woody-weed problem has been there for so damn long it is getting worse with everything they are doing.

CHAIR—Is that broom?

Mr Forwood—Broom, blackberry.

Mr Antell—We live in an area where a council would actually have quite a problem controlling weeds. Current practices are a quick, easy way out of it.

Mr Mallan—Which is only baring the soil.

Mr Antell—It is most probably a short-term solution.

Mrs IRWIN—Getting back to the pesticides, what do you feel are the alternatives to pesticides?

Mr Mallan—The thing is that at the moment they are having a complete knockdown approach. It is just time to go in and bare the earth. It does not matter whether it is along the roads, the highways or the council going along a creek. When we say 'council' we are talking about local boards. There is this terrific knockdown philosophy. I spoke to a geographer at Flinders who had come from the eastern states. He said that a heck of a lot of this is about timing what you put on and when you do it to get rid of weeds, so you do not leave a bare surface, which is the perfect seed bed for it to regerminate. That is what you have got if you look along the roads. Once you become observant, you will see where they spray along the roads on the shoulder. The weeds come back stronger there than they do away from it. This sounds like it is environmental, but it is not. The information we have got is that these things do end up in our resources. They are travelling through the soil, and they are going into our water.

NEARLY EVERY MAJOR BASIN IN THE UNITED STATES – AND THAT HAS BEEN IDENTIFIED; I HAVE GOT THE PUBLISHINGS HERE FOR IT – IS CONTAMINATED WITH 2,4-D. WE HAVE AN INSTANCE OF A MAJOR RIVER IN OREGON STATE, THE WILLAMETTE RIVER. THEY GIVE YOU THE DETAILS ON THAT AND THEY TRACE BACK THE NUMBER OF PESTICIDES IN THE PERCENTAGE OF SAMPLES. ONE OF THE ONES YOU TALK ABOUT, ATRAZINE, I THINK MADE UP A HUGE PERCENTAGE OF THE SAMPLE. IT IS THERE.

Mr Forwood—What we were advocating was a controlled trial in our environment. That would have helped us with our gardening problem, but it would have meant that there was not a huge call on public resources. Given the sensitivity of the Adelaide Hills area and that it is a water catchment area and there is a mixture of activities, we put in an application for, I think, it was \$100,000 over four years for one of the Australian heritage grants.

CHAIR—That was NHT funding, was it?

Mr Forwood—Yes, and we were disappointed because we sent it to the Commonwealth, the state and the local catchment people, but it got lost. Then we missed the funding round, and you know the drain – we have all got professional employment.

Mr Mallan—It is worth mentioning that we did not put in a very detailed submission, because one of the people we had been dealing with was a senior person within sustainable resources. He is one of the trustees; he is one of the people in the state. With the EPA we also had our mayor, who also sits on committees for it. We have got things published from an earlier study that was done in the Mount Lofty ranges for chemical awareness, which I think could have been part funded by the forerunner of the Natural Heritage Trust. That has been ongoing and that is what we wanted to work in with, and they really did not want us, did they? There is this thing of secrecy – they have got something going. But they identified – and the officer at meetings from the government department has advised people – that pesticide trespass is endemic throughout the Mount Lofty ranges. But then when it gets through to a higher level, they start to say, ‘You prove it. We can’t see it.’

Mr Forwood—We were advocating a steering committee that had the relevant authorities, both Commonwealth and state, represented on it but with some community representation or with a reference group that included community representation. We know that these are the sorts of things that you would not entrust to a small newly incorporated body – especially a large sum of money. We would not have had the technical expertise, and we would have had to engage people who presumably have skills which are already available within government. As a community group with quite strong local support, the lack of support has been very disappointing.

Mrs IRWIN—So you do not have any funding whatsoever. I believe that your group was formed in 1998, but you have only a few members.

Mr Forwood—Thirty.

Mrs IRWIN—Thirty members and no funding whatsoever.

Mr Forwood—We actually feel that if we wanted to politicise the issue, we would get much more support. The problem is that, once you let the cat out of the bag, you are going to raise anxieties which are unfounded and inappropriate. You might affect property values. We are still trying to get a constructive partnership, though, between the major parties and the community and the council.

CHAIR—Did you get anywhere with the management board?

Mr Forwood—Absolutely nowhere.

