COMMONWEALTH OF AUSTRALIA

Official Committee Hansard

HOUSE OF REPRESENTATIVES

STANDING COMMITTEE ON AGRICULTURE, FISHERIES AND FORESTRY

Reference: Future water supplies for Australia's rural industries and communities

WEDNESDAY, 19 FEBRUARY 2003

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HOUSE OF REPRESENTATIVES

STANDING COMMITTEE ON AGRICULTURE, FISHERIES AND FORESTRY

Wednesday, 19 February 2003

Members: Mrs Elson *(Chair)*, Mr Adams *(Deputy Chair)*, Mr Forrest, Mrs Gash, Ms Ley, Mr Schultz, Mr Secker, Mr Sidebottom, Mr Windsor and Mr Zahra

Members in attendance: Mr Adams, Mrs Elson, Ms Ley and Mr Sidebottom

Terms of reference for the inquiry:

To inquire into and report on:

The provision of future water supplies for Australia's rural industries and communities, particularly:

- The role of the Commonwealth in ensuring adequate and sustainable supply of water in rural and regional Australia.
- Commonwealth policies and programs in rural and regional Australia that could underpin stability of storage and supply of water for domestic consumption and other purposes.
- The effect of Commonwealth policies and programs on current and future water use in rural Australia.
- Commonwealth policies and programs that could address and balance the competing demands on water resources.
- The adequacy of scientific research on the approaches required for adaptation to climate variability and better weather prediction, including the reliability of forecasting systems and capacity to provide specialist forecasts.

WITNESSES

Committee met at 9.05 a.m.

CLEWETT, Dr Jeffrey Frank, Principal Scientist, Leader Landscape Systems Group, Queensland Centre for Climate Applications, Queensland Department of Primary Industries

STONE, Dr Roger Christopher, Director, Queensland Centre for Climate Applications, Queensland Department of Primary Industries

WHITE, Dr Barry James, Coordinator, Climate Variability in Agriculture R&D Program (LWRRDC), Land and Water Australia

CHAIR—I declare open this public hearing of the House of Representatives Standing Committee on Agriculture, Fisheries and Forestry inquiry into future water supplies for Australia's rural industries and communities. Today's hearing is the fifth in the inquiry. It is part of the committee's program of hearings and visits to different parts of Australia. Before we get to the main part of your evidence in relation to the submissions, we will have a demonstration of the Rainman software. We will take the presentation as part of your evidence and it will be recorded in *Hansard* along with any questions and discussions which may follow. I sincerely welcome you here and look forward to your contribution.

Although the committee does not require you to give evidence under oath, I should advise you that these hearings are a formal part of the procedures of parliament and, consequently, they warrant the same respect as proceedings of the House itself. I would like to remind the witnesses that giving false or misleading evidence is a serious matter and may be regarded as a contempt of parliament. I understand that you are going to do a formal presentation for us today, and questions will follow after that.

Dr Stone—I would like to commence with sincere thanks for the opportunity to make this presentation. These types of events are rare but they are extremely valuable to show the science and the background to our approach in helping Australia manage climate and rainfall variability, which is huge. The presentation will start with Dr White presenting a brief overview of some of the background to the funding and the federal approach to supporting this activity over quite a few years. I will then do a brief introduction to rainfall and climate variability, and the concepts behind the Australian Rainman software system. Dr Clewett, who is the brains—if I can put it that way—behind the concepts and the fine detail of how this system operates, will do the more detailed presentation. We would be more than happy to take questions or points of clarification during the presentation. Again, thank you for this opportunity today. I will hand over to Dr White to proceed from here.

Dr White—Land and Water Australia has already presented a detailed submission to the inquiry. Andrew Campbell, the Executive Director, spoke at your hearings a couple of months ago. Today I am talking strictly on the seasonal climate forecast as part of the terms of reference. Just to show how it all fits together, we are a national funding body working primarily in the agricultural and natural resources areas. For example, we helped fund the development of the Rainman package. Rainman was initially a small state based project. Our funding over the years has helped develop it into a major national, and now an international, product. More recently, we have added a StreamFlow component. That is the way we work as a funding body. We do not directly do the research ourselves, but we take a national overview. I

am proud to say that we have a very small but world-class effort in developing and applying seasonal climate forecasts. These forecasts are typically for the next three months and are widely available in the media. With the Rainman software, you will see an example of how they forecast, what their background is and how they are developed. We believe that with more research we could increase the forecast time to six months. Farmers are telling us that that is very much what they would like to have.

The forecasts have been around only for about a decade. We believe that the figure of about 40 per cent who take forecasts into account is pretty good growth, but there is much scope to increase that. The forecasts are probability based, and some farmers take a while to get the feel of them and maybe a number of years to get used to using them in their operations. We think to increase the uptake of forecasts needs a major national effort. It takes three requirements: there have to be improvements in forecast accuracy; we have to be able to demonstrate that the forecasts are valuable; and we have to get better at communicating the probability forecasts to users. We see one of the issues as being that we do not have a national climate research strategy. There are some agencies that do great work individually, but we do not have anything you could call a national climate agenda. In our limited way we have tried to be that, but our role is fairly much limited to agriculture and natural resources.

Our funding is a bit stop-start, you might say. In the 1997 drought we had our last major infusion of funds, which was $3.5 million through Agriculture Advancing Australia, through AFFA. Recently we received half a million dollars through the Natural Heritage Trust program. Our priority as a program at the moment is to raise funds. You could say that climate research is everybody's business and sometimes that makes it nobody's business, so we have been on the road for probably six to 12 months raising funds, primarily from the 13 rural R&D corporations. We are optimistic that in the next few months we can launch a new program. One of the issues is that if there is lots of rain we will discover that the interest in drought research or climate research will dry up. That has been one of our problems: to sustain a real national effort. That is a quick summary of our submission. I am happy to hand back to Roger and to be involved in questions later on aspects of climate forecasting. Thank you.

Dr Stone—With your permission, we will commence the presentation. Jeff and I have put together a PowerPoint demonstration to give an overview of the system. A point I should make is that Jeff and I are both from the Queensland Centre for Climate Applications. This is a business unit, as I mentioned before, within the Department of Primary Industries in Queensland. It is not a branch office of the National Climate Centre; that is a Bureau of Meteorology section in Melbourne. We certainly have close cooperation with the National Climate Centre on various projects, research projects particularly, but we are particularly focused on the integration of climate forecasting capability with property management, catchment management and so on. So integrating climate forecasting with rural industry is the prime focus of our activity. We are based in Toowoomba. I will go straight to some colourful slides. This will be an attractive presentation to start the day.

A PowerPoint presentation was then given—

Dr Stone—This is to put us in some sort of context in terms of 12 months rainfall through to the end of January 2003. As we can clearly see, the rainfall compared to the long-term records has been in the lowest 10 per cent or lower, and many areas of Australia have the lowest values on record—certainly through parts of central Queensland and New South Wales. But a

remarkable feature of this particular drought has been the spatial extent across the whole country. I could choose maps that picked out particular periods, say, for six months or eight months, that would show more dramatic evidence of the extensive nature of this drought. I am sure you have had a presentation on this particular drought. We have our own web site, by the way, called The Long Paddock—which is the paddock on the side of the road—that attracts a number of million hits a year to investigate these sorts of rainfall patterns, the forecasts that we can provide and other information. The Rainman package takes it to a much finer level of detail, as we will show.

An interesting issue with rainfall variability in Australia—and this might be a slightly different way of viewing variability from what we are used to—is shown on the next slide. The areas in white in south-west Western Australia, Tasmania and Victoria have slightly less variability than you would expect. This is on a year-to-year basis, given the latitude and the annual average rainfall. Can you believe it? It is slightly less than you would expect. This is from the Bureau of Meteorology. All the other areas of Australia—and it is a huge landmass—have more variability from year to year than you might expect, given the latitude and annual rainfall. When we come into Queensland, you can see that those areas shaded yellow and orangey-red through to red have some of the highest variability in the world. In other words, we suffer more from the extremes of variability in rainfall in this country, and certainly in many parts of Queensland, than almost anywhere else on earth. We take that for granted. If you go to Proserpine, where I was the other week, in the month of February they have had rainfall as low as zero millimetres and in other years as high as 1,100 millimetres, just in that one month. That sort of variability is massive, and we take it for granted, but it is probably the most extreme example of this sort of variability on earth. A few islands in the central Pacific may match it.

Interestingly, though, a reason for this variability is a pattern in the Pacific Ocean, the sea surface temperature pattern. I am not sure whether you have seen the type of map in the top part of this slide showing the Walker circulation. This is the so-called La Nina pattern. The extreme variability we have in rainfall can actually be forecast to a great extent. In fact, those parts of the world that have slightly less variability, or similar amounts of variability to some extent, are also capable of being forecast. That is counterintuitive in some respects. Because we can tie down the mechanism that is responsible for the variability, we can actually go to some lengths to forecast this.

The patterns of sea temperatures in central equatorial Pacific are shown by a gash of blue on this slide, which used to be reasonably representative back in the 1950s and the 1970s and once or twice since then; it is an area of cooler than normal sea temperatures contrasting with the area off the Australian coast, which is slightly warmer than normal—that yellowy-orange area on the slide. That is the type of sea temperature pattern we like to see in the Pacific Ocean to give us abundant rain, to recharge the Murray-Darling Basin and to give us the good years we remember. We have not had too much of that activity since the 1970s, which is perhaps another issue. The cartoon beneath the map translates to a circulation pattern in the upper atmosphere which then affects the pressure patterns across the Pacific. That pressure variability is called the southern oscillation. We in fact use an index of the southern oscillation or patterns of the SOI in the forecasting procedures that Jeff will be showing during Rainman. That is a short course in climatology.

The next slide shows the opposite pattern. This is the one we fear the most, I have to say, in terms of potential for drought patterns. It is in the area in the central Pacific where the

International Date Line meets the equator and running across the South American coast. That is the well-known El Nino pattern that you have possibly heard of somewhat. That type of shift in sea temperature patterns across the world shifts the whole circulation of the upper atmosphere, changes the Southern Oscillation Index about and is often, but not always, responsible for droughts in Australia. Not all droughts are associated with El Ninos, but certainly, with the droughts of the last 20 or 30 years, almost every El Nino has had quite a severe impact across a lot of Australia. 'About once every five years' is a common description of the return period of these events, although perhaps that frequency is slightly increasing over recent years.

We know the main effect for Queenslanders is that, during the La Nina years, we tend to get more tropical cyclone activity gathering around the Queensland coast. In El Nino years, tropical cyclones tend to be dispersed where the warmer water is and where the upper atmosphere is more conducive out to the central and eastern Pacific. Since we have had more El Nino years than La Nina years in the last 30 years by a fair degree, no wonder Queensland is not getting that recharge of tropical cyclone activity which could do damage to coastal areas—so it may help coastal real estate values, by having fewer cyclones, which is an interesting issue—but we are not getting the remains of tropical cyclones coming inland to give us the major recharge to our river systems. That is an interesting issue again.

A typical El Nino cycle follows this. You can track the Southern Oscillation Index through that wiggly line there. Here is pattern of the Southern Oscillation Index through a typical cycle of El Nino. This is how Rainman does a lot of its forecasting: it tracks the patterns of the Southern Oscillation Index, which is one way—and an effective way—of measuring what this El Nino pattern can do. I should add that the Southern Oscillation Index and the influence of El Nino spreads over all of Australia, particularly over parts of Tasmania, which is often not realised. The focus is often on Queensland.

A typical pattern is that the Southern Oscillation Index drops during the autumn—the most recent example is the autumn of 2002—and then it tends to stay fairly rigidly negative until the following autumn—and we are sitting at the equivalent period of that at the moment—when, if you have a clean break and the system breaks down—that is, the whole cycle tends to go right through—the El Nino system tends to break down and we return to reasonable rainfall. If the SOI continues to rise, we can have quite abundant rain during the winter. That is a remarkable feature: the whole El Nino Southern Oscillation tends to phase lock from the autumn of one year to the autumn of the following year and the whole Pacific Ocean atmosphere tends to stay that way for a year.

Armed with that, if we track our pattern through here, at any particular time through the year we can stop the clock and ask what the pattern of this SOI has been up to. If we stop the clock at this point on the chart, at the end of May 2002 when it went through that particular cycle, we can ask: what has happened to New South Wales rainfall? What has happened to the inflow to the Wyangala Dam? Whenever this pattern has occurred in the last 100 years, what has happened to wheat yields across Australia using an integrated wheat production model? We can make our way anywhere along this cycle. We do not necessarily know which way it is going to go, but we know that if it is sitting here at this point on the chart most often it will break, but not always. We use what is called a lag relationship in this sort of forecasting. It is a fairly conservative approach—Queenslanders being fairly conservative—so that means that we do not necessarily go beyond three or six months at the most and we incorporate the known fact of what the SOI has been through. We are not predicting what the Southern Oscillation Index is

going to do, we are not predicting what El Nino is going to do, we just stop the clock at any point and know for a fact what has just happened in the Pacific Ocean and take that into account and relate it to the rainfall that has happened in Australia's history before.

This slide shows a time series of the SOI going through to fairly recent years. You can see there is negativity in the SOI from 1972 to 1977, 1982 to 1987, 1992 to 1997 and 2002—about every five years—and also in 1991, 1993, 1994 and 1995, which was a worry. An interesting feature is how deeply negative this SOI can be. This cartoon shows Australia's likelihood of going into drought in some areas. During the opposite pattern, where the SOI is about plus-30, as it was in November 1973, we tend to have excessive rain. But you will notice in this part of the time series that there is more red than there is blue, certainly since 1976. I should say there is more negativity in the SOI since 1976 than there has been in the last 110 years or so.

