AN INTERVIEW CONDUCTED BY BERNARD O'NEIL WITH RON SINCLAIR AT THE WAITE CAMPUS, URRBRAE, SOUTH AUSTRALIA, ON THE 18TH DECEMBER 2008 AND 8TH JANUARY 2009 FOR THE PROJECT ON THE HISTORY OF THE ANIMAL AND PLANT CONTROL COMMISSION. [Square brackets include comments and corrections provided by Ron Sinclair in August/November 2009]

Disk 1

Ron, thanks very much for agreeing to be involved. We got a little bit of information from you in 2005 when you gave a talk at the last conference for the Commission and gave some wonderful anecdotes to illustrate it and so on. So that information's already on the record, but I thought today we'd perhaps pursue a bit more of your working career and how you came to be involved in pest animal work, in particular, and your career with the Commission. We can bring it up to the present day if time permits, so let's see how we go.

OK.

I'll just note here that there's a little bit of background noise from the air-conditioning unit in the building we're in. Perhaps a little bit of your personal background, your full name and so on.

OK. I'm Ronald Gordon Sinclair. I'm currently a resident of Adelaide, but I originate from Sydney. I'm a city-born kid, but in my early days I was influenced very strongly by reading Gerald Durrell books. Gerald Durrell had an enormous impact on my life. When I read books like *The Bafut Beagles* and *The zoo in my luggage* I thought that's the sort of career that I would like to pursue. I went to school in Sydney just to an ordinary government school. I went through Epping Boys High School. I went from kindergarten till matric. with the famous Geoffrey Robinson; he was a colleague of mine all the way through school. Went to Sydney University, the same university that he went to, as well.

I wasn't quite sure what to do when I had passed my matric. I decided to do agriculture because I'd always been interested in animals and I had this thing about Gerald Durrell. So I went off and did agriculture, specialised in animal husbandry in my third and fourth year there. There they used to do a Bachelor of Science in Agriculture course, which is equivalent to an Honours course here. I specialised in endocrine studies in sheep for my thesis at the end of the Honours year. At the end of that time the prof. of the department offered me a research assistantship and so I then spent three years working as his research assistant based at the university farms in Camden, south of Sydney, doing more work on the control of oestrus and ovulation in sheep and cattle and part-time did a Masters degree looking at various endocrines that might be involved in this process of controlling oestrus and ovulation in sheep and cattle.

What period was this, Ron?

We're talking now about the mid '60s.

Mid '60s.

Mid '60s. I was born in 1946, right. I did my matric. I think in '63. Is that right?

Sounds about right.

No, that can't be right. I think I graduated in '63. Yes, I graduated in '63 and then spent three years working for him. I met my then wife during that time. When I finished my Masters I was somewhat disillusioned with science. I had worked with a number of people that I thought weren't very good scientists and it created in me a bit of suspicion about scientists. I decided that I was still young enough, I was going to go off and do my Gerald Durrell thing. So I started to write anywhere I could find in Africa for a job working over there with animals. Having been an agricultural graduate, having worked with sheep and cattle, I'd done one year of zoology and one year of botany, so perhaps I wasn't particularly well qualified for it. But I kept writing and eventually I landed a job in the Republic of Zambia as a wildlife biologist. The job description was to go to a particular area of Zambia, which was at the bottom end of Lake Tanganyika, and prepare management plans for three national parks and several game management areas up there. I had absolutely no idea what that even meant. In 1971 – my wife and I were married in 1970, late – and in early '71 we left and went to Zambia.

We had a very wide range of experiences there. Very early on in my career there I linked up with a couple of United Nations FAO [Food and Agriculture Organisation] researchers who were doing work doing an aerial survey of large game animals. I became very interested in surveys and aerial surveying. I enjoyed it very much. A lot of people get sick very quickly, flying around [at] low level counting animals, but I loved it. Eventually I joined up with a bloke by the name of Graham Caughley who was an Australian who was brought to Zambia on a special project in an area called the Luangwa Valley, where there was a huge population of elephants. He and I worked together there developing techniques for how to survey this particular animal. We got on very well; our wives got on well; their son was born about a month after our daughter was born over there. He said to me, 'Look, if you ever want to come back to Australia and do a PhD look me up because we work well together and it would be a good thing to do'. Anyway, our daughter got sick while we were there, in the third year we were there, and it was advised that she come home. So my wife and daughter left and I wrote to Graham and said, 'Look, I'm probably only going to work out my three-year contract and I'll come home too'.