Mrs IRWIN—Do you think they might be a bit frightened when they see the words ‘action group’? I know that as a member of parliament – and my colleagues here would agree with me – if I have an appointment to see someone and they say, ‘It is so-and-so action group,’ I think, ‘Oh, my God, no.’

Mr Forwood—You can tell how balanced and reasonable, and how careful we have been, particularly in the early stages. We gave assurances that there would be no litigation or anything like that so long as we could make some progress, and it has really just been eking it out. Part of our hope – which was reflected in the questions that David sent through to your secretariat – was that somebody would support some continuing research; a national and international properly conducted literature search would really help. I think that would really shoot people’s eyebrows up about the impacts on animals and on humans who are closely associated with chemicals in water supply or in commercial agricultural spraying and things like that. We really think that would get people sitting up. From that would flow some active government involvement, so long as they had community people who were taking a balanced approach. That is one of the things that we hope might come through.

CHAIR—You have got the minister for the environment in Adelaide.

Mr Forwood—Yes, we do.

Mrs IRWIN—I actually represent electorates in south-western Sydney and we are trying to educate people within our community regarding pesticides – what sprays they are using on their front gardens and what they are using to wash their car out in the street. What are you doing as a group with people in the Adelaide Hills? Are you getting out there and holding public meetings or doing letterbox drops or are there any educational awareness campaigns?

Mr Mallan—They had a meeting in June. It was sort of rushed through with a week’s notice because we said, ‘Look, if you do not call a public meeting, we will.’ That was the approach we had with our local government at that stage, and we have proceeded from that. So the meeting in due course was called –

Mr Forwood—It only had about 80 or 90.

Mr Mallan—With a week’s notice, we had been given an idea of the interest that we have. There are only so many people that have the time or the energy, but you have a heck of a lot of support. We have an enormous number of people that will come along and sign things, and they are supporting us. They are not out with

banners and things, but they are concerned. We had some 80 or 90, as we said, and it was a panel. Nothing has come out of it. There are all these promises of things, 'We are going to do that,' and the classic thing is –

Mr Forwood—The council has been doing something about householder education. It puts out leaflets and bulletins about which poisons are appropriate to which weeds and emphasises the importance of reading labels and getting advice from Mitre 10. So there is a fair bit going on. There is a bit of toing-and-froing about who uses the most poison, whether it is the agricultural sector or whether it is government departments doing their spraying programs or whether it is local householders. Frankly, we do not mind much. We think that there are multiple users, and everyone needs to have a heightened awareness, but we just need more information. We do not want to make wild allegations but, as I said, we are relying on a small number of people doing a fair amount of research and forwarding it to people.

Mr Antell—The warning signs are there but we cannot get anybody to pay attention to them.

Mr Mallan—The people who should be.

Mr Antell—The people that should be paying attention.

Mrs IRWIN—This is what local government, state government –

Mr Antell—State government, et cetera, and this is the reason we have come here to listen, in a slightly different forum, to the things that some of the previous speakers have said. The warning signs are there all the time. If anybody watched the Chiquita banana thing last night, they come up literally all the time all over the world.

Mr Forwood—David has got video about the impacts and –

Mr Antell—We do not want to alarm people but we feel we should keep moving on. Somebody should pay attention.

Mr BILLSON—There is a major impact on fertility for future generations which is very worrying.

Mr Antell—There is a book called *The Autobiography of the Codfish*, and if you read this it goes on about the whole thing. There was a period when, if most codfish had spawned, they said you could walk across the Atlantic and not actually get your feet wet. Codfish are now extinct in large parts of the world. There is this continuous frustration. The only country that really grabbed the nettle was Iceland. If you remember the Iceland cod wars – I was a kid – they got it right, but they had to stand on a few people. This is similar.

Mr Mallan—The Americans are identifying the same thing with salmon. One thing I would like to say is that we do not want this to be an urban issue – even though it is a delightful area in the Adelaide Hills and not quite suburbia – and to come in and have conflict. There is always this clouding issue that comes up when you talk about pesticides: the farmers will not cop this and the farmers will not cop that. We are really past that. It is at a level now where you are lucky to have the use of pesticides. It is not something that should automatically be taken that you use. How they are used for the benefit of everybody has to be assessed. Nobody has a divine right to any one resource here now. We cannot fight it. In the long term it is in everyone's interest that we preserve the soil and the water. It is not for the short term for somebody that has got a quick buck which may go for five years. There is enough information around – and not coming from eccentric groups or minorities. This information we have is staggering and the references, which I hope someone doing research for your committee will take the time to have a look at, are there. It is a lot better than paying people a heck of a lot of money to do it.