So we have a negative trend, a downward trend, in the SOI, which may be part of natural climate variability or there may be some influence of climate change in there as well. That is of some concern. You can see from that simple diagram how we keep going back into the drought type, negative SOI patterns and that we only have a few other patterns. Mind you, our records only go back 130 years. But some climate models that take this into account—ones run by the CSIRO and others—suggest that this is not unexpected given global warming.

I will move to general public output. This is a snapshot view of the chance of getting above the long-term medium rainfall for any three-month period, based on the patterns of the SOI. This slide covers the current period, running from February through to April, based on the particular pattern of the SOI through December-January. We can see that western Queensland comes up with a reasonably high probability value, stretching up to the Northern Territory, but not so New South Wales. For Tasmania it is about a fifty-fifty chance. This slide shows other times of the year. To be more dramatic, if we had gone back to last year, the probabilities of getting normal rainfall for most of Australia were 10 to 20 per cent or thereabouts right through winter, spring and early summer. So it gave a continued and early warning of the likelihood of well below average rainfall. It has been a remarkably effective tool for the rural industry that works with us in preparing for particularly dry conditions.

To provide a backdrop of where this sits, I am going to hand over to Jeff to explain the concept behind taking Rainman to the next stage: how do we get this through to rural producers and how can we tie down the value of this for a particular location? In doing so, I would like to acknowledge very sincerely the contribution from federal and state agencies, including the Bureau of Meteorology; the Rural Industry Research Development Corporation; ACIAR—this work is being extended internationally now; the Climate Variability in Agriculture Program, which Barry has been heading; the University of Melbourne, for the water modelling work; New South Wales Agriculture, the Western Australian department and AFFA. I will now pass over to Dr Clewett for a more detailed description as far as this presentation is concerned.

Dr Clewett—The very essence of Rainman and Rainman StreamFlow is to empower people. It is empowering people with data—all of Australia's rainfall and stream flow data—and then giving them the capability to analyse that data quite easily with easy menus. It also empowers people with an understanding of what El Nino is all about and of what Australia's rainfall and stream flow history is all about so they can use that information in their business decisions. It is about empowering people, and it is used by many people in Australia, with some 2,500 copies

of Rainman being used. It could probably be more: it could be 200,000. So the issue that Roger just touched on then, about communication, is vitally important to us.

I draw your attention to the material that we have prepared—and perhaps Roger and Barry would help me by handing it out to the committee. If you look inside this information pack, you will see we have put quite a bit of material in it. The first thing that you will notice is a CD—we have enclosed a copy of the software package for you. When we send it out to people, it goes out in a little book like the one I have here. There is lots of information on that CD. The next thing you might notice is this book entitled *Will it rain?* All the information that Roger was talking to you about—the very basis of El Nino—is described in this little book. Ian Partridge wrote this. It is quite brilliant. Many of the diagrams that Roger just showed you—for example, the ones about the SOI—are in this little book. We find that people enjoy reading this and gain a great deal of knowledge from it. Also contained in the information pack are the seasonal forecasts based on the SOI phases for each three-month period during the year. At the very back there are some fact sheets on what we call CVAP, the Climate Variability in Agricultural Program. That is information that is on the Web about the Rainman and the Rainman StreamFlow projects.

Mr ADAMS—I am wondering about the pamphlet with the rainfall charts.

CHAIR—This is the one.

Mr ADAMS—Thank you.

Dr Clewett—It is in that one; it is filled with maps. There are lots of maps for every period during the year based on phases of the SOI.

Dr Stone—There are only 60 possible forecast maps and they are predigested. We have a recorded message on our Internet site and it is a matter of identifying which phase you have just entered and a snapshot view of Australia is provided at a glance. So it is preanalysed information that is ready for operational use.

Dr Clewett—To help you follow our presentation today, this pack contains all the slides we have shown, including our conclusions. Returning to the PowerPoint presentation: how did the name Rainman arise? It came from the term rainfall information for better management. We tried to encapsulate all that into the name and that is how the name Rainman arose. We have been working with Rainman and Rainman StreamFlow for some 10 years. The first version was released in 1991. The current version was released in 1999, and we are working towards another release in May of this year. Roger pointed out the tremendous amount of cooperation that we have had across Australia in developing this. In fact, if you include all the agencies involved in supplying data for StreamFlow, some 23 agencies have been involved in the production of Rainman and 75 people have been involved in getting it together. It truly has been a national effort in getting the information together.

The new package will have quite a number of new features, and we will be issuing free upgrades to all of the 2,000 people who are currently running version 3. My feeling is that we need to greatly expand the number of people who are using it because it has so much good information. We have a proposal at the moment to send out another 8,000 promotional copies of Rainman. In regard to the outcomes of this process, we are seeking to link with farmers and

agribusiness people. It is relevant to a very broad cross-section of the community. Whether they are managing natural resources, whether they are in research or whether they are policy advisers and planners, this information is very relevant to everyone. We are trying to empower people by giving them access to the climate and stream flow data.

The very first thing you need to have a good debate about water or drought is access to data. The second thing is to have an understanding of El Nino and an understanding of what our climate variability is all about. The third thing involves enabling people to analyse the risk and, finally, to use that risk in their business or natural resource management decisions. They are the four outcomes that we are trying to achieve. There are two clear sections in Australian Rainman and in Rainman StreamFlow. As you can see in this slide, this top section is about analysing data while the second section is about reference information and helping people to understand. By using the software you can actually animate the information—for example, the information contained in one of the slides that Roger put up—and we find that that leads people to a greater comprehension of the subject.

This slide shows the El Nino situation. You can see how the circulation across the Pacific changes when there is a La Nina. That has huge implications right around the world, but nowhere more so than in Australia. If you wanted to put Australia somewhere in the world where you would maximise the variability that it received—the droughts and flooding rains—you would put it right here. You could not do a better job if you were trying to maximise variability. The reference information in Rainman contains a section entitled *Will it rain?* It has a map library and about 200 pages of tutorials. The tutorials are not about Rainman; they are about how to manage climate variability in agriculture and how to manage the variability of stream flow. There is a user guide and a graphics library.

This slide shows the locations of monthly and daily rainfall data. There is 100 years of data on the CD for each of those locations. It also has international data. This is the monthly data. You might say, 'Why would we have international data there?' The simple truth is that Australia is a trading nation in agriculture. Almost 80 per cent of what we produce goes overseas, so it is important for us to understand the impacts of climate on South America, India, Indonesia and so forth. Being able to analyse that is useful.

There are fewer historical stream flow data sets available, but this slide shows the 281 locations of historical stream flow. One of the big features of the StreamFlow project that we ran through the CVAP program was for the first time to bring that data together. This probably represents the only collection in Australia where all the historical data is together on one CD. The Bureau of Meteorology has all of the rainfall data, but it has not been until the last couple of years that we have been able to bring the stream flow data together. That is so important in trying to analyse the climate. The record is quite short in many locations. On this slide the blue dots in New South Wales indicate that the records are for a hundred years or so, so you can do some good analyses. Unfortunately, in Queensland we have been doing some good work over the last 20 or 30 years, but to understand variability it is important that you have a long record. The red dots on this slide show that there is only about 20 or 30 years of data. That is good, but we really do need the long-term data.

This slide shows the variability of our rivers. In Tasmania the decadal variability is not great, but if you look at some of the sites in eastern Australia, it is huge. The stream flow in the 1900s was only about a seventh of what it was in the 1950s. That is an average for a decade, so that is

quite low. I will return to this slide. For the Thompson River in Queensland we get the same variability, perhaps even a little more than in New South Wales. But we do need these long-term records. One of the major initiatives that is happening is to model the data from around Australia. Melbourne University has contributed by doing the southern states very well, giving them a hundred years of data. Modelling by the Queensland and New South Wales state agencies is progressing so that we can have stream flow data on a long-term basis. My feeling is that we do need a good benchmark set of 100-year model data that we can base analyses on.

There are great drought analyses in Rainman. Farmers love to pore over the historical records; they really do. They love to pore over the records—no graphs, just to go through the data. This slide, for example, shows the 12-month drought analysis at Capella—it could be for 24 months—and it shows quite clearly that at the present time they are in quite severe drought there. Another way of presenting that data is on a map. This slide shows south-eastern Australia. You can see the sites here. All the ones in red are in their worst five per cent of years. It shows just the last nine months, from May 2002 to January 2003. That data in Rainman is updated via the Internet, so you can just plug in and get the latest. We cannot do that with stream flow. You cannot find the latest set of data. By working with some agencies, you can do it, but it is difficult. With rainfall it is quite easy—you just press the button and off you go—but it is difficult with stream flow. By the way, I am demonstrating Rainman to you because most of these diagrams come straight out of the package. It makes it easier and quicker for me to move through PowerPoint.

I want to return to the issue of variability. You can see that the inflow to Wyangala Dam is extremely variable. That does not surprise us. What is difficult to manage is that for many rivers in New South Wales the records in the early part of last century were very much lower than the records for the second part of the century, on average. Most of our farmers—and this is important because we were talking earlier about the experience of people—have about 30 years of knowledge. Some have knowledge going back to the 1950s. That experience base is wonderful. Those people would understand this variability over the last 50 years, but very few people remember the droughts in the very early part of the century, when stream flow was so low. If you look at the early 1900s, the flows were about half of what they have been in recent years, so we do have that in our climatic history—in our rainfall and stream flow history. It raises issues about how we are managing today with so much water shortage, when we know that further back it was even worse.

Mr ADAMS—Has any of that anecdotal evidence been recorded?

Dr Clewett—Yes. If you go back through the newspapers and so forth, there certainly have been very graphic stories.

Mr ADAMS—And talking to very old farmers?

Dr Clewett—Yes, but it takes a lot now to talk to a farmer from the 1900s.

Mr ADAMS—What about the recordings of some of the stations? I am sure that they would have kept some records of rainfall, but I do not suppose they would have kept records of stream flow. That may have been hard to gather, I suppose.

Dr Clewett—We do not have the records for stream flow like we have for rainfall. Many records come from post offices, as you could imagine, but lots do come from properties—like many of those stations that I showed you on this map. There are some 4,000 locations.

Mr ADAMS—They used to keep records. They would write up a log—a ship's log or something.

Dr Clewett—Yes. The seasonal forecasting information that is in Rainman and Rainman StreamFlow is not just about how much rainfall will occur—we do those analyses and they are all there—but it is also about when the rainfall will occur and how often it occurs. That is important to many decisions. We do have several tools that we can use. Our principal tool is the SOI phase, but we also have the average SOI and there is also SST, or sea surface temperature, information in there.

People are empowered by looking at one site in detail, or by doing the analyses in a mapping context—being able to map over a wide area. The information is presented in lots of different ways, depending on what the problem is, who the person is and how they respond to information. You have all these different graphs and tables and so forth. There are very powerful climate analyses in there, including statistical analyses. You can present the information as a map. My last three slides are about stream flow: looking at the amount, the timing and the frequency.

The first example comes from the Goulburn River, and this is one of the graphs straight out of Rainman StreamFlow. We are comparing the blue line, which is the probability distribution for those occasions when the SOI is negative. In this case the SOI is above five, so you have a La Nina on your hands. But you see in a La Nina that sometimes the stream flow can be small. On average, it is about 140,000 megalitres during this period from 1 September to 30 November, and sometimes it can be a real flood. So there is a risk profile there. But if you compare this risk profile to this one, you will see they are very different. For example, on average, the median stream flow when the SOI is positive is 140,000 megalitres, but when the SOI is negative, when you have an El Nino, on average the stream flow is just 80,000 megalitres—nearly half. So that is an example from Victoria.

The same is true if you go up through New South Wales and Queensland. Going further north into Queensland, at Charters Towers, looking at the Burdekin River, we want to look at when things might happen. This time we are looking at a stream flow event of 10,000 megalitres a day. When would you get that kind of flow in the river for the wet season? Once again, if the SOI is positive you have a risk profile, and if it is negative you have a risk profile. On average, when the SOI is positive, the river will start running a banker early in December. But if there is an El Nino and the SOI is negative, it will not start running that banker until getting towards February. In other words, El Nino/La Nina is changing when we can expect the wet season, making it earlier and later.

For a person who might be, in many circumstances, pumping from the river, how often the river is running a banker is important. Following this example through to the Burdekin River, looking at an event of 10,000 megalitres a day, if we use the La Nina conditions and the SOI is positive, you get that event more than 50 times a year, on average. But if there is an El Nino, it is dropping below 20, down to about 15. So El Nino is having big impacts on our river systems—about how much, how often and when.

That is the analytical side, but what is important to us are tutorials and case studies. It is developing the skills in people that is so important. In these tutorials there is a comprehensive section on stream flow and there are case studies. This slide shows all the information in the tutorials on stream flow, so if I bring up No. 8, which is the case studies, we have stories by a lucerne farmer down in central New South Wales, people growing cotton on the Darling Downs, grain and cotton growers in New South Wales—there are many case studies there for people to learn from. So farmers learn in different ways. They learn by analysing the information but they also learn from each other. So that is why those case studies are so important as well.

Mr ADAMS—You don't have a Tasmanian spud farmer.

Dr Clewett—No, I do not, but I would like to have one. It is a national package and we do like to have those case studies for everybody.

Mr ADAMS—I don't think the Franklin River is in an ideal spot to be the measurer for Tasmania.

Dr Clewett—Yes. If you are in the north-east there is much more variability there.