He at that time had got money for research into methods of surveying kangaroos in Australia. So I came back and did my PhD starting in 1974 with Graham Caughley at Sydney University again, back to my old university. Of course, in 1973–74 we had the huge rains in all central Australia. So when I went out to do my first fieldwork out there the far west of New South Wales was all under water and that caused all sorts of problems. So my project took a long time.

Had you an intention to do a PhD before that situation?

No, not really, no. When I was in Zambia and working with large animals I said, 'I'm never going to work on small mammals again or anything like that'. But coming back and working on kangaroos at least was a compromise. Anyway, we worked pretty well together. Unfortunately he decided to leave the university and move to CSIRO [Commonwealth Scientific and Industrial Research Organisation], and my supervisor was changed to Professor Charles Birch, who was a very famous ecologist and he helped me finish off my PhD, which was pretty good. That was on the distribution and abundance of kangaroos in western New South Wales.

I saw a job advertised here in South Australia to look at the off-target effects of 1080 poison from the dingo-baiting program. I applied for that position and got it, once again stepping into the deep end, having no knowledge of dingoes or very much about Australian native species other than I'd done a fair bit of work on kangaroos and worked a lot out in the arid zone, so I was accustomed to that sort of stuff.

This would have been with the Vertebrate Pest ...

That was with the Vertebrate Pest Control Authority. I started there in May 1978. Peter Bird, who was working with me on that project, he started a couple of months earlier because he'd just finished his degree at the University of Canberra. We worked together, Peter and I, for the next seven years, up on the dingo fence, going away for extended field trips at the time, doing surveys for native birds, reptiles and mammals. Much of that country had never been surveyed before. We tried to use every possible technique that was available to us at that time on how to find out what animals might be there and what animals might be impacted by the use of 1080 for controlling dingoes, as it was at that time. We also looked at the way the baiting program was run, how the baits were made, how the poison was added, how uniform the baits were, toxin levels in baits, because we needed to develop some technique for assessing risk to these different species that we found that were there. We were very lucky. We caught the first live-caught specimen of a particular small little thing called the *Planigale tenuirostris*, which has an adult weight of 5 g, the smallest of all Australian marsupials, probably one of the smallest mammals in the world. Although there'd been a few carcasses found before, I don't think, as far as I can recall, they'd never been captured alive before. But it was because we used pit falling, which is where you dig buckets into the ground and put little fences up to stop animals moving and they run along the fence and drop into the buckets, the fence goes over the top of the bucket. We used those for the first time that people had surveyed that country, and so we were able to pick up species that people hadn't found before.

That sort of thing, it sounds like you're learning on the job.

We were.

You're coming in not knowing 1080, you're not knowing dingoes.

That's exactly right. It was very much a learning-on-the-job situation. It was a fantastic life, it was really. Both Peter and I enjoy working in that environment, whereas lots of people probably wouldn't. It was very hard on our families. We sometimes went away for five weeks at a time. Peter didn't have young children then but I did, so it was left up to my wife to deal with the kids and that was pretty tough on her, I'd have to admit. But it was rewarding work. We found that the program wasn't having any significant impact on any species; maybe odd, individual animals might succumb to it, but even that was probably not all that likely.

We did find that there were certain aspects of the way the program was run [that were] likely to increase risk. We made recommendations to the Vertebrate Pest Control Authority to change the way some of the baiting procedures were done. That was adopted, so that was good. They increased the size of baits, they changed … They used to mix the baits up by tipping a bucketful of chopped-up bits of meat into a cement mixer and spraying the [1080] solution over the bait. That had produced a product that was very non-uniform in its toxic load and, therefore, potentially putting some species at a high risk. That was changed. They're still using the techniques that we recommended to be used at that time.