Mr Antell—You asked about alternative technologies for doing alternative things. Again, last night, there was the Chiquita banana thing: they controlled 90 per cent of the market. A Dutch company came out, talked to the local natives, and grew a crop without any chemicals at all. It grabbed 10 per cent literally of the market in Europe overnight and that is how keen people are to get rid of the stuff. Alternatives can be developed.

Mr Mallan—That is research that we obtained. It is the most recent proceedings from the first North American conference on spray drift and preventing it. It is a full document. It was the biggest thing that was done for 17 years in the States. It is not groups; it is the whole lot. It is the industry, professors, people that are interested, everyone. It is comprehensive. That has gone through in South Australia to the level of the deputy premier who was a minister and had a chemical business and was a pesticide contractor before going into parliament. South Australia still has these few pages here for spray drift, 1992, knocked up in a matter of a very short period of time, I believe, from one of the people that helped put it together, a Mr Smith. They have not even implemented the recommendations in this, let alone address what is contained in this publication here. This is not to knock people; this is something that should benefit the whole of Australia. It is not like reinventing the wheel; it is something we should be looking at here. There was one person from Australia at that conference – he is at Queensland University.

Mrs GALLUS—Are you showing us that or are we going to receive that?

Mr Mallan—We will send you a copy.

Mrs GALLUS—That would be good.

Mr Mallan—Transport SA were very good. They ran off a couple of copies.

CHAIR—It will be interesting to see what the US did about it.

Mrs GALLUS—I am trying to get a feel for where this is coming from. I think now I understand that you are saying it is coming from everyone: it is coming from your neighbours, from the Department of Transport and from council. Is this what you are saying – that everyone is spraying?

Mr Mallan—No.

Mr Antell—It is coming from somebody at others.

Mr Forwood—There are multiple sprayers.

Mrs GALLUS—So we are talking about multiple people? So the problem is that –

Mr Mallan—You first identify big users as your main target, when you can see the drums. There is just one little pick-up centre at Strathalbyn. There were 20,000 drums they could not get rid of.

Mr Forwood—One of the problems is coordination. Under the state arrangements, we have animal and plant control boards and there is the SA Animal and Plant Control Commission, but they are only aware of, and have jurisdiction over, the state plus local council activities. So there are things which are being done by the Commonwealth or privately – and there is evidence in some areas where they get sprayed two or three times by different people within a relatively short space of time. Yes, there are multiple users.

Mrs GALLUS—Multiple users. But you are really at the moment after the big users. If you look at the big users, would the Department of Transport be your biggest user?

Mr Mallan—No, Transport SA, the rail corridor, local government weed control.

Mr Forwood—It makes sourcing of it and causality really difficult because the evidence is – and David knows all the statistics – that the chemicals can stay in suspension and travel for 15 kilometres or 30 kilometres.

Mrs GALLUS—So you cannot pin down who is the cause?

Mr Mallan—Because there is a complete absence of records or information obtaining.

Mrs GALLUS—I realise you are a small group, but I just want to get a hold on where you have been with this. You have written to, for instance, Transport SA and asked them what they are using.

Mr Forwood—Countless times.

Mr Mallan—We have had meetings with them.

Mrs GALLUS—They have given you a list and you do not believe their list?

Mr Mallan—They have supplied no list.

Mr Forwood—Nobody supplies us. In fact, most of them say that they do not keep records. Nobody is now saying they keep records, but they do not keep records of who sprays what, where and when.

CHAIR—I would have to question that.

Mr Forwood—No, one of the things that we did with our local council was press them. I have a legal background, and one of the early things we did with our council was to say that we thought they should review their contracting arrangements with local contractors – so you had some quality assurance, performance and audit. They have designed a form, and I think they have given us one set of records which is meant to be filled in by the contractors when they spray, and they have done some vehicle inspection. Prior to engagement and renewal of contractors, they have a session with the local poisons officer, whatever the title, or the environmental officer that they have now. But we asked for it. The contract that I was given was a building contract with minor amendments by a person without a legal background, and I just gave them the name of a firm of solicitors in South Australia that could give them a services contract which would be more readily amended.