Mr ADAMS—North-east, northern midlands.

Dr Clewett—Yes. We are very hampered by the amount of data we can get. The Franklin River was an example of an Australian river perhaps with the least amount of variability in it.

Mr ADAMS—Yes, it would be.

Dr Clewett—With respect to references to the work, there are web sites shown on the back page of the material that has been handed to you. There are quite a number of references there for further reading. It includes *Will it rain?*; it includes these web sites. It includes some chapters from a very important book that we have written, edited by Graeme Hammer. Both Roger Stone and Barry White have written important chapters in that book.

There is a reference to a paper we wrote for the Hydro 2000 conference that lists in detail the impacts of El Nino on Australia's stream flow. Importantly, perhaps, for this committee is the reference by me, Dr Kininmonth from the Bureau of Meteorology and Dr White: *Sustainable agriculture: a framework for improving management of climatic risks and opportunities*. That was a presentation we gave to the Prime Minister's Science and Engineering Council, the Office of the Chief Scientist, and the Department of the Prime Minister and Cabinet in June 1995.

In conclusion, Australia's climate and steam flow are highly variable. That is what we have to manage. It is being magnified by the El Nino southern oscillation, but that does give us some strength because it enables us to do some forecasting. Rainman StreamFlow empowers people. It empowers people with data, comprehensive analyses, reference information, case studies and practical exercises to develop the skills for business and NRM decisions, including the use and the value of seasonal forecasts. I sincerely believe we need a better data set. It would be very useful if we had a long-term benchmark set of modelled data because we cannot wait for another hundred years to get the observed data for stream flow. It would be very useful if we had that. I believe that there is a need to further enhance the distribution of information such as this.

CHAIR—Thank you for that very comprehensive explanation of Rainman. I am quite sure the committee will have some questions. The first question I would like to ask is: what is the cost of the package to the farmer or to the person who is going to buy your system and the cost of upgrading it?

Dr Clewett—The current cost is $110 for a standard copy. A professional copy costs $440. A site licence costs about $8,000.

CHAIR—If you are providing the service, why is there a big difference in the price of the more comprehensive package? What is the difference in the general package?

Dr Clewett—It is mainly the access to the data. We find that most farmers need a broad scattering of points around Australia. In fact, you can see the difference on the back of the Rainman brochure. You have these stations in the standard package and all the 4,000 in the professional package. Farmers get a huge discount, but they get plus 20 for their own region, so they can choose the 20 that they are interested in.

CHAIR—Is that 20 upgrades?

Dr Clewett—No, they get a standard 250 locations, plus an extra 20 locations of their choice.

Mr ADAMS—Within their own region?

Dr Clewett—Yes; they can choose any 20 they would like.

CHAIR—How does a farmer find out that this package is available?

Dr Clewett—There is radio and newspaper information. We do promotional exercises in which we try and promote the information. It is my personal view that the price of the standard package should be reduced. I think there is a price barrier to people buying their own copies.

CHAIR—Yes, because the testimonials in here, especially from farmers, say that knowing the forecast of the rainfall and changing the crops around is probably the most valuable tool that a farmer could have—that is, if he could see the information that is there or if he were educated to know that that system is there. That is why I was wondering about the distribution. How many farmers in Queensland would be using this system?

Dr Clewett—The distribution around Australia is about even.

CHAIR—So there are 2,500 distributed around Australia?

Dr Clewett—Yes, so Queensland might have one-seventh or perhaps a little bit more—perhaps one-fifth—of the total copies.

Mr ADAMS—The CSIRO gave some evidence on climate change, the issues and some of the data that they have. I am interested in the work that they do. It might have been Barry who said that there is no national climate agenda or agency that is actually pulling all that together. I want to drag that out because that is a very important point.

Dr White—That is exactly what I said. The CSIRO does a lot of national work but, as in most areas, it has a requirement for external funding so, if you do not have research programs like ours coming along with external funding, CSIRO is very limited in what it might do. Certainly it adopts a national approach, but it is a national approach where the dollars are.

Mr ADAMS—So the need is for a department to have a focus on this as such and to get an allocation every year to continue to bring the data together so that Australia has that national focus. I know there is a lot of work on climate change going on in the world and that the CSIRO does some of that, but do you think there is a need to have a government agency to do that?

Dr White—Not so much an agency, because then you perpetuate the agency problem. We are probably talking about a cross-departmental activity. At the moment we have different departments with an interest in the bureau, different departments involved with CSIRO, different departments involved with climate change. They certainly work together, and the Bureau of Meteorology does a wonderful job in coordinating our international efforts in climate. But my point is that we do not have a mechanism to focus the efforts within CSIRO, within the bureau, within, say, the Queensland government: they are all to some extent working a bit independently. Certainly they work together a bit, but I would not call it the true national effort that is needed in times like these when you have record droughts and climate change already hitting us.

Mr ADAMS—On StreamFlow and local information: I agree with you that we need to get more and more people taking the system. I think it is excellent, and a credit to all of you who have been involved in it. But more and more people having an understanding of the stream flows and recording that information, even for their own knowledge, would be a great educational opportunity for this country and for people to become more aware of the water debate. Are there any opportunities for that? Is money allocated to do educational programs or anything like that?

Dr Clewett—Not so much on the water recording side. With rainfall, it is quite easy to set up a rain gauge and you can immediately record it. With stream flow, the equipment you need to record stream flows is vastly more expensive, and that militates against it. However, a national interest in monitoring what our rivers are doing is important.

Dr Stone—In terms of educational programs, we have been involved in many climate workshops, managing for climate workshops and Rainman workshops. Between the three of us we would have spoken at about 1,000 workshops over the last 10 years, as well as being actively engaged in the science. One of the key features of this work over the last 10 years has been the scientists actually doing the work to get into the field to discuss this and give ownership to rural communities and businesses and farming businesses, certainly in Queensland and New South Wales, where this has been most active. That goes part and parcel with this.

Mr ADAMS—In your opinion, would getting more recordings of stream flows, having that data coming in, be a great effort for the country?

Dr Clewett—Yes, that data would be excellent. It would be 100 years, though, before you would have a good record. So I think there needs to be a major effort to try to develop a model set of data that people would agree on. There is a scientific method for modelling that data. It is

not always agreed on. So establishing a benchmark set of model data would be very good for Australia.

Mr ADAMS—This committee would love to have some models presented to it that we could look at, but it might be that that has been a bit difficult because we do not seem to have received too much of that. I guess people have not reached a conclusion on some of that.

Mr SIDEBOTTOM—I was interested in your funding or lack of it. There is nearly $4 million either through NHT or through AFFA. How are you going in terms of raising funds through the R&D corporations to maintain this service which I regard as a very important one that you offer and resource?

Dr White—Over the last decade our expenditure has been about $1 million a year, and most of that has come in big lumps during a drought—the '92 drought, the '97 drought. So in this drought we are doing pretty well, particularly through the R&D corporations. It is certainly easier to get in the door when there is a drought such as the one we have now. When you work with 13 rural R&D corporations, each with slightly different administrative procedures and consultation mechanisms in talking to producers, it takes quite a while. I am optimistic that within a few months we will have a program involving probably several million dollars. We put out a prospectus last year for a $6 million program. I am not sure that that is quite going to be achieved. It depends whether the Commonwealth comes in more strongly than with half a million. We remain eternal optimists, I guess, and we will have a program. It might not be as ambitious as we would like, but when you are trying to cover all of Australia and 100,000 farmers, a million a year does not make a really big splash.

Mr SIDEBOTTOM—Do you see the role of the Commonwealth as very important, not just in terms of interagency cooperation and so forth but in terms of funding?

Dr White—I suspect they are more efficient at raising funds than I am.

Mr SIDEBOTTOM—It is called taxes!

Dr White—Thank you for picking up the point.

Dr Stone—In terms of Rainman, I believe there was $500,000 directly to Rainman from the funding agencies and about $1 million in kind from the Queensland Department of Primary Industries over the last 10 years. So there has been a major state and federal—

Mr SIDEBOTTOM—I raised that because I think the resource itself is so important. I was looking at the cost, for instance, to farmers. It would be nice to be able to give it out effectively to everyone, because they are prepared to pay for financial services, agrinomic services and so forth, but this is a very useful tool. It is a national issue and has very serious implications. I refer to Dick's point and your comments following it about a national overview which is probably not there at the moment but which is so essential to us. We were saying earlier that in times of drought we pull together and look at these issues, such as funding, as you mentioned. As the drought breaks, we tend to go our disparate ways. The service is so important in the long term as well as the short term and it does have national and Commonwealth implications.

Dr Stone—Yes, I agree.

Ms LEY—I congratulate you on what looks like an excellent package. I am going to go home and play with it. My husband is a fourth generation farmer and he was only saying to me last night that he did not know whether to order the super and, if so, how much to order. Maybe he can find some sort of assistance in that regard. I was late today because I had a constituent on the phone who was very distressed. I represent a lot of irrigators, and he was saying he did not know what to do, whether to put the farm on the market or not. That is related to next year's water allocation. I see here that you do comment on irrigators. You can get a pretty good feel for whether or not you are likely to get your allocation in the future. What data feeds in to allow one to access that sort of information? There are a lot of other considerations, not just the climate and the stream flow. In New South Wales, where I am from, there is government policy, water sharing plans and all sorts of other things. I am wondering how confident irrigators can be regarding the information they get.

Dr Clewett—I would like to show you some information from Rainman to answer your question quite directly. This shows the main screen for Rainman, so I will bring up the Lachlan River.

Ms LEY—The Lachlan is fine; there is absolutely no water in it! Allocations: nought.

Dr Clewett—I will go to the Lachlan because I am sure of what I can say to you and that is important. This dot is the inflow into Wyangala Dam. If you look at the information here, the first thing we need to do is to set the period. I have the period of August to December set up as being the forecast period that might be relevant to irrigators if they are wondering how much water would be allocated to them during that time. The other thing we are looking at here is the phase of the Southern Oscillation Index in June and July. We are assuming that we are at this point. It is the end of July and we are looking to how much water can be expected to flow into the reservoir in this period of time. Over all years—over the 107 years of record for the inflows into the Lachlan—the average flow is 428,000 megalitres, but the median flow is about 339,000 megalitres. So, it is a bit less.

This is the El Nino column. There is a figure of 97,000. In 50 per cent of years the inflow into the dam would be 97,000 megalitres. We can contrast that with the amount of flow that would occur in a La Nina year, when the SOI was positive, which is 674,000. By having access to this information—while they cannot say exactly how much water the authority would release—irrigators are able to say, 'Yes, there's a good chance that we'll get inflow into the river' or, 'No, there's not a good chance.' That helps them in their business decision making.

Ms LEY—Does the New South Wales government department use this or similar information? For example, they put out a sheet to their irrigators that states, 'You've got a 70 per cent probability of water allocations being three per cent.'

Dr Clewett—Yes. This data actually comes from Paul Pendleberry at the Department of Land and Water Conservation in Parramatta. We have worked with engineers at the Murray Darling Basin. They are now using Rainman StreamFlow for some of their decision making.

Dr White—Our hope is that, as more irrigators become aware of this, there will be more pressure on the agencies to revise the way they do things. At the moment the agencies sort of live in a risk-free world, which is politically a good way to go, but once irrigators get this sort of

information they will be very empowered, as Jeff said, and the agencies will begin to respond. We think that is a good way to operate.

CHAIR—You said something earlier about the fact that this can be adjusted to overseas rainfall and so forth. It was shown on the map before. Is there any other country that has the same climatic and variation change as Australia that we can compare our information against regarding what we can do with our water during the bad times?

Dr Clewett—Certainly, as Roger said, Australia is one of the most variable in the world. Some parts of California are just as variable as Australia. Africa is another country that is impacted, so they have highly variable rainfall, too; particularly on the eastern side of southern Africa. The influence of El Nino is global. It strongly affects Australia and South-East Asia, particularly countries like Indonesia. Interestingly, it also has an impact in India. For example, this year there was a failure of the south-west monsoon because it is an El Nino related climate. That reduced their GDP by nine per cent. So that is a huge impact in that country.

My feeling is that, in the past, Australia has not really embraced this whole issue of climate variability and how to manage it because we have not had the information. Things like Rainman are truly products of the information age. Farmers and business people tended to cop it on the chin. They would think, 'I will be conservative. I will make my decision after it has rained,' and that sort of thing, rather than trying to manage the risk. Our universities over the last 100 years have had excellent courses in plant pathology and plant breeding—the research program in plant breeding is very large and has done great work—but we have not had a reciprocal program, you might say, in climate. We have not quite known how to do it but now it is the information age, all that has changed. We can really ramp up what we do in our universities, in our R&D and in our extension with climate work.

Dr White—That is one of our issues. We do not have a cooperative research centre, for example, in climate variability. I think the reason is that the funding would be too precarious. It is a sort of hot and cold issue. A problem in maintaining the science base is that we do not have the strong university influence in climate, except for a small group starting up at Toowoomba at the University of Southern Queensland, which Roger is involved with.

Mr ADAMS—The Treasurer is saying that the drought is going to cost us a billion or something dollars this year. I would have thought that Treasury ought to have Rainman and there should be a line in the budget saying that, because of predictions, drought will or could affect the bottom line by Y. You might get some funding if Treasury is using it as a model.

Dr White—We tried that one too. Treasury were factoring in this drought back in June, to some extent.

CHAIR—In your presentation you said you were about to embark on a distribution of information about Rainman to 8,000 recipients. Is that going mostly to farmers? Are you sending that all over Australia or just to Queensland?