That trial-and-error approach: were you liaising with other State authorities, was other work being done?

There wasn't much going on other than we were catching some pretty rare and unusual animals and they were coming back to … We were bringing them back, the ... What was it called? Out on Blacks Road, I think it was in … The [Institute of Medical and Veterinary Science] had a field station out there run by a guy by the name of Chris Watts. Under him was an [evolutionary] geneticist, Peter Bavarstock, and they had out there the best collection of native small mammals in Australia by a long way. There [was] a lot of work going on, the genetics and so on out there. All the animals we caught we used to bring back for them.

We also needed to have a lot of these animals tested for their tolerance to 1080 so we were cooperating and collaborating with several scientists [at] CSIRO in Canberra, namely a bloke called John McIlroy who was doing all this 1080 testing work. There [were] a couple of people in New South Wales, but not really doing the same sort of stuff, working on 1080 but not to the level that we were. There was a little bit of work going on in WA, but again not this off-target stuff; it was more for target specificity testing that they were doing there. It was fairly unique work that was being done in Australia.

The way that that project got up and ran was primarily because John Bromell who was at that time the – what was his title? – executive officer or whatever it was of the Vertebrate Pest Control Authority, had convinced the Authority itself that there was a need to protect the use of

1080. In the early 1970s 1080 got removed from use in the United States, primarily because the USDA [United States Department of Agriculture] did not have data to show that it wasn't causing environmental harm. So they lost its use, and it's still more or less that today. They have very limited use of 1080, primarily because they've never done this sort of work. John had great foresight in seeing that this was the way to protect 1080 and convinced – how he did it I don't know – the Authority that we needed to do this work That's why the project was up and why it was relatively unique.

It's interesting because 1080 had been used for probably 20 years or so prior to you coming on board.

Not for dingoes, it had only been used probably about a bit over 10 years at that stage for dingoes. John was instrumental in changing ... When he became the Vermin Control Officer (or whatever it was) that was his role. He very quickly looked at what was being done here. In those days strychnine was the toxin of choice, and dingoes were controlled by the distribution of what they called 'Minties': they used to incorporate strychnine in a little bait that was mostly brisket fat and a couple of attractants, and they were wrapped up in little pieces of paper which had writing on it which said something about 'Highly dangerous, do not eat', all these sorts of things, thinking that dingoes can't read and that they would open it and eat it. These were aerially distributed across the Far North of the State because there was mythology involved in dingo control. All the landholders believed that the Coopers Creek–Diamantina area of the State was where ... That was the home of the dingo and they migrated south going into sheep country, and so where you needed to bait these dogs was up in that Coopers Creek–Diamantina area. For many, many years the measure of success of dingo baiting was the number of baits that the Vermin Branch would report each year that were chucked out the door of an aeroplane. Nothing to do with how many sheep were saved or how many cattle were saved or how many dogs were caught south of the dingo fence or anything like that; it was how many baits went out. John realised that that was not a good measure.

You're not finding out how many dingoes have taken the bait.

That had nothing to do with it. They knew that strychnine, of course, was very toxic for dogs ... Peter and I met a landholder who told us that they used to go and poison the waterholes along Moolawatana Creek in the Northern Flinders. They would pick up next day [200] or 300 dingoes that had come in during dry period to drink, just overnight. Stories like that. Yes, they'd take it.

John decided that 1080, which was relatively new and had already started to be used for rabbit control, should also be adopted for use for the dingoes. He did away with aerial baiting. His principle was you put the bait where the animal is, where you want to stop damage. The baiting was stopped in the Far North of the State, that it was only to be carried out in the vicinity of the

dingo fence because that's where we're trying to stop dingoes, and strychnine was to be replaced with 1080, that the program would be a government-run program, and that the dingo … Because John had come from a dingo research background from eastern Australia … that States should adopt the attitude, there wasn't official policy, but they should have the attitude that the dingo should be treated as a native species north of the Dog Fence, that it should be the main predator there, and that landholders would have to prove economic damage before any baiting would be done to control them north of the Dog Fence. South of the Dog Fence they weren't to be tolerated because there's no doubt sheep and dingoes are not compatible. That's the background to the baiting program and why we were involved in that project.