THIS HAS MOVED FORWARD. WE HAVE DIARISED, WHEN WE WERE AT HOME, THE POISONS. I ACTUALLY SAW ONE OF THE GENERAL MANAGERS AT THE LOCAL HILLS COUNCIL – THIS IS ABOUT A MONTH AGO – AND I SAID, ‘WE HAVE THESE RECORDS.’ AND HE SAID, ‘DO YOU WANT TO COME IN AND MATCH THEM WITH OUR RECORDS?’ THEY ARE NOW KEEPING THEM FOR THE PAST SIX OR SEVEN MONTHS. YOU DO NOT HEAR FROM THEM AGAIN. HE HAS NEVER CONTACTED ME.

Mr Mallan—The historical thing was initially how the thing started off, and it was very amicable in getting some information for historical records for base studies and things like that. That is how it started. We asked,

‘What have you done in the last three years and where?’ so that we could evaluate how effective it was. It started off with just weed control for woody weeds. So none of that information came. Then we asked for details of the last five years, what their present thing is and what their plans are for this current year. So any information that has been supplied to date only covers not what we have totally requested but a short period of time.

Mrs GALLUS—Can I break in here? I have got that picture. Have you gone through your local, state and federal members of parliament?

Mr Mallan—We have been down to Parliament House with David Wotton.

Mrs GALLUS—No, have you been through your local state and federal members of parliament?

Mr Mallan—We have been down to Parliament House with David Wotton.

Mr Forwood—We have talked extensively with David and –

Mr Mallan—And had meetings with Rob Kerin.

Mr Forwood—He has made representations to Rob Kerin.

Mrs GALLUS—Have you had them write the letters for you?

Mr BILLSON—Sorry, I am not local: is David Wotton your local member?

Mr Forwood—He is our local member.

Mrs GALLUS—Irrespective of what party it is, I was just wondering whether, instead of going to David and getting him sympathetic – and I know David would be sympathetic to that problem – whether he actually was the one who wrote on your behalf saying, ‘I have information. Would you please supply me, as the state member, with what you are using?’ I wonder whether you would get any more replies than you are already getting. I am not guaranteeing it but it is always –

Mr Mallan—I think you would be surprised at the extent and the range of correspondence that has gone out. Not just to our local member, it has gone to the opposition –

Mrs GALLUS—I am not thinking of looking at the big picture. At the moment I am just trying to –

Mr Mallan—Sure.

Mrs GALLUS—home in so you can actually get a hard piece of information and say, ‘Okay. We have got this information.’ We are tremendously sympathetic to you.

Mr Mallan—Bill Antell might be able to fill you in on what Rob Kerin said at Parliament House.

CHAIR—I do not think this can occur in other states that I know of anyway. It is rather astonishing.

Mrs GALLUS—I am finding it hard to believe that it is occurring in this one, I must say.

Mr Forwood—I think there is a catch-22. I think that senior advisers in the Department of Primary Industries – not the research people, but the middle management and liaison people who have got a rural background themselves – are fairly sceptical of the evidence. I suspect they do not read the papers that mainly David forwards to them. I actually think that the ministers are getting advice that you have got a bunch of people who have become obsessive about inexplicable or multi-caused damage to their environment. On the one hand we get quite good hearings with the minister, with our local member, and with various other people, when we have representative meetings when all the agencies are there, but nothing much happens afterwards. I have had a very senior government position and I actually think that there is a block between the department and the political interface and so nothing happens.

CHAIR—Who is the federal member?

Mrs GALLUS—Mr Alexander Downer. Can I just concentrate on this for a moment? I think nobody would want this to happen and I believe the people you are talking about have all got goodwill. I am just trying to identify what is going wrong. It seems that perhaps it is the amorphous charge here that we have got that these sprays are going on, and I take it that you have got the documentation. But if you are in politics, it is so much easier to deal with a specific instance. If you can actually say that instead of this is happening – and I take your point that you do not know because of the drift – you can actually put pressure on particular organisations to make them reveal, which you have said you have done, then maybe that pressure can come and, rather than just going to the political level and saying that you have got this problem, you can get the first step to get that pressure going to find out exactly what is being used. When you have got that concrete set you can say to somebody, ‘This is what is being used.’ Then it is a much easier step to go to the next step to say, ‘Let us stop this or reduce it or whatever.’ Maybe that is the problem. It is not our job to solve –

Mr Mallan—The problem is the overprotectiveness of a primary industries department which is funded to oversee agricultural and primary industries in a state but also has legislated responsibilities for the control and use of pesticides and is fearful that something else is going to interfere with the main cause.