Dr Clewett—It is a concept at this stage. It is a proposal.

CHAIR—So it is not about to happen?

Dr Clewett—We do not know whether it will happen, but it would be truly national and it would go mainly to the rural and regional people.

CHAIR—The government have a list of farmers throughout Queensland. Have they sent a letter or information? Has your organisation sent a letter or information to all those farmers to make them aware that this is available to them? It seems to me that the concept is something that should be in every farmer's hands if they are planning ahead. I am wondering why it is not promoted more or why more farmers have not got it.

Dr Clewett—We do promote it, but I do feel that there is a price barrier. I feel that if we could send out 8,000 promotional copies—and we can have them posted for about $3 or $4 each—then it may well get over that hurdle.

CHAIR—It does not appear to be a large amount compared with the cost of what has been spent to get the program to this stage, does it, as far as promoting it afterwards is concerned.

Dr White—We are negotiating this 8,000 opportunity at the moment. It would be part of this half a million dollars in NHT funding. I have been talking to the Toowoomba group about this and it certainly looks like it is one way to push the product out much more widely.

CHAIR—What about the farmer support groups like the Fruit and Vegetable Growers?

Dr White—We would certainly be talking to them too.

CHAIR—They have not received anything on it to promote it?

Dr White—They certainly have in the past. But you have to keep promoting it, keep it in front of people.

CHAIR—Thank you very much. I am sorry our time has overrun a little bit, but I sincerely thank you for making this contribution. We have been made more aware of the issue and we will be looking forward to those applications for funding.

Mr ADAMS—And our recommendations.

Dr White—Does that mean you are putting weight on it?

CHAIR—That is for you to do! Thank you very much for your time.

Dr Stone—I would like to thank your committee. This has been a marvellous opportunity for us to display our science and to show it in this way. Thank you again for your time.

CHAIR—We will make sure you get a copy of our recommendations once the report has been finalised.

[10.22 a.m.]

HALL, Mr Linecor Mark (Private capacity)

CHAIR—Welcome, Mr Hall. We thank you for your patience and for your very detailed submission. Over the last couple of days we have received so much evidence on some of the issues that you have stated in your submission that I think you must have your ear to the ground there somewhere to know what is going on. I advise you that these hearings are formal proceedings of the parliament and consequently they warrant the same respect as proceedings of the House itself. The committee does not require you to give evidence under oath but I would like to remind you that the giving of false or misleading evidence is a serious matter and may be regarded as a contempt of parliament. Would you like to make a brief presentation? We will ask questions when you have finished your presentation.

Mr Hall—Good morning. I am sorry that the original letter I wrote to you was on the backup system on my computer and yesterday when I went to print it out my backup system would not work. I have handed out a supplementary submission and, with your permission, Madam Chair, I would like to talk over it rather than read it to you, because I figure you can read.

I had a look at the national competition policy and I think it is wrong as far as lots of rural agricultural needs go. I had a look at the National Competition Council's web site and I have written a letter to them to which they did not respond. I think the stuff that is on their web site is just too dense for the average person to really understand. There is nothing that really tells you what they are about, what they do or what their aims and objectives are. I know that Beaudesert Shire Council, in whose shire I live, has never written to the National Competition Council and said, 'What are you trying to do to us?' I do not think they realise that in the beginning that is where a lot of policy that says things about how water resources are managed comes from.

Last Sunday I was astonished to hear the Premier of Queensland say that unless we have sensible water management practices large areas of Queensland will be unfarmable. He was talking about overirrigation and salination. Another problem appears to be that cities do not manage their water very well and, because cities have massive numbers of voters compared with rural areas, they can get the water they want. I will illustrate what happens in cities. My next door neighbour moved to Bundaberg. He is very keen on gardening. He wanted to add a verandah to the back of his house. He asked permission from the city council to be able to store the water off the roof of the verandah in a tank so that he could water the garden without having to pay for the water. The inspector that came around to look at his situation said, 'No way; that is against the rules. You have to take the water right around the house to the other side and feed it into the stormwater drain.' My friend said to him, 'Where do you think the rainwater goes to now?' The guy looked at my friend and said, 'Huh? What are you talking about?' My friend said, 'It rains at the moment on the lawn, and I am going to convert the lawn into a roofed area. Why can't I keep the water just the same as is happening at the moment?' The guy said, 'The rules are the rules.' Unless you can change official attitudes like that, which are wrong and wasteful and by which the stormwater probably goes into the sea by the shortest route, how can we save water? By the way, I have listed this little book *How to Argue with an Economist* in my paper.

Mr SIDEBOTTOM—Very good. I have read that.

Mr Hall—I think it is brilliant.

Mr SIDEBOTTOM—It is terrific.

Mr Hall—Its author talks about people needing to influence the competition council. I have been a little bit critical in my paper, saying that you people set up the National Competition Council and it does not look like you have ever finetuned it.

I have got down to the heading 'Commercial reality' in my paper. I go to the shire council's committee and ordinary meetings and I also belong to the advisory panel that they set up last year. They have a problem in that SunWater manages the overall water supply and the main dam that supplies the shire council's river system, which is largely the Logan River. It appears to me, from the hand-outs that the shire council has given to residents and from discussion in committee and in advisory panel meetings, that the shire council has paid for so many megalitres of water over the last 12 months or so to be supplied if the shire council wanted to take it. However, when we get to the bottom of the dam, we find that about 5,000 megalitres that had been paid for by the shire council have actually been sold to other parties.

Normally nobody would ever find out, because the amount of rainfall keeps the dam reasonably full, so SunWater never had to explain its policies and procedures. Again, if you require an organisation to make a profit and sell stuff, how do you also expect them to keep aside a reserve for dry years? The competition policy says, 'Make a profit out of selling stuff,' and the reality is that we need to keep a good reserve for the really bad years when there is a drought. The two are not compatible. I do not think there is enough realisation amongst many people of the difficulty that farmers can find themselves in.

My heritage is that of a dairying family, and I know that in Beaudesert shire there are still a few dairy farms left. There are not many, but I was shocked by how dry it was here, when I first came here. Most dairy farmers in our area supply whole milk to milk processing factories that provide the town milk supply. In other words, the demand on those farms is that they maintain dairy production at an even level throughout the year. So they have very carefully set up their herds so that cows calve continuously throughout the year and they do not have any great peaks or troughs in production. To do that in Beaudesert shire, they need to use a lot of water to irrigate during dry periods. That is usually in wintertime here.

The problem at the moment is that SunWater has found out that they have almost run out of water. They suddenly realised that to keep the Logan River running takes half as much water again as was originally thought necessary. So all the dairy farmers that are relying on the river system for pumping water to irrigate their farms are now looking down the barrel of having to dry off their cows for a period. Have you ever thought how difficult it is for a farmer to have 250 cows that are dried off, say, in March, and start to get back into production on an even basis so that all the cows are calved? Those 250 cows will be calving over the next 12 months so that they come back into lactation in an even order and the farmer's production comes back to normal in due course. Just a silly thing like running out of water in the local river for a week will give all of those farmers that sort of problem.

I think the national competition policy needs a lot of finetuning. Having regard to the length of time it has been running, there must be a lot of people who know where there are holes in that policy where finetuning can be done. Some types of businesses can be made exempt from having to make a profit. I do not know how you are going to do it, but it needs to be sorted out so that the national competition policy is not so broad based and overriding having regard to things that really cannot stand making a profit under the national competition policy.

The last part of my updated submission compares what is being threatened for Cubby cotton farm with the situation of town water supply consumers. The cotton farm were told that, if there is no water for them to take, they have to stop taking water, and if they cannot grow cotton, tough luck. The problem is that the ordinary city water consumer, the ordinary household, is consuming a large amount of water and nobody comes along to them and says, 'It is a very dry year; you'd better cut down on your water supply or we'll come and turn it off for you.' I live in an area where we have what is euphemistically known as trickle feed. It is a system where the water supply is restricted to households, and we have rainwater tanks. I find that my wife and I, as a retired couple, use about 100 litres of water a day. The United Nations says that 120 litres per person per day—that is more than twice what we use—is what an average person would use in a time of plenty. Recently one of the townships in our shire, Canungra, was no longer able to pump water out of the creek because it dried up. The shire council is very happy with Canungra because its consumption of water went down from 1,000 litres per day per household to 600 litres per day per household. If you figure that there are five people in the average household, that is 120 litres per day, which the United Nations says is a lot of water for a person. As I said, my experience is that two of us can live on 100 litres of water per day in our household. We try not to take water from the trickle feed system; we live on rainwater.

CHAIR—Have you been able to do that through the drought? Have you had to buy in water?

Mr Hall—No. It rained just in time, at the beginning of this month. We were down to a little under a third of our total tank water storage when it rained at the beginning of this month, and it refilled the tank completely. We have enough in it now for probably eight or nine months without it raining again. That ends my submission, Madam Chair.

CHAIR—Thank you very much, Mr Hall. We appreciate your very detailed submission. It gave us a lot of ideas and suggestions. We have seen things in the last few days that you seem to be spot on with. I must admit I am one of the advocates of saying that if we had more tanks on properties it would conserve a lot of the urban and rural town use of water. You have just given us an example that, even through the drought, your tank water could maintain you.

Mr Hall—Yes. I am trying to point out too that city councils do not want you to keep water. They have absolute rules. If you put guttering and a downpipe on, it has to go into their stormwater drain.

CHAIR—Are the Beaudesert Shire Council that way too?

Mr Hall—Yes, in Beaudesert. There are no stormwater drains in other areas, but there are in Beaudesert, yes.

CHAIR—I appreciate that. I am quite sure that our committee members would like to ask questions. It was remiss of me not to introduce them. We will start with Dick, who is Deputy Chair.

Mr ADAMS—Dick Adams from Tasmania. I am a Labor member.

Mr Hall—I am slightly deaf and I am having difficulty hearing you.

Mr ADAMS—Sorry. I am the Labor member from the Tasmanian seat of Lyons. It contains 60 per cent of the land mass of Tasmania, with large rural areas and lots of small towns. We have water issues in Tasmania too. Thank you for your submission. On the issue of why councils take a dislike to tanks—we have legislation and by-laws—are there any scientific or health issues that you know of that back up that sort of argument?

Mr Hall—During the 19th century, in the early 1800s in England, they had difficulty with people taking ground water out of wells that was contaminated with sewage and that sort of thing. They put in the first sewerage system in London in the 1840s, and that is where a lot of our law is copied from. I think it became an efficient way to manage a growing city, and the law was picked up in Australia and nobody really thought about it.

Mr ADAMS—There was a famous case where a doctor said, 'Take the handle off the pump.'

Mr Hall—Yes, in a big, swampy area.

Mr ADAMS—You know the story?

Mr Hall—Yes, I do.

Mr ADAMS—He said, 'Just take the handle off the pump'—

Mr Hall—'And all the cholera will stop.'

Mr ADAMS—And it did when they did that. So you think it has grown up over that period of time?

Mr Hall—Yes; nobody thinks about it anymore. It is the standard way that a city council, a county council or a shire council sets up its local laws.

Mr ADAMS—When I was growing up, a possum or bird occasionally got into the top of tanks. What is your practical experience these days—do we have better managed tanks?

Mr Hall—There is a round hole cut in the top of our tank and it has a plastic fitting in it that is a filter. The rainwater that comes down from the garage goes straight in through that filter and the other water from the house comes up from underground and comes in at the side of the tank. We even have a little screen on the overflow so that mosquitoes do not get into the tank through the overflow. So the modern system is well filtered and protected against contamination. The screen on top actually has holes that are offset from each other as well as a screen so that not much sunlight gets in to create an environment for algae inside the tank. But I have to say that

when we bought the house in 1997 that we currently live in and it did not have a drinking water filter on it, we got in a plumber to put on a drinking water filter that feeds through the fridge and out the front and makes ice out of filtered water.

Mr ADAMS—There is a lot of technology there.

Mr Hall—Yes, and it is not expensive either.

CHAIR—What is the average cost of a tank of the size you have?

Mr Hall—It is a 15,000 litre tank. I am sorry, I do not know the cost.

Mr SIDEBOTTOM—Thank you for your two submissions. I am interested in dot point 7 of the original one you sent to us, in light of what was said by the gentlemen who appeared before you. You say:

Prediction of environmental effects is important. Money for that seems to be lacking.

I wonder if you would like to expand on the important role you see for predictions and on who should fund that.

Mr Hall—In Australia there is a problem that each state has its own primary industries organisation. I have only lived in Queensland and I really do not know the situation in the other states, but it seems to me that the DPI in Queensland largely isolates itself from the other states and there is no overall coordinating body. I listened to the gentlemen who spoke before me and I thought: 'That's a brilliant idea, but people like me who keep rainfall records at home have no way to input to them what my rainfall is. And I really cannot afford the money to buy their system, however good it is.' I think there is probably a place for the Commonwealth government to support that sort of research because it covers a large area and the rainfall just over the border from us is as important to us as the rainfall on, say, the Condamine River is to the people at the mouth of the Murray River down in South Australia. Just working on a state-only basis appears to me to be a fairly crazy idea. The river system here is so large that people everywhere have to know what is happening in every other part of the eastern states of Australia to understand what is going to happen to their river. Does that answer your question?

Mr SIDEBOTTOM—Yes. I should introduce myself. I am Sid Sidebottom and I am from the north-west coast of Tasmania, including King Island. I am not the other 40 per cent of Tassie as distinct from Dick's 60 per cent. You also make some interesting points about the importance of and the need for education of people, of communities, in water resource management and so forth. Again, you regard that as inadequate?