That's what you were specifically appointed to do.

We were.

Working on the dingo. Was that a contract sort of position?

It was a 3-year contract to begin with. What happened was that about 2½ years into our contract the Department of Agriculture ... Just before Peter and I joined, the Vermin Branch had moved to the Department of Ag. and become the Vertebrate Pest Control Authority. About 2½ years into our contract the Department did a head count. They had to do a review, and John cleverly included us in the head count. We were then made permanent. It just happened. We were very fortunate and we were able to continue that work for a number of years.

Just to clarify, you were then still Authority employees, not Ag. Department?

Yes, yes. No, the Vertebrate Pest Control Authority was a statutory authority and our finances simply came through the Minister for Agriculture. But we were a separate authority. It got up the nose of the Department of Agriculture because we were always pretty well financed. Probably one of the main reasons was that the Authority itself was landholders and they had direct access to the Minister and they had no qualms about going to the Premier if they didn't like what the Minister said. They were a powerful group. It dwindled away over time, that power, but in those days they were a very influential group of people. Very far-sighted people.

They're the stockowners, the pastoralists and so on.

Yes.

Bit of clout.

Yes. They were representing the whole State, people from all areas of the State.

In 1984 John Bromell asked us whether we'd be interested to also look at a bird problem. The reason was that in the mid '70s several cherry growers in the Adelaide Hills had changed some management practices up there where they went from cultivating their orchards during the summertime to sod culture. The same growers who had done this started to get problems from

Adelaide rosellas eating the flower buds on their trees during the wintertime. There were two main growers initially and the extent of damage that they were suffering was very high. They would go and rattle on the Minister for Environment's door, who also happened to be a cherry grower in the Adelaide Hills, David Wotten. No, at that time he didn't grow cherries; they were apple growers in Summertown, but he would have been aware. Anyway, these two guys were very politically savvy and knew that if you keep the pressure up eventually something will happen. National Parks had no capacity to do anything about this. We used to have a joint committee called the Fauna Management Coordinating Committee, which was a committee between the Vertebrate Pest Control Authority and National Parks. We used to meet on a monthly basis maybe and sometimes discuss issues primarily where native species were causing a problem for agriculture or the environment. It was chaired by an independent chairperson which was Joan Paton. National Parks or the minister asked through this committee whether we would be willing to take on a project to look at this issue of these rosellas causing damage in the Adelaide Hills. As our work up north was starting to draw to a close we decided this was a good thing to do. It was close to home, we might be better husbands, and so we decided to do that.

Had the work on the dingoes come to a ...

It had because of our findings that there was not much in the way of an off-target risk and that the changes to practices had been adopted across the board. Yes, there was still a bit of work on that to do but we were looking for another project at the time.

Did you have someone else looking after things like rabbits, for example?

Oh, I never worked on rabbits until 1996. There was a whole group working on that. Peter and I, we worked on other things.

Yes. So it's not like you could be transferred from dingoes to rabbits; other people were already doing that, yes.

No, there was already a reasonable-sized team here working on rabbits.

So you're grabbing another opportunity that's going by.

Yes. In fact I need to go back a step. Because we were working on small mammals and doing trapping work, it might have been in '84 there was a mouse plague and the minister more or less ordered the Commission to do something about the mouse plague. I recall that Brian Cooke, who was the Principal Research Officer and doing all the rabbit work, he and I were told that we had to go and do something about mice. We went out into the [Murray] Mallee, we went to Mintabie – not Mintabie, what's that little place past Karoonda?

Mindarie?

No. [It was Wanbi, which is just north of Mindarie.]

We'll get it, we'll get that.

We went out there to have a look at what mice were doing. Until this time the issue of mice had been handled in the Department by entomologists. It was the attitude that mice were closest to insects, they occurred in eruptions and their numbers were huge and they were treated by the entomologists.