Mr BILLSON—I have to go, but I will just quickly ask two things: firstly, have you tried the cooperative research centre on pest, animals and plants, offering your circumstances as a micro-climate working model they could do some research on?

Mr Mallan—Chris Preston is part of that, and there is an American –

Mr BILLSON—If you want to do some homework that might be a way to go. Secondly, I am chair of the government's environment and heritage committee. The chemical industry is terrified, not just about your circumstances, but also generally. They came in to see me one day, saying, 'We are terrified. We know some people are cavalier with the use of our chemicals. We do not want our business ruined because some people are not managing the use of our product well. What can we do?' I said, 'Why don't you get into some cooperative arrangements with the people who are using the chemicals and those who are concerned about them to look at accreditation, best practice and rates of application and climatic conditions, and sell that? This will save you money because the more chemical that is up in the air, the more they are spending than they need to spend,' and they were very interested in that.

Mr Antell—You are absolutely right. There seems to be a reluctance at some levels to say, 'Hang on, we had better review this and improve the method we use for application.'

Mr Mallan—They say these are the safest things you can get and they are at company and government meetings –

Mr Forwood—It needs to be on the record that Minister Kerin has agreed – but it was a long time ago in May or whatever – to setting up this expert review committee. But there were very generalised and wishy-washy terms of reference. We have this thing where we exchange letters about the expert committee and who will be on it and what the scope of the terms of reference will be. This is about every two months. We had some people who had an appropriate research type background, so we wrote a structure which we thought was appropriate and much more specific terms of reference than the minister had offered – which would have come through his departmental advisers, of course. Then we got down to a panel and there were two people on the panel who have an appropriate background in meteorological and chemical impacts on plants. There are also members who have been nominated by the government who have very generous plant biological backgrounds who we have already talked to over the last 3½ years and who say things like, 'It is impossible to establish that the damage in your garden or what killed this tree is chemicals that have drifted.' You go through soil, water and do all those analyses and they still say it is inconclusive.

WE WERE CONCERNED THAT IF WE HAD A PANEL THAT MADE AN EQUIVOCAL REPORT FOR LACK OF APPROPRIATE EXPERTISE OR YOU HAD A MINORITY AND MAJORITY OPINION, THE JURY WILL BE OUT ON THE ISSUE FOREVER BECAUSE THERE ARE PEOPLE WHO ARE CONCERNED ABOUT IT BUT THERE ARE PEOPLE WHO, IT SEEMS TO US, DO NOT WANT TO SEE IT ADDRESSED. WE HAVE A LOT RIDING ON THIS INQUIRY HAVING THE RIGHT COMPOSITION AND TERMS OF REFERENCE. ONCE AGAIN, WE HAVE GOT A BIT OF AN IMPASSE. WE THINK WE ARE NEARLY THERE, BUT WE ARE NOT THERE.

Mr BILLSON—I am just suggesting that chemical companies themselves know that the inappropriate use of their products – even the ones they can claim are proven safe – is highly undesirable from everyone's point of view. They were saying, 'How do we make sure that our products that are proven safe under certain application scenarios are actually applied in the manner in which they are intended so we do not end up with problems with compound residue in the soils, overspray, transfer of things through the food chain and all these sorts of things?' They were prepared to put some money into it.

Mr Mallan—One thing I would like to say is that we seem to have got it down as though it is an environmental issue. We would like at some time to be able to see what attention in our catchment areas and our water resources is being paid to pesticide residues in testing. I doubt that there is very much being done. We have already had Atrazine here.

Mr JENKINS—Can I just clarify that. Is it that the agency is saying to you that their monitoring is not showing anything or is it that these things are not being monitored?