Mr Hall—Yes, I do. That is exemplified by the fact that my shire council thinks that reducing a family's water needs from 1,000 litres a day to 600 litres a day is an excellent improvement. I think individuals in a household can live on 50 litres a day, and that is what my family does. Mind you, my family is only two people, with no kiddies—but still. If adults in the shire council do not understand what is a minimum amount of water per family per day, then how can you expect the residents to think otherwise? That is especially so when the publicity says that we are doing a great job by reducing our consumption to that level and not that that level is just what the United Nations thinks is a good amount of water per family.

CHAIR—Sussan, do you have anything to add?

Ms LEY—No, other than that it has been a very interesting submission and it is good to hear from your perspective.

Mr Hall—Thank you.

CHAIR—Thank you very much. We appreciate the time you have taken to come here—I know you have had to travel by train to get here. Everything you put in your previous submissions will be taken as evidence. I ask a committee member to move that the supplementary submission that has been made today be adopted as evidence.

Mr ADAMS—I so move.

CHAIR—Thank you.

[10.48 a.m.]

JOHNSON, Mr Ian, Water Adviser, Queensland Farmers Federation

SANSOM, Mr Gary, President, Queensland Farmers Federation

CHAIR—Welcome. The committee does not require you to give evidence under oath, but I should advise you that these hearings are formal proceedings of the parliament and consequently warrant the same respect as the proceedings of the House itself. I remind you that the giving of false or misleading evidence is a serious matter and may be regarded as a contempt of parliament. We have received a very detailed submission from you and I invite you now to give us a presentation. We are more than happy to hear anything you would like to tell us.

Mr Sansom—I will just make some brief comments about the thrust of the submission and then you may have some questions. I will say something first about the Queensland Farmers Federation so that everybody understands the organisation. We represent about 18,000 farmers in Queensland, through 23 member organisations. They include what are euphemistically called the intensive industries, including cane, cotton, chickens, dairy, fruit and vegetables et cetera, and some of the smaller emerging industries, plus we have a group of what could be called value adders that are also part of the organisation as part of a business alliance of Queensland.

The submission that we put in focused on a number of areas, and there are probably four main areas that I would like to draw to your attention. The first one is in relation to an issue which is often called property rights. I think that we need to move away from that phrase and that we should be talking about secure and certain access to water. While our submission undoubtedly uses the phrase 'property rights' fairly frequently, I think that is just a reflection of the issue that farmers are being faced with through the reform process that is going on at the moment, in that they are seeing water being detached from where they usually saw it, as part of land title, and moving into a whole new area. That raises significant commercial risk for farmers and I guess will have some flow-on effects to rural communities as well if we do not handle that appropriately. Financial institutions are already, as they usually do, starting to flag their concerns about equity and their security over titles and how that may be impacted by not having some clearly defined and secure long-term access to this particular resource. I think that is going to crop up not only with water resources but a number of other areas as well.

We are talking about how we define the water resource, how we allocate it and then effectively how we use it. We are not seeking unfettered access without some use obligations. I think it is an important component of this whole reform process that we are looking to put in place mechanisms that will show that farmers generally understand their usage obligations. But they will need to have defined for them what the expectations are and then some appropriate mechanisms put in place to deal with that.

The second issue is water pricing. This is always a vexed issue. As a result of the COAG process and the reform process that have gone on, water pricing has become an issue in terms of the need to have full cost recovery and therefore the expectation that we will have some transparent process for establishing what those real costs are and some measure of efficiency. In

some farming communities there is the belief that maybe a particular farming community in an area may be a more efficient provider of services than some of the corporations or instrumentalities that have been put in place to deal with that provision.

The third issue is the planning and development of new infrastructure. This is a state government matter in the normal course of events but, in terms of the comments we have made about the role of the Commonwealth, we believe that the Commonwealth also has a role in assisting with some efficient planning for the future. The current climatic conditions we are experiencing are certainly showing that we have been significantly lacking in our long-term view of what we may need to do to supply water for both domestic and urban use and also for the irrigators in the farming community.

The last issue is really a broad one in terms of the process of integration. Water reform is not the only issue confronting farmers at the moment; there are a number of reforms in natural resource management: vegetation, salinity, impacts on reef and coastal management. We have a significant concern that a lot of these are going on in isolation. We believe it is vitally important that, if the farming community is going to respond appropriately and if we are going to get significant outcomes, there needs to be a much higher degree of integration than there is at the moment. The approach is rather fragmented, and we see a role for both the Commonwealth and state governments to work together to achieve that sort of outcome.

Those are the four issues that we cover in items 2 to 4—the role of the Commonwealth, as we have set out—and then there is the issue of science, which is very important in a number of areas. We believe that the science has not always been as rigorous as it could have been in the past. Obviously, science develops and our understanding of some of the issues, particularly in terms of environmental flows et cetera, develops over time. We need to make sure that we are on top of that.

The issue of climate change is significant for us because, in all this planning, we have this unknown quantity of climate change. Having sat and listened to four climatologists the other night, there are obviously divergent views about what may or may not happen. There is also some commonality, in that we are seeing climate change in this country. In this state, we are seeing it down the east coast and it has some significant impacts on how we are going to deal with these reforms in the future.

CHAIR—Mr Johnson, do you have anything to add?

Mr Johnson—No.

CHAIR—We will go straight into the questions. I am quite sure that, after visiting some rural communities yesterday and the day before, the committee has a few questions we can ask.

Mr ADAMS—I would firstly like to introduce myself. I am Dick Adams, the Labor member for Lyons, which is 60 per cent of the land mass of Tasmania taking in a lot of rural areas, and I represent a lot of farmers. There are water issues there as well.

CHAIR—I shall introduce the other members of the committee. We have Sid Sidebottom. Perhaps others could introduce themselves.

Ms LEY—Sussan Ley, the member for Farrer, which stretches along the Murray River from Mount Kosciuszko to the South Australian border.

CHAIR—I am the Queensland member for the seat of Forde, which covers the very rural areas of Beaudesert and Boonah and all around there.

Mr ADAMS—We have been there having a look.

Mr Sansom—I am a resident of Beaudesert shire.

CHAIR—As I said before, we did get an insight into the major problems that rural areas have with water supply, the continuity issues and the uncertainty of whether, when they do get a licence for a certain water allocation, it is going to be renewed in 10 years or whether they are going to devalue their property and their produce by not having that continuity. Can you offer some other solution to that? Or do you see what the state government is going to do—I know it is all presumption at the moment? From your point of view can you give us an insight into how this should be handled? Has there been a lot of consultation between the Queensland government and your organisation to come to this conclusion or has your organisation been removed from that?

Mr Johnson—The provisions they refer to are embedded in the Water Act 2000, which implements the water reform agenda for a planning process to set up potable water rights and to review those rights every 10 years. That proposal allows for the establishment of those rights but not for the recognition of the impact when you establish those rights. The same thing happens when the plan is reviewed. In that sense, we can understand that governments are trying to match what is a security issue with a review of the environment, so we understand the argument. The problem that we face is how we adjust to the implementation of this reform when it is implemented, and then how we deal with it when the plan is reviewed. On the 10-year issue, we are getting advice now from Australian bankers that they are concerned about the implications of the 10-year review.

To answer your question specifically, in our submission we are pushing for what we argue is a continuing right, which recognises that there have to be plan reviews but recognising more definitely during the process of monitoring the plans that, if the indications are coming forward that the plans are tracking well, then there should be something that would trigger early on in the planning process—or at least before the seventh year—that the prospect of having the entitlement continue as currently defined was not going to be difficult. The question is fettering the minister in delivering a plan; we are trying to work those issues through with the current debate over water property rights and the CEO's paper that has gone out as a result of the last COAG meeting. The ABA is pushing the same line: 'Can we get some degree of certainty, as the plan proceeds, that the access right—not the use component of the right—will be rolled over?' The Water Act does have, once the review happens, that sort of rollover provision but it pivots on that 10-yearly period. That is of concern.

Mr SIDEBOTTOM—Thank you for your submission. It is very detailed and there are a lot of stimulating issues in it. I will to refer to a couple of them. Given the Commonwealth's active involvement through COAG and the National Competition Commission, how can you say in your submission that the Commonwealth has been removed from the process? Specifically, how should it be more involved?

Mr Johnson—The best example of removal is the way in which the Commonwealth has approached water reform as opposed to the national action plan. It is quite clear that, whilst we do not disagree with it, the statutory process under water reform does trigger an arms-length approach from both the Commonwealth and the states. We are trying to work through the problems of that arms-length approach. Bureaucracies love statute but it tends to remove the process from the implementation. That is why the property rights issue has come out of the woodwork. It was signed, sealed and delivered at a bureaucratic and ministerial level post 1993, but it is clearly now coming back onto the agenda. I would say that that is an example of removal.

The second thing is to compare the national action plan agreements between the states and the Commonwealth and the degree to which those agreements recognise, in respect of salinity and water quality, the need to look at a regional based approach, working with the community in the development of that approach and adjustment packages for it. None of that was embedded in the water reform process. It seemed to be assumed that with trading we have an in-built adjustment process. I can understand what has happened: the state and the Commonwealth set the framework and then the Commonwealth said, 'Get on with it, state; we'll trust you.' It is a very difficult process. We are only now hitting what I call implementation of the reforms and we are yet to see the roll-out of that. The district you went to in the last couple of days has not even started; that is a year away. In other parts of the state, how we adjust rural and irrigated communities to deal with the effects of this has only just started. It really needs to be carefully watched by both the state and the Commonwealth to see how that adjustment approach can be helped.

Mr SIDEBOTTOM—You emphasised throughout your submission the importance of the integration between both levels of government in terms of policy and implementation. To what extent do you think adequate integration has occurred? To what extent, if any, could it be improved, and in what areas?

Mr Johnson—In Queensland, obviously, we have a statutory water reform process. We have a non-statutory salinity and water quality process. We have a statutory vegetation process being worked through. We have a reef process which is just being defined. We have a coastal management process which is just being defined. These are all subject to different committees and arrangements. It goes right down to a property level. So you end up with land and water management plans for water, and property plans for vegetation. We have a plethora of these issues.

Integration, to us, is a target 10 years out. You are not going to achieve integration. In the short term, we are really pushing, at the back of the report, for a framework for integration, but that needs to start now. We have cited six areas where that needs to happen. Firstly, at the policy level we have to think more carefully about how we integrate. The Queensland government is starting to respond to that now by forming a high-level group to deal with it. Secondly, we address the issue of property rights, because with water property rights there will be issues with veg and salinity, so we need to get that clear, certainly in the area of access.

Thirdly, regional delivery is a key issue for us. We want to see a framework to work that up at a regional level which brings together the elements of it. For example, we know that in the Fitzroy region the emphasis might be more on water quality issues, with salinity down the track, and then water use. We want an integration of the game plan there. Fourthly, we are very strong

on farm based best practice and the ability of industry to work with government to deliver that and to get some benefits from it in terms of what it will cost us to implement reform. Finally, we are interested in the issue of productive use of the resource—that is, the development side of things: how we can use what we have better and more efficiently. I suppose in a sense we are setting a framework. We have been working with the Queensland government. We have had a chance to talk to Minister Truss and Minister Kemp about the same thing, and with bodies like the Local Government Association and a few of the peak industry bodies. We are trying to work that agenda up, but it is a hard process.

One of the things in Queensland which may be different from a Victorian or South Australian structure is that we do not have developed regional structures. Victoria has the regional catchment group and South Australia has the boards. I am not sure about Tasmania. Those structures work well. They have been working on them for a long time. They were developed well before reform. Queensland's regional structures have a way to go in that sense. There is still a lot of working out how that is going to work. That is an area which worries us, yet we can see it developing.

To sum up, we quite realistically see that integration is a target that is many years out, but we have to start. It is no use working piecemeal at this unless we can start to draw it together and to look at means by which government and industry can work together so that if industry is developing best practice it is not doing it in terms of the take of water, which is purely a Water Act issue, but it is dealing with it with regard to water quality and salinity. We think we can move a lot quicker on that to help the integration process rather than waiting on a top-down process to come out of government. We have some concern that government departments have problems. They probably coordinate better than they integrate.

Ms LEY—You mentioned the last COAG meeting at the end of last year. We did not make very much progress on compensation—which is a questionable word—for people having access to secure and tradeable property rights in water. I know that it is important that they have that for vegetation as well, as the whole issue pans out. You mentioned the national competition process, but you did not mention the sums of money that the Commonwealth is giving the state governments under NCP guidelines. The most frustrating thing for farmers is to be caught in the middle of an argument between a state government and the federal government, and I very much appreciate that, but what do you think the competition payments should be used for? I would be interested in your views on the payment to the states and the states' response to that, which is holding up the COAG process completely.

Mr Sansom—The whole issue of competition payments has been interesting. My understanding is that they were originally brought in to compensate state governments, communities or groups for the changes that took place as part of the reform process under the NCP. I was involved in that, being in the industry I am in. In the early days competition payments were used as a pretty big stick to beat us around the head with. My understanding from state governments at the moment is that they are really saying that they are not an issue anymore and they are not even responding to the threat anymore. It would be nice to see them being used in areas where the reform process has actually impacted on industries. I would have to question whether that is where they are seeing them going at this point in time.

Ms LEY—You would question whether that is where they are going?

Mr Sansom—I would even question whether the state governments see them as being as important as they were early in the piece.

Ms LEY—Do you think it was implicit in the understanding or agreement between the Commonwealth and the states that they would be used in the adjustment process? Or do you think that the Commonwealth said, 'Here they are; do what you like with them; put them into consolidated revenue'?