So it's the Ag. Department who were handling it.

Yes, the Ag. Department. Peter Allen, who used to be of course our principal officer here, he told us that they used to just hand out a sheet with a recipe on it on how to prepare strychnine-treated wheat. We discovered that that originally came from New South Wales in 1955, in which people mixed strychnine, flour, bicarb. of soda and sugar together in a particular ratio, coated the grain, dried it off and then ran it out. When this plague occurred in '84, Brian and I went out to [Wanbi] ... The Department used to have a research station just close by there. We went there and they said they didn't have any mice problem. But we could see, in fact, they did; they just didn't want us working there. That's the Department of Agriculture. So we went onto a private property and we trapped mice in little box traps, we marked them and we spread out this strychnine-treated wheat as a trial to see what would happen and then trapped again. We found most of the mice - not all of them - had gone. But about the same time the mice disappeared from everywhere, because that's what happens with mice, they erupt and then they disappear. So it was pretty inconclusive. Greg Mutze soon after that was employed to work on mice, so he more or less took over that side of the mouse problem.

That's Greg ...

Greg Mutze.

… Greg Mutze, yes.

In '87 there was another plague. Greg was doing some work again with strychnine, and one day somebody rang in from a piggery saying, 'We're overrun with mice. We're using this strychnine-treated wheat. We're bloody concerned that if the pigs eat the bait or the dead mice is it going to affect the pigs?'. We thought, 'Hmm, we don't know that answer. We don't know how much strychnine is left in dead mice and if there is a real risk to the pigs'. So Peter and I started some experimental work trying to find out … First thing we did, we looked in the literature to see whether there was a figure for the oral susceptibility – called the 'LD50', lethal dose to 50% of a test population – if there was an oral LD50 in the literature. Blow me down, we couldn't find one. There wasn't one recorded. If you gave it to them intramuscularly or by injection or into the gut or whatever, even intravenous, there were figures there, but nothing orally. We found that very strange. How could they have this recipe saying how much to put on there if they didn't know this? What we discovered was that they had adopted the figure for the rat to work out this recipe: rats are quite a lot more tolerant to strychnine than are mice.

It so happened that we discovered that strychnine is broken down in mammals by a group of enzymes in the liver. It turned out that my brother, who's a biochemist, works on the same group of enzymes, in humans though. He was able to give us a fair bit of information on this sort of stuff. We were babes in the woods. We weren't biochemists; we were small mammal trappers. (laughs) But we started to seek help from anybody and everybody around. We went to the university, we found a tame pharmacologist in the Department of Health who was pretty interested in this. We discovered that, to cut a long story short, mice from different areas and mice in different circumstances have a different tolerance to strychnine, probably because of both environmental and genetic factors that influence this group of enzymes that metabolises strychnine. We discovered that, in fact, you could stimulate those enzymes or you could inhibit them. So we tried to develop a method for inhibiting these enzymes so that you could kill mice with a lot less strychnine and probably cause a lot less environmental contamination.

Just about the time we started to do that part of it the mice disappeared, the mouse plague went away again, and we were removed from the project, which is often what happens. We were told to move on with the bird project, so that was the end of that work. We had a guy come on and start a Masters degree to pick up that work and try and finish it off, but it never got completed, which is a shame because it was pretty interesting stuff.

Did it have later applicability to further outbreaks?

It didn't really, although it did help us understand at times when people were using strychnine during the 1993 outbreak why sometimes they didn't get as high a kill rate as they thought they ought to. It was probably because they'd used what we call 'pickled grain', grain that's been treated with fungicide. Turns out the fungicide stimulates this group of enzymes in the mouse liver so you need a hell of a lot more of the strychnine to kill the mice. From that point of view it was very useful information and it still comes up from time to time. That was the end of my research on that side of it.