Mr Forwood—They are not being monitored. They are only just starting to keep records of use but certainly residues and impacts are not being monitored. There is no controlled study or any other study or even testing being undertaken that we know of.

Mr Antell—Or no auditing of anybody who applies this stuff on a large scale.

Mr JENKINS—I might have got the wrong drift yesterday but I thought that they were –

Mr Antell— That is what they were saying they were monitoring.

Mrs GALLUS—That is my understanding.

Mr Antell—They say that, but they are not. That is why we are here.

Mr Forwood—Or if they are, they are not giving us access to the stuff, even in the early stages when we never went pink in the face.

Mr BILLSON—I suspect that is more the issue.

CHAIR—They admitted that there was a problem with Atrazine and they raised the issue and said that they had monitored and found Atrazine –

Mr BILLSON—They talked about how you would treat it.

Mr Mallan—We do not know how many other sites are being monitored either yet and being assessed.

Mr Antell—With these boards you go to there is terrific duplication of representation. I will not say they are cosy clubs but it is nothing like having somebody along that you know to sit with you. With the representation on those boards you will see that there is a person who is a councillor maybe on the Mount Lofty Ranges catchment, the Onkaparinga one and the Animal and Plant Control Commission local board, and so it is not hard for vested interest to override commonsense if somebody does not have an open-handed approach.

CHAIR—We will have to close, unfortunately.

Mr JENKINS—Can I just clarify this. Are there no Australian standards or ISO standards?

Mr Mallan—I am afraid that is something I have not come across.

Mr Antell—For application?

Mr JENKINS—Yes.

Mr Antell—I do not think so.

Mr Mallan—We have seen all of the stuff on the registration and licence spraying.

Mr Forwood—There is no record kept for aerial spraying.

Mr Mallan—They are not required to keep records. There is a move towards national reform. Again, we have made representations to the South Australian Health Commission, which is part of the Department of Human Services, seeking more rigour and more data collection in a way which is designed not to be onerous. I am a private businessman now, so we are sympathetic to not loading people up with complicated forms that have to be filled in frequently or every day. But, no, not that we know of.

CHAIR—In New South Wales, anyone who uses chemicals has to be registered and they have to do upgrades of registration and how to use chemicals.

Mr Forwood—We see them without the gear on, with leaking vehicles – although there is now a local vehicle inspection thing – and they empty the last bit of their tanks into the gutters. There is an old guard, as there so often is, who used to do it when there was no regulation and there is a new guard who are properly trained at TAFE.

CHAIR—I suppose there is a bigger population base over there, but most industries over there are very well aware of the fact that they have got to be very careful with chemicals.

Mr Forwood—You would think that was because there was some sort of monitoring or surveillance or audit. There appears to us in South Australia to be no monitoring, therefore you are relying on self-regulation and the goodwill of all users, whether it is for –

CHAIR—There is monitoring of water quality. It is self-regulation, but it is self-regulation of self-preservation, I suppose, because if you have a valuable chemical and it is found that it is causing a problem in the environment, then you are going to lose it. Most industries are very well aware of that and they are very careful. As I said earlier, I am astonished at some of the things that you have said. I would have thought that it would be worth while following on from some of Bruce's suggestions, as far as NHT funding was concerned, to visit your local federal member and see if you cannot pursue it that way.

Mrs IRWIN—I just want something clarified that I am finding very hard to believe. You have stated that you have written away asking what types of pesticides are being used and that you are not getting an answer. Is that correct?

Mr Forwood—Nothing.

Mrs IRWIN—No answer whatsoever?

Mr Forwood—That is right.

CHAIR—That is quite incredible.

Mrs IRWIN—That is incredible. I think the chair is correct – I would be taking that matter up with your local federal member, because I am sure if a constituent or a group like yours came to see me I would be following it right through.

Mr Mallan—In closing, I will leave these with Bronwen; there is a lot of information there for her and you. It is about catchments and levels and health, which is the thing that we did address in our letter.

Mr Forwood—If you can research it and give it a big plug, as an issue to be further investigated, in your first report that will help us when we talk to Rob Hill and Alexander and everyone else.

CHAIR—You have got both strings to the bow there, because Rob Hill, of course, approves the final NHT funding. I am sure the Labor Party members would not say anything about that, would they? Thank you.

RESOLVED (ON MOTION BY MRS IRWIN):