Mr Sansom—The impression that we got early in the piece is that they were more concerned about them being withheld if they did not go down a particular path.

Ms LEY—But they have not been withheld.

Mr Sansom—No, of course they have not. I am well aware of that but I am trying to flag that it has been over a period of time. We started back in 1994. The view of state governments has changed over that time in terms of where they see those competition payments going. I have not had any discussion with them in recent times but, obviously, in the structural adjustment debate, I do not know whether competition payments are being flagged as an important part of that debate at this point in time.

Mr Johnson—The view we have is that they have virtually finished. There are no more in the current round. Clearly the payments were not just water related; they were related to a wider reform process. The other thing we are highlighting is that at state level now, and even at Commonwealth level in the CEO's paper, governments are starting to highlight, within the whole regime of water price charging, the return for the costs of undertaking the water resource planning process. I understand that, but they are not just talking about what it costs to register and to monitor compliance; they are also talking about charging for the water resource planning process. Obviously, they are talking about the issues of third party impacts and are now raising the question of whether there should be a return to the state for the use of the resource. The CEO's paper contemplates a resource rent.

The message we are getting—and we were expecting it but we are now seeing it—is that the resourcing required for this reform process has been underestimated. Governments, particularly the states, are now starting to say that they have to look at, as an obligation to an access right, a charging regime which will return some components of the costs of the reform process. We are not stepping back from that. We are saying it is legitimate that we pay what it costs to administer the system, but we want to see the way the benefits for that will accrue. Maybe the planning process should be a community wide cost, as opposed to what you might call the implementation and compliance arrangements for reform.

The QFF is asking whether, if industry is prepared to step up with best practice—and this will guarantee some sort of compliance from an industry point of view—we can get some rebates for that process. But resourcing is a key issue from here on because we are now dealing with adjustment to reform. We are now dealing with the overallocation problems in this state. They are not significant but they will have to be worked through. It is not just a funding thing—it may be over time. I am not saying that the overallocation problem needs to be funded.

We are also facing the issue that in many of the second stage plans that are being delivered—that is, the operation of the plans which the Fitzroy and the Burnett are going through now—we

are starting to pick up impacts that will require some working through. In that, we are not getting good economic and social impact studies done so that we can work that through. Last week when we had the forum on water property rights, we brought forward those issues. We really need to deal with the issue of implementation and how government and industry can work together to deliver what is a quite complex reform process.

To answer your question, the funding has gone into the planning and initial delivery of water reform in this state, but it has only just started. Obviously COAG 2, whenever that may be, will need to address this because I think you will find quite a significant reaction at a local level if people work out how they adjust to this process. I am not saying it is about compensation; it is more about dealing with the implementation of reforms.

Mr ADAMS—There was no agreement between the Commonwealth and the state on where that money was going to be spent in the beginning; would it be true to say that?

Mr Sansom—That is my understanding of the arrangement.

Mr ADAMS—It could have been a mistake, but there was nothing laid down.

Mr Sansom—I am sure there was intent, but there is currently no actual written agreement.

Mr Johnson—I ask you to track back and have a look at the NAP agreement between the federal and state governments for a different approach, where they have said, 'At a regional level, come back to us with your plan and link into it investment and adjustment processes.' You are going to have verify them, but at least it does set a framework for water quality and salinity, not for water and veg.

Mr ADAMS—You said that you feel that a regional approach is the way to go, maybe with adjustment packages in the future to get that change—using the carrot—and opportunities for increasing best practice and things like that. Do you believe that that is the future for this reform process?

Mr Johnson—From day one, the QFF have always supported a regional approach in Queensland, from the planning process down. We have not supported, say, the New South Wales model, which has tried to set it state wide. So we have been very supportive of a catchment by catchment approach, because of the diversity, and we are supportive of the NAP process. We are trying to come to grips with the industry role in that, but we believe that is the way to go. Slowly but surely our user groups at a regional level are starting to see how that is going to work. We do support it fully, because it does sort out the differences: from coastal to inland, northern versus southern.

Mr ADAMS—What about a state such as Tasmania that does not have that problem or is well in front of that process? You would support us getting payments as well for other issues within regions?

Mr Johnson—Sure. You are talking about implementation of reform across the board.

Mr ADAMS—I am being facetious!

Mr Johnson—I know you are. So am I!

Mr ADAMS—On the overallocation process, when that occurs, when we have issues, say in the fishing industry, we have buyback schemes by other fishermen or by the fishermen themselves, levying to buy back the quota to get a sustainable fishery. To get water on a sustainable level, what are your ideas?

Mr Johnson—I would probably draw your attention to the work that is going on in the lower Balonne now, following the Cullen inquiry. That is an area which has been seen as overallocated. It is a floodplain area near the border, south of St George. The government chose first off to say, 'We'll buy Cubbie,' which is a large development, and everyone reacted to that, so they sent in Cullen. Cullen has set down a framework to deal, firstly, with the issue of clarification of the environmental flows.

There is now a community group—when I say 'community', I mean irrigators, dryland farmers and environmentalists—sitting down to work out a game plan for how that adjustment is to take place. Embodied in that, there is an acceptance that, yes, the irrigators need to bear a burden from that as well as the degree to which the community or government can support that. Whether that is a buyback, I am not sure, but we need to nut that out in terms of the flows that Cullen said have to be delivered and then how that will be achieved. But industry, at a peak level, has always said, 'We see a role in the resolution of problems, be they overallocation or something else, but we have to have a framework to work that through.' I think we have to do it on the basis of where the problems arise, so what is a solution for the lower Balonne may not apply to the problem we have in the Boyne valley, with the power station versus the irrigators, because it is a different problem.

Mr ADAMS—The power authorities versus the irrigators is a Tasmanian problem. In relation to the property rights or the water rights leaving the properties, what is your policy in that area?

Mr Johnson—What do you mean by 'leaving'?

Mr ADAMS—I mean being able to sell the water right.

Mr Sansom—Tradeability.

Mr Johnson—It is a concept that is accepted. There is not a lot of trading going on in this state, and they are doing trials in the north. The operational plans in the Fitzroy and the Burnett are setting up those trading regimes. Queensland's infrastructure is very piecemeal—you probably saw examples of that when you went out. It is not about high-reliability structures such as the Victorian ones in which you can move water. You will find that our trading regimes in the Burnett will be broken down into three areas. In the Fitzroy they will be broken down into about four or five. There is unlimited trading within those zones but no trading across those zones.

Mr ADAMS—The Lockyer Valley people said yesterday that they could get the ground water up but they could not sell it to anyone except their neighbour, because the right does not move on. There is no infrastructure in those sorts of things.

Mr Johnson—You have to realise that most of the plans we are dealing with are only about surface water; they are not dealing with underground water yet. Then there is the issue of overland flow trappings: is that a tradeable or non-tradeable beast? But in concept we support it; we just have to work out how it applies on a case specific basis.

Mr ADAMS—But you believe that, because of the environmental flow and other aims that we are trying to achieve, there needs to be a broader input by all of society into solving some of these problems and that the costs would have to be spread across a broader taxation gathering of the whole country?

Mr Johnson—I suppose so.

Mr Sansom—You would separate private and public benefit and you would have to establish where the private benefit is and where the public benefit is. But I think it would be fair to say that in broad terms we believe that where there is a community benefit the community should be making some contribution to the process. I am not necessarily referring to compensation per se. There are a whole range of ways in which you can deal with these issues but I think it would be grossly unreasonable for any sector to bear the total cost of these reforms, given that there are much wider benefits to the community as a whole.

Mr ADAMS—I see the regional package concept that we talked about as an opportunity in the future.

Mr Johnson—I suppose the only thing I would be querying would be your inferences about tax. We might be better off to look at it as a charging regime but as one spread across these. If we are going to deal with charging for water resource management, where do veg management, salinity management, water quality management or reef management fit in? Who are the beneficiaries of that and, depending on the nature of it, can we share that burden in some shape or form? Is it a planning issue? Is it an allocation issue? I think we are looking for that sort of transparency. All we get back from farmers is this: if we can see what we are paying for, we can work out ways of defraying our costs and doing that by our own compliance or other methods. That is a more involved and a more equitable process than what we are facing now, which tends to be a knee-jerk reaction to 'we need to do this'.

Mr ADAMS—So the consumer would pay more for product to meet the needs of the other end.

Mr Sansom—It would be nice if the consumer were paying more in some instances but, unfortunately, they would not be. There are a number of intermediate steps, and you are not always capable of passing these costs on. In a perfect world that is how it would work but it is not a perfect world. We do not have truly free markets in this country, so it is an issue.

Mr SIDEBOTTOM—In your submission you talk about:

> The adequacy of scientific research on the approaches required for adaptation to climate variability and better weather prediction

That is a very long title. It seems to me that you are saying we need to be looking at an overall strategic plan for a climate change initiative. Do you see that as a national responsibility? Would

that be a Commonwealth responsibility? In your submission you talk about climatic changes and variability and their predictability. We heard a submission earlier concerning the Climate Variability in Agriculture R&D Program—Rainman. I am interested to know whether your organisation was a sponsor of some of this research. It certainly would use it.

Mr Sansom—Not us directly, but some of our member organisations may well have been involved.

Mr SIDEBOTTOM—I was particularly interested in how you see it. You have raised some very important points. Do you see it as a national initiative, which of course requires funding?

Mr Sansom—Given the expertise we have around the country and the different systems that are being used, I think it would be somewhat flawed if every state tried to do their own thing. I think there needs to be a drawing together of what are some considerably good minds in this area. At the moment they all seem to be doing their own thing to some degree.

Mr Johnson—Going back to the water resource planning process, if there is climate change, that is something that we will have to accept when the reviews are done. If the pie is not big enough, we will have to shrink. We are saying that the water reform process does provide a much more rigorous assessment of total catchment, water resource use and environmental flow. There is a much more rigorous set-up now which identifies carefully documented rights within that, particularly where those rights are administered under irrigation schemes by a water provider.

Compared to the past, when you virtually just cut off users as you went down the track, you now have a much more robust basis for planning for drought. Under proper monitoring conditions, you can build drought procedures into the operating licences for scheme owners. You did not have that before. Before, if you talked to SunWater about drought, they would say, 'We've got so many users; all we can do is focus on contractual commitment to high reliability customers—that's the end of it.' That what we are talking about—it is more than just the science. Science is a critical part of it. But you now have a fairly rigorous process of assessment, so why not at a federal and state level agree upon some framework to deal with drought?

The other issue we have to inject into that is the Commonwealth procedures for drought that we are going through now—the scratching of the head as to whether an irrigator is affected by drought. This is a once-in-a-hundred-years event; pray that we do not have too many of them. The Commonwealth is asking: what is a bad event for an irrigator? This is all much more documented now. It is something for both the state and the Commonwealth. Obviously, the reform process will make us better able to handle drought—for example, more efficient use of water. But in Queensland we are still faced with some highly unreliable structures which we believe will require a drought management strategy. It is in the operational plans for that to be developed. We see it as an important element for both the state and the Commonwealth to put a bit higher on their list.

Obviously, with climate change, we want the best advice as we are going through it. We are not waiting for a 10-year plan review to deal with this problem. If it is manifesting itself, we should start working on it during the terms of these plans. Our worry is that the state is sitting there saying, 'We're only going to pay you compensation if we review.' My worry is that the

thing will solidify in around 10 years and in the meantime everyone will go back to the knitting because they do not want to go through the horror of reform all the time. We do need strategic leadership from both the Commonwealth and the state to work these things through.

CHAIR—Going back to the Rainman program—we had a presentation on it this morning and we thought it looked brilliant—I wonder why more farmers are not implementing it. Can you give us a reason why they would not want something like this? From the testimonies that we saw and with what the farmers can predict, it could change their minds about what crops they are going to grow. Is that supported by your group?

Mr Sansom—That is really about pasture growth and probably grain production. A lot of our members are irrigators; some are underground irrigators. There is a whole different issue in terms of recharge. That is one of the problems we are facing at the moment with the drought. It is not just a question of whether the rain falls but how long it will take to recharge both surface waters and underground aquifers. I think that is a great thing. People like Roger Stone will only ever give you a three-month—

Mr ADAMS—He is behind you!

Mr Sansom—It is all right, Roger; I am just trying to give you—

CHAIR—I plugged the program for you.

Mr Sansom—Roger was on the thing I saw the other night, and there were significant differences in people's views about how far you can predict these things. We are dealing here with risk management not just with weather forecasting, and I think that is an entirely different ball game. If the climate change we are seeing is permanent—and Roger is in a better position to talk about this than I am—that will have quite significant ramifications for rural industries and communities about what we do: how we farm and what we farm in certain areas and whether it is sustainable in the future in some areas to do what we are doing at the moment. That is a pretty significant issue because we are going to be faced with some very difficult calls in the future. That is one of the things we are saying at the moment—because of the nature of the drought, in terms of the lead-up, the lower rainfall events et cetera, it has the ability to do some significant structural damage, and we should now be looking to the future and, because we get the first rainfall, not saying, 'The drought is over; let's not worry about it until the next one.' This may be only a once-in-a-hundred-years event; I just have a terrible feeling that we may see the impact of these events a little more frequently unless we take steps to plan how we are going to deal with them.

CHAIR—We all agree with you there.

Mr ADAMS—The CSIRO gave us some good evidence about climate change.