Peter and I started to work in the cherry orchards in the Adelaide Hills. We developed some techniques for measuring the amount of damage that the rosellas were doing ... There were a number of repellents on the commercial market that were claimed to be effective and so we ran trials testing those. We did some trials testing various whiz-bang noise generating devices and all the rest of it. After several years working in the industry we realised … Because this problem that the growers were having is long-term we started work on Bill Bishop's property in Basket Range. Bill probably had more research going on ... His property was quite close to Lenswood Research Centre. He was a very active member of the community and encouraged the Department to use his property for experimental stuff. He was very obliging and would do anything to help … I've lost my train of thought there. We tested these devices, a number of

them, on his place. We estimated damage on his place, which was enormous, but we also noticed that the behaviour of the rosellas in feeding on these dormant flower buds was starting to spread. It moved to other growers' properties close by. It was spreading across the industry. The problem that these two initial growers had was becoming an industry-wide problem.

It had a fascinating element to it. At that time South Australia produced a variety of cherry that was originally derived from a seedling found in Summertown round about the turn of the 19th century. It produced a very firm, big, dark cherry that usually started to ripen just before Christmas. It was ideal for the Christmas table; it was a beautiful cherry, wonderful-flavoured cherry. The birds took the buds off this tree first and foremost. When they had mined the buds on the trees that were of that variety – it was called 'William's Favourite' – they moved to any variety that was a cross with William's Favourite. We discovered that they had a whole range of preferences and they would move down that list, moving through orchards, because most of the cherry orchards have anything up to 20 varieties perhaps, or maybe more, in them. They would have this range of preferences and some varieties that they left alone altogether.

We tried to get some chemists involved in looking at what it might be that was in the buds of William's Favourite that wasn't in say ... There was one called 'Makings' that they didn't touch. But we were never able to find any funding for it and it never went anywhere. As I started to say, damage in Bill Bishop's orchard would have started late February, early March, maybe a little bit later some years, continue right through the winter until the trees flower, which is usually the beginning of September. They'd damage flowers, they eat the flowers off the trees and would continue damaging them right through until the fruit's forming on the trees and they're little green things. They don't eat them while they're little green things but soon as they get a blush of colour on the fruit they start damaging them again. Growers could be looking at 9 months, 10 months of damage a year. Any technique that was available – whether it's bird scarers, noise generators, sprays, whatever – nothing is going to deter birds for such a long period of time.

Now, in the grape industry they've got to protect their grapes for about 6 weeks, from the time they first become vulnerable till they harvest. This is 9 months.

Presumably it had been a problem for years previously.

No, this was a new problem. They always had some bird damage on fruit.

But the rosella sort of migrated into the Hills? How did they suddenly become the issue?

The best historical data that we could find seemed to indicate that ... The way we found this out was by … We did a Christo on some trees. You know the French artist who goes round wrapping up beaches and wrapping up buildings and doing this? We thought, 'We'll do a

Christo'. We bought very cheap, lightweight bird net that was supposed to be biodegradable. Some of these cherry trees ... In those days, this was before intensive production became popular here in South Australia, many of the trees were very large. They were maybe 30–40 feet high, huge trees. The way the fruit was picked was that people climbed up in the trees: they picked with buckets and these very, very long ladders up in trees. They're huge trees. They'd always noticed that bird damage started at the top of the tree and worked its way down. Peter and I developed some equipment that allowed us to drape net over trees. It was a very difficult process but I think we were very clever. We ended up wrapping these trees up in this bird net so that we'd keep out the birds all the way through the winter and that allowed the fruit to develop.

What happened was that these trees over-produced. Because there were no buds being taken off they produced the most amazing, massive amount of fruit. But it was all little. The thing about this particular variety was the yields were never particularly high on the trees but the fruit was very big, huge. 'Minkie cherries', they used to call them. We suspected that rosellas had probably been doing some what we called 'debudding' always, ever since this variety had come on the scene.

There were other changes in management practices that had been instituted that had resulted in rosellas becoming far more numerous in the Adelaide Hills than probably anywhere else in Australia. It was not only that these guys had changed to sod culture, but they started to water their trees after the trees had been picked. From about now on they installed gigantic overhead sprinklers. Water wasn't an issue then. They used to water in these orchards all the way through summer, so the orchards were always green and lush and the pasture sward there was dominated by Mediterranean weed species. This is primarily what the birds were eating. They were mostly seeds, corms, even leaves, flowers off these weed species growing in the orchard. That was a main course and entrée. The sweets was always to go up and eat the buds or the little flower primordias out of the buds.