Mr Johnson—The only other thing I would add is that it is part of this issue of sustainable farm practice, which cotton is doing under their BMP, and cane is under their COMPASS Program. Clearly, we have price triggers and trading triggers now that will put a lot more pressure on farmers to adopt it where they might not have in the past. The aim should be to inculcate water use efficiency as part of productive resource use. I think we have the opportunity to do that now, provided we get the industry-government thing moving.

Mr ADAMS—It was a great submission.

CHAIR—Yes, it was very good. We very much appreciate not only the time you have given us today but also the time you have put into your submission. When the inquiry has been completed and recommendations and reports have been brought down, we will make sure we get a copy to you.

Proceedings suspended from 11.33 a.m. to 11.48 a.m.

GRODECKI, Mr Andrew, Interim President, Logan-Albert Rivers Catchment Association

HYNCH, Miss Brooke, Catchment Coordinator, Logan-Albert Rivers Catchment Association

CHAIR—Thank you for your submission. It was very detailed, and we look forward to hearing you add some more comments today. The committee does not require you to give evidence under oath. However, I should advise you that these hearings are formal proceedings of government and consequently they warrant the same respect as proceedings of the House itself. It is customary to remind witnesses that the giving of false or misleading evidence is a serious matter and may be regarded as a contempt of parliament. Do you wish to make an introductory statement?

Mr Grodecki—Yes, and I would like to submit it as supplementary evidence once I have finished going through it.

CHAIR—Thank you.

Mr Grodecki—As you are probably aware, the Logan and Albert catchment makes up a substantial amount of the Forde electorate. The catchment runs from the New South Wales border to southern Moreton Bay and is bounded by the Brisbane and Bremer rivers to the north and west and by the Gold Coast catchments to the south-east. By area of land use, it is predominantly a rural catchment with agricultural practice at both ends of the catchment. The major settlement area is Logan City. Water supply and water quality are issues of concern throughout the catchment.

You heard earlier from Peter Cullen about the patchy implementation of the COAG water reforms and the conflicting pressures on water resources and their allocation, particularly in the drought affected Beaudesert and Boonah shires. Our submission, from the Logan and Albert Rivers Catchment Association, looks at things from a distant perspective—more a land-holder and community development, or change perspective.

The first issue in our submission is about the impact of federal and state government approaches to supporting change in natural resource management practice. Most of us are aware of the plethora of reports and studies that call for reform in the way we manage water and land. Along with policy changes, such as implementing the COAG reforms, this process is also about working with land-holders in moving to more sustainable water and land management practices. This is a sustained, slow and complex change process the communities must undertake. Shifting the goalposts with policy and legislative changes will not make a team play any better. It takes a sustained effort and investment in coaching or facilitating such change. The short-term approach used by Commonwealth and state government—that is, two- to three-year funding cycles—results in short projects, short-term outcomes and short-term management of long-term problems. It provides a coach who just gets to know the team, how they play and the way of the land, who then pings off to, hopefully, another job elsewhere.

The Logan and Albert Rivers Catchment Association, along with most land care groups across Queensland and the rest of Australia, has repeatedly, in various forums, called for a long-

term funding approach to bring about sustained change in natural resource management practices. This may require such novel approaches as bipartisan agreement to 10-year plus funding programs, perhaps funded, as others have suggested, by an environmental levy. You have heard from Andrew Campbell and Roger Stone today about Rainman and how many farmers are using the program to inform their management decisions. I do not know how many farmers are using Rainman in our catchment; I suspect it is only a few. A long-term approach to funding would ensure that most farmers are using these systems rather than the leading few, such as the Shane Joyces of the world, who were prepared for this drought and took the decisions early to minimise the impact. Such a long-term funding mechanism may also provide another essential component—that is, financial incentives to support change.

Our second issue is the progressive withdrawal of extension officers and other rural community support personnel to provide services, such as training in Rainman; support for water quality monitoring by land-holders and others in the community; support to land-holders wishing to revegetate or to effectively manage their riparian zone; the support of more efficient rural water use; and, as QFF talked about, engaging farmers in the reform process. The NHT programs and the programs before them have all been characterised by their short lifespan and transient or itinerant work force. It is now well recognised that the most valuable asset of an organisation is its people. The DPI in Queensland is primarily focused on production. The Department of Natural Resources and Mines has lurched away from the provision of extension services towards greater regulation. In Queensland there is no organisation and very few experienced people. The Commonwealth government could adopt a long-term commitment to attacking our internal enemies that threaten our rural and urban community, environment and economy. It could adopt the same kind of commitment it has to external defence and establish a natural resource management army. Green Corps sounds like the answer, but again is only a multitude of short-term projects. What is required, we feel, is the development of a professional, highly trained force—a national force with regional or catchment command structure.

We know the challenges of maintaining water quality, reducing inefficient water use and reducing land degradation are long-term problems that need a sustained and professional response. Instead, we have an ever-shrinking short-term allocation of funding to extension officers and similar change agents which has resulted in a huge loss of organisational knowledge, of local landscapes and communities, a decline in experienced support for on-ground change and a consequent glut of policy and program officers that have no capacity to facilitate change in individuals and in the community—few even understand such concepts.

Our third point is that, although the COAG reforms and the national action plan for salinity and water quality are a very important start in the process along the path of changing attitudes and behaviour in relation to water use, there is as yet almost no impact on the Logan and Albert catchment. The last few years of water resource planning have had much less impact on community understanding than this current drought. It has highlighted that, even when it rains again, we must institute more comprehensive, effective and accessible monitoring of water use and create more efficient ways to use water.

Our fourth key point, which is item 5 in our submission, relates to the balance in research effort. While climate modelling and long-term forecasting are important tools, how much funding is provided to support this research in comparison to science to support land-holder preparation for these inevitable and uncontrolled events? LARC recommends that a comparative study into research expenditure in these two areas should be undertaken before any

further allocation is made to the climate modelling and forecasting areas to ensure that there is an appropriate balance in the research funding allocation. Perhaps a specific example of research effort regarding preparation for drought might be a comprehensive evaluation of the effectiveness of the funding and relief programs for drought and exceptional circumstances.

Our submission also referred to the catchment management strategy. I do not have to hand a copy of the catchment management strategy with the highlights and notes you provided. You may wish to refer to those later. However, a number of concrete actions from the catchment management strategy would be supported by long-term funding, a natural resource army and redirected research efforts. These include training and support for a comprehensive adoption of natural resource management best practices, as QFF mentioned; and for water harvesting and water use and reuse and water quality management. Increasing the use of property management planning as a tool for long-term planning and preparation for drought and improved water use is also important as are long-term incentive schemes or payments for ecosystem services that maintain or enhance water quality, reduce in-stream sedimentation and encourage catchment protection.

Table 6 of our catchment management strategy, which is at page 68 of my version—we have had one or two versions since it was submitted to you—outlines some of the long-term dedicated staff we need to achieve any real on-ground change in rural water use efficiency and to maintain water quality and more sustainable natural resource management in our catchment. Those are the roles we feel will be necessary to achieve those kinds of long-term changes in the catchment. That concludes my opening remarks.

Miss Hynch—Can I just add that that table is on page 65. It has a note mark on it.

CHAIR—Would you like to add anything else, Miss Hynch?

Miss Hynch—We feel that those recommended roles are appropriate not just for our catchment but for every catchment. We sit on several regional bodies and other catchment associations. They may not need the exact same roles and responsibilities that we have identified, but they certainly need something to fill those gaps that are not being filled by any of the reforms available at the moment.

CHAIR—When you were doing your catchment management strategy program, what was the relationship and understanding like between the use of rural and urban water? In other words, what was the farmers' understanding of the use of city water and what was city people's understanding of the use of farm water?

Miss Hynch—My understanding is that they see their use of water as producing farm crops and they feel that urban water is used to beautify gardens. Statistics that we have from Brisbane City Council certainly show that 40 per cent of water that is used in urban areas does go to garden usage. So there is a bit of animosity that rural land-holders are being forced to reform their use of water but they feel that urban water users are not being made to do anything really.

CHAIR—Do urban water users have concerns about how water is used in farming practices?

Miss Hynch—I did not get that feeling. The people that I have spoken with seem to be very understanding and they assume that farmers are using best practices. There is a bit of animosity

in that they feel that farmers pay all these taxes and they are allowed to do what they want, if you know what I mean.

Mr Grodecki—I think there has been some misunderstanding, particularly about irrigation practices, expressed during the summer. I heard some people in the community ask, 'Why on earth are irrigators spraying during the heat of the day with strong winds blowing?' They may not have been aware that that was their allocation, that was when they could do it and that was the only option. There perhaps are misunderstandings. When there is that very obvious kind of use or unfortunate misuse of water, some people do not understand it in comparison to their little trickle in the garden. Perhaps they do not see it in perspective. That is something I have heard comment about.

Mr ADAMS—Thank you for your submission. Is your catchment plan part of the south-east regional water supply strategy?

Miss Hynch—Not the water supply strategy, no. That has really only just started in our area. We will be feeding into it.

Mr ADAMS—But you have a study or a strategy of your catchment. Over how many years did you put that together?

Miss Hynch—Two and a half.

Mr ADAMS—You used different groups right through the catchment. Were consultants used?

Mr Grodecki—No, it was basically using the most current research and input from all the members of the committee, which is widely representative of stakeholders. It was a sustained process of considering all the information.

Miss Hynch—There are about 49 different community, industry and government groups—by government I mean local government as well as state government. We were also very lucky in that, because we had not started the strategy, the south-east Queensland regional water quality management strategy and all of the local governments had put in a lot of money and hired consultants to do a whole heap of research, so we were able to leave it nearly until that was done before we pulled a lot of ours together. A lot of the information in our strategy, with the maps and things, comes from consultancy work.

Mr ADAMS—I should have said this before I put the question: in my area in Tasmania, where we have done a lot of catchment work, there was a lot of criticism that a lot of money went to consultants, but I take it from your comments that there is a need to have that professional work done so you can get your strategy right.

Miss Hynch—Yes. I think there needs to be scientific work, whether it comes from a university or a consultant. I think the way the regional water quality strategy team—it is now the Moreton Bay Waterways and Catchments Partnership—is designed is that they have an expert scientific panel which comes from all the different universities. So, while we call them consultants, they are university academics who bring in specialist consultants when they need to. It has been an invaluable process for us because it has been very levelling. If you have the

science, it is a tool to bring urban and rural people together. They see the science, they see what went into the science and they can agree on it. It is not a blame culture; we are not saying whose fault it is, we are just saying, 'That is what it is and we need to manage it.' It levels it out.

Mr Grodecki—It is actually in the implementation of the strategy where we need that professional, people-on-the-ground support.

Mr ADAMS—I want to go to that. You mentioned that there used to be extension officers and now rural industry pays for that sort of work. However, you feel that the implementation of ideas or the implementation of a catchment plan needs to be overseen by organisers or project workers. I am wondering about the training for that, because I think you meant that there are some people in the process who probably do not have the adequate training to pull people together to achieve that.

Mr Grodecki—Probably a good illustration of the need for that support—in the context of there being industry support for adopting better management practices—is that the dairy industry recently released a best management practice CD and other resources. One of the members of our committee said, 'Yes; got that. It hasn't really told me anything new.' There is really a need for training and support in adopting those practices. That is where the gap is. As Kay has indicated, there are 116 dairy farmers in the region. Perhaps they can support it to a certain degree in their industry, but there are all the other land-holders in the area who also need support in those kinds of things. There are a lot of cross-industry practices on individual properties as well, where they perhaps have different approaches. That support is needed across all of those different industry areas.

Mr ADAMS—Are there people in your group who do not accept that people are gaining their living from the catchment, have investments within the catchment and will be there and doing their thing for maybe a long time to come? Are some people keen to change the way a structure happens within that? I am not saying to best practice in the use of water or whatever.

Miss Hynch—Do you mean they do not want to adopt change?

Mr ADAMS—No, that people want change to be made that is maybe beyond what is economically viable to achieve.

Miss Hynch—I do not think so.

Mr ADAMS—Maybe they do not want 130 dairy farmers on the catchment.

Mr Grodecki—I do not think it is a question of that. I think it is more the adoption of the various kinds of reforms that are being suggested—for example, the issue of riparian vegetation and who pays for that. What impacts might it have on the farmer? What impacts will it have on weeds and fire risk, and all of those sorts of things, if there is an increasing amount of vegetation in the riparian area? The kinds of pressures being placed upon them include the need for higher levels of riparian vegetation. What kind of support is there for looking at the best ways of managing that? Does it impact on their actual profits? Is there some kind of financial incentive to go down that path? Why should they wear the cost for clearing that might have occurred two generations ago, for example, if there is an expectation that there is now a need to revegetate some of those areas? It is things like that.

Miss Hynch—There is a lot of tolerance for current land use practices, but there is not a lot of tolerance for anybody who wants to change a current land use practice to what is considered an inappropriate development. An example of that is changing an area that is zoned as rural in Canungra on a flood plain to a speedway development, which is in a place called Echo Valley. Kay would know about this. It is a planning issue of the future. Another issue that has been raised recently is the chicken farm issue. There is no problem where they currently exist if they are not bothering anybody, but where they want to develop near an urban development area—because there are lots of satellite developments in our catchment—that is a planning issue. Sometimes the legislation does not back up commonsense. Sometimes the council's arms are tied and they really cannot do anything, but the community then gets in an uproar and says, 'It doesn't make sense. Why are you doing it?'

Mr Grodecki—The example of the raceway also raises another issue if there are moves from federal or state level to a fourth grade of protection for the recharge areas for water storages. In this particular case, the proposal was basically between the water storage and the water intake to the town water supply. One of the reasons that it was not an agreeable proposal was that that was going to spill hydrocarbons into the water source, which is basically the open channel from the storage to the intake. So there is perhaps a need to address that as part of the overall protection mechanisms for water supply. In the case of the Logan River, the Beaudesert shire receives water allocations from Moogerah Dam, which is a long way away. It then also has to go down to the Cedar Grove water plant. They are all open sources, so any future developments within the catchment are going to have impacts on the water quality for urban use as well as for the irrigators and things like that. So that is part of the overall consideration in securing future water supplies.

CHAIR—Where does the strategy that you have just completed go to from here? There is a lot of information collected out there, and it appears that all this data is not collated and the big picture is not looked at.

Miss Hynch—I am glad you asked that question.

CHAIR—So where does it go from your hands, now that you have finished? It was a funded project, and then it moves on. I have noticed in your submission that you want to establish a devolved grants scheme. Who should take responsibility and which level of government should be responsible for that?

Miss Hynch—There are a couple of questions in there. In relation to the first one, I have just moved offices. I am now down at the Department of Natural Resources and Mines, based at Beenleigh. They have sat me in the cartography section. They are apparently very keen to offer the group some in-kind support and provide us with a GIS database system which will collate all of this information. They also said that it could possibly be a case study example, where they would do that for our catchment and then potentially do it for each catchment in Queensland, of which I think there are 32. Maybe their ongoing support could then be updating and maintaining that information. In terms of collating the evidence, I think that is a really good way to do it. It is a strategic plan in our strategy to do that.

From here, my job over the next four months is to have the top priorities in this strategy uploaded into the business plan for the region, the regional management plan. So hopefully some of this will then be put into that, which will then go into a strategic development plan for

the region. We will not get everything that we want, but hopefully the top two issues will be addressed as part of the regional plan. So that is where we are hoping to go from here.

We also find that at the moment we have many consultants and other government departments interested. They rang us by the time we released the draft. I think this is about the fourth version of the draft. On the very first draft, we had about six government departments say, 'Hey, we heard you got one!' We are one of the last catchments to come on board with it. We also have school groups and, particularly, universities which are very interested in it because it is a consolidated piece of information about the whole region. So I have no doubt it will be used; we have not wasted our money developing it. The problem, as you say, is in the implementation of it now.

We have had a devolved grants scheme for the last two years. We have spent $40,000 in the catchment with private land-holders, and also some of the Logan City Council Bushcare groups which are on Logan City Council owned properties have utilised the devolved grants scheme. We focused it on the regional issues that we had in our plan and said, 'These are the two things we want you to address.' That has been pretty successful so far. Some of the spending has not occurred because of the drought—obviously, there is no point in planting plants if they are not going to survive—so we have a little bit of extra spending to do over the next four months.

In terms of the future, in our strategy we outline the fact that, besides the Natural Heritage Trust, there are about 30,000 other options for funding in the future. Once our group can secure a person to be a funding officer or a coordinator like me, after July we will look at getting that person to look at the various tasks and to seek funding from the different areas to make them happen. The group is a volunteer group, so whether I exist or not does not really matter; the group is still devoted to making sure that some of these things are implemented. We also have very tight ties to the southern implementation group, which is part of the Moreton Bay Waterways and Catchments Partnership. It has been very strong in supporting our priorities that have come out this. Obviously, some of its priorities are in there as well. We do not know who would run a devolved grants scheme, because we do not know who will be available to make it happen. Hopefully, it will come out of either our group or one of the council groups.

CHAIR—I did not mean a person in particular. I meant: who were you looking at for the funding?

Miss Hynch—I can give you a list.

CHAIR—Will it come from a federal, state or council source?

Miss Hynch—Wherever we can get it from. We have already had lots of support from the industry groups in Beaudesert. Bunnings hardware store have been very supportive in the provision of some of the equipment that we have needed. Greening Australia has also been very supportive. Even some of the people who provide sediment and erosion control matting have given us discounts and have provided technical staff to help us out with implementing things. They call me 'the platypus' because I get my funding from everywhere. I get little bits and pieces from here and there. So we will get it from wherever we can. We are not really relying on any one place.

CHAIR—You said there are 22 other catchment areas in Queensland. Are the whole lot doing studies like you?

Mr Grodecki—We are about the last.

Miss Hynch—We are the last, yes.

CHAIR—So the whole lot have done it?

Miss Hynch—The only one that has not is the Gold Coast. It is a bit of a funny one, because its catchment is nearly the council boundary, so a lot of work that it has done is internal through the council. The community groups are more like what we call catchment care groups. They do the on-ground plantings rather than develop the strategy. The council has really done their strategy.

CHAIR—Is somebody going to look at every one of those strategies to see whether they are contradictory or whether they are all focused on the one avenue? What happens with a lot of these strategies is that it takes 2½ years to collect all that information, but then nothing good comes out of it because no-one is looking at what is the best practice at the end to implement anything.

Miss Hynch—Because the new way the NAP and NHT are going to be delivered in the future will be on a regional scale, I will just talk to the south-east Queensland region. All of the catchment associations—we call them the care groups—the Landcare groups, the Waterwatch and the Coastcare groups, are getting together. We have a regional body now that we get together in. I am chairing the group in terms of sitting down and assessing the common themes in all the different strategies. That was something we were supposed to be doing this past month, but I have been ill, so it has not happened. Basically the idea is to take everybody's catchment strategy, have them look at it themselves and review it for core themes, then collate that information and come up with some regional core themes that everybody has the same issues with.

I mentioned the suggested roles that we have in our strategy. When we developed our strategy we reviewed 16 other strategies that other people had developed before us, because we did not want to reinvent the wheel. We based it on what other groups had done. A lot of core themes came through. There is a Natural Resource Management Strategy for South East Queensland, which was brought out in 2000. That was before we had developed our strategy, and we used it as a basis for ours. So the core themes that are in there—land, water, biodiversity, coasts and seas—and two other supporting themes come out of that strategy. We have tried to link it in with what is happening regionally. Over the next four months, the care groups would like to submit to the regional body their concept of the core themes across the whole region and of what support is needed. To be honest, if we can get one soil conservation officer one day a week in our catchment, it is better than not having anybody at all. The idea would be that maybe that person's work would be split across the five different subcatchments. In that way, at least we improve on the current delivery service rather than fighting amongst ourselves for that service.

Mr Grodecki—Coming back to your point about the 32 catchments, the way the catchment strategies have been written has been highly variable across the state. There have been guidelines as to what they should contain but the way each group has implemented them has

been quite variable. This regional process is helping to develop more commonalities. I am sure the next versions of any catchment strategies will have a more common look and feel to them.

Mr SIDEBOTTOM—I like the idea of the care groups and also the fact that you are now coordinating yourselves. Given those 32 catchment plans, I was going to ask you earlier whether a template had been developed that you could adapt to your specific needs, but you have answered that. A couple of other things come to mind. It is a very good plan. I do not know the peculiarities of your catchment area but you have a number of roles listed here. In terms of implementation, how important is it that these rolepersons be funded in order for this to happen? I ask that because the evidence to date on other issues is that if you do not have NHT funding it all falls apart and you have to beg, steal or borrow. So how important do you regard these roles—and the officers you designate for them—as being and the fact that they are funded adequately in order to get this rolling?

Mr Grodecki—'Essential' is the answer. The catchment has suffered and is 10 years behind the kinds of processes that have occurred in most other catchments around the state. There has been a real lack of attention and funding and a progressive withdrawal of extension support staff from that whole lower South-East Queensland area, in comparison to other parts of South-East Queensland and other parts of the state. So it is a combination of us both identifying those needs, by analysis of the strategies and the actions contained within them, and seeing these as priority roles that need to be fulfilled, but it is in the context of actually having a significant withdrawal of that kind of support from the community for quite a few years. Across almost any area we might be serviced by one officer from a Bundaberg office or from elsewhere—maybe from the city—or someone has to manage from Caboolture down to the border and out to the other side of the Lockyer Valley, so they are attempting to provide some kind of support across a very wide area and a whole range of complex issues. That is really totally inadequate for addressing the needs within this area, which is one reasonably large catchment of its own.

Miss Hynch—We are willing to get our funding from anywhere but, in order to do that, you need a funding officer employed full time to do the running around and fill out all the forms and all the rest of it. Just to keep myself employed on behalf of the group, I spend at least two to three months every year on funding. I am not kidding: it takes you a month to develop a proper NHT response because you need all of the background information and the support letters, and it takes you six weeks to get letters through from council. So at least two to three months a year is spent on funding. If that were taken up with this idea that we have of a green army, with as much emphasis being put on an internal army to save the earth as there is on the external army that saves Australia from external forces, and if it were a core budget issue, we would have that alleviation from worry. I am not talking about internal reporting—that is a different issue altogether. There is justification for the budget and all that sort of stuff, but in terms of seeking funding we would have that alleviation: we would be able to spend our time doing what we should be doing.

Apart from that, we would keep our corporate memory. That is a really big issue in our catchment. I will give you an example. The regional manager for the Department of Natural Resources and Mines is Tom Crothers. I met him accidentally at a meeting and started having a go at him about how we did not have any extension officers. He asked me, 'What is the problem?' I told him about the type of erosion problems we have in our catchment. He said, 'I used to be a soil conservation officer. That is easy to fix. Go down to Warwick and have a look at what they have done, and do this and do that. Here is some paperwork and you can do this.' I

looked at him and said, 'What are you doing managing a region? You should be out there on the ground helping us.' He said, 'We've got officers that do that.' I said, 'Who?' and he said, 'I'll get back to you on that.' It took him two weeks and he got back to me, and he said, 'The fellow's based in Bundaberg.' I said, 'Has he got the budget to come down and see us for a couple of weeks?' and he said, 'No, he will talk to you over the phone.' That is not the sort of support we need for people on the ground.

We also have our weed control officers: they are all in Bundaberg too. I am not blaming the state because I am pretty sure that is exactly where they want to be going in terms of policy development and that sort of thing. Every time our councillors and our MPs change, or every time parliament changes, we get this complete shift from one extreme to the other. We lose all this corporate knowledge. We need some system of training. There are a lot of juniors out there who have come out of university and think they know everything. Unfortunately, there are also a lot of managers out there who think they know everything, and they put them into positions. They do more harm than good in a lot of respects because they do not have the on-ground skills.

If we had someone in a mentoring role, or a traineeship—at the moment our group is still in the process of trying to develop a traineeship program where one of the local schools is prepared to provide the training and support for this person—I could then use this person to help develop some very basic skills in helping us deliver programs. I am sure it can be done catchment wide, state wide and Australia wide, but it would be great if we had some form of federally controlled process that had permanent funding that worked the same way the Army does—I do not even care if you want to call them sergeants, colonels and generals and have those levels—where the soldiers are on the ground doing the work, and you have very few people up top making the policy. They have more troops on the ground and that is what we need. If we do not get that, we will spend a lot of time chasing our tails looking for funding when we could be delivering stuff on the ground. It is as simple as that.

Mr Grodecki—The existing landcare groups and those sorts of organisations can be the reserves in that sort of scenario. It is really about getting that ongoing continuing professional support, and seeing it as an important priority.

Miss Hynch—When I leave this position after three years, we should have somebody else who has taken the journey with us so I do not leave a big gap.

Mr Grodecki—Brooke has been ill for a couple of weeks. It has been an absolute disaster. We have realised the significance of that loss of corporate knowledge if, for any reason, she were not around.

Mr SIDEBOTTOM—In my electorate in north-west Tasmania, we have an interesting regional body called the Cradle Coast Authority. It applied for sustainable regions funding and is being used as a pilot project. I think it is pertinent to what we are talking about here. The funding was based on a strategic plan, but it is from the bottom up. The stakeholders are signing off on this. It is a $12 million package over four years. The interesting thing is that one of those packages, one of those strategic areas, is in natural resource management. I think it had $1 million allocated to it and it has to be dollar for dollar, so it had $1 million from the region as well. The idea of the package was the training of natural resource managers not just for the sake of training and for the implementation of natural resource management issues in our region, but at the same time it was to develop their training. Their implementation is a career structure. It is

a bit like your cadre system, if you like, but they also developing career structures. I would strongly recommend that you look at the Cradle Coast Authority on the north-west coast of Tasmania.

Mr ADAMS—It is a good model.

Mr SIDEBOTTOM—It is exactly what sustainable regions funding is about—I will give the government a plug on this one. It is from the bottom up and tackles something like what you were talking about. Otherwise, you just lose corporate memory. People have it for a couple of years and then people like yourself, with great expertise, say, 'Ta-ta,' and go on for the next job.

Miss Hynch—The other thing it does is that it lessens the trust that the community and the land-holders have in our group to deliver the product. I am not trying to big-note myself but I have developed a fair sense of trust because I have been there for three years and I have delivered for them, so they trust me to deliver again in the future. Of course, if I were to go, someone else could come in who has not had that changeover—I am not saying I am invaluable; I can always leave—and it would be better to have somebody there who has taken the journey and with whom the community have built up trust. One of the biggest problems we have is that people have been burnt before by different programs and they are not willing to come on board straightaway. It takes you three years to get them to say, 'Hey, there's Brooke, I know her.'

CHAIR—I am sorry that we have to stop here—we could have spoken to you for a lot longer—but we have the very valuable information you have given us. I call on a member to move that your supplementary submission be accepted.

Mr ADAMS—I so move.

Resolved (on motion by **Ms Ley**):

That this committee authorises publication of the proof transcript of the evidence given before it at public hearing this day.

Committee adjourned at 12.31 p.m.