We decided that ... I was fortunate, I went to a meeting, a vertebrate pest conference, in Brisbane. One of the guys there had been doing some work with flying foxes in northern New South Wales–southern Queensland, and told me that people up there were starting to build cages to keep them out of tropical fruits. So I went up and had a look to see what they were doing and how they put these nets up and how big they could make them and all this stuff. I got a bit of knowledge about netting, came back and found that at Lenswood Research Centre a guy had built a tiny net over a patch of cherries there. It had been there for a couple of years and they were getting terrific production out of it because, outside that net on the field station, they could not harvest anything. They lost the lot.

They held a field day there. A new guy coming into the industry [Colin Plane] – he'd worked at the post office for many years – saw this net and decided ... He'd just bought a cherry orchard. He had no previous experience, but he'd had his first season. He knew the birds were eating all his fruit. He'd tried shooting them, as most people up there did ... I mean thousands, maybe tens of thousands, of Adelaide rosellas get shot, or in those days were being shot every year without permits. They could apply for a permit: they'd get 25 and they always got to 24, that was the story. This guy decided to build his own net. I don't know how – I think he'd talked to one of the agronomists up there, a horticultural adviser up there, Paul James. Paul mentioned it to us. We went out and talked to this guy. He was convinced he was going to go ahead and do this. We were convinced that he had no bloody idea of how to do it. He'd come from the post office. He was not a practical guy, but he was very strong willed and he was going to do it. We put it up to the Commission (we might have been the Commission by then, I don't remember exactly when this started, might have been in '87 or whatever, either the Authority or the Commission) …

Yes, we know about that transition period there.

… that this would be a good thing for us to do, to get involved, because if this guy did it and did it badly it would poison it for the rest of the industry. It's a very conservative industry up there, a lot of very old Hills families, things change pretty slowly. But there was a move. As I said, they used to have all these very tall trees, but about this time they started to bring in new technology about how to pull these trees down, grow them small, plant them much, much closer, espalier them in different techniques. This offered the opportunity to make it feasible to put a net over the top. So it was a combination of two things. We got permission to go ahead and we got involved with this guy and over the next four months, almost every day, Peter and I – and Peter went then on to dingoes and Tim Reynolds came and joined us – we worked helping this guy build this net. It was pretty bloody good. It only covered an acre or maybe a bit more, but there were about 1000 trees in there because they were closely [planted]. He'd planted all the trees and stuff.

So this is one net to cover the whole lot?

One net, permanently to close it off. Every day we would find problems that we had to solve because we knew nothing about any of this stuff. We went off and got advice from people who were professional fencers. We talked to BHP Steel about learning about the characteristics of wire. We talked to a whole range of different ... many manufacturers about how this stuff behaves, what to use, how to put it up and all this sort of stuff. We adapted this and we built this structure which then became ... The deal with the grower was that we would help him do this but that this would then be a demonstration site: anybody who wanted to come and have a

look could come and have a look whenever they wanted to. He agreed. He was so thrilled with it that the following year he extended it over another acre of orchard. He planted a whole lot more ready for it to be covered. He never got around to doing that, but he planted it. He did this close planting and tied them all down. He sold the property in the meantime. It's still standing. It's still there and it's still reasonably good. That net's at least 15 years old.

So that's sort of like a permanent net.

It's a permanent structure.

But you mentioned before … Were you draping the tree with a biodegradable netting?

Yes. This netting is UV-treated, long-life. The netting we used on his place came from a company in WA that manufactured a fishing net, but fishing net's usually not UV-treated, but this was special stuff. Now there are 10 different manufacturers, maybe more, producing bird net all over Australia, all over the world. Interestingly enough, last week I took two American scientists who came here for a pest bird conference up into the Hills and showed them not only that net but other nets and the amount of netting that's going on there. They were blown out of their minds. [One] said, 'There is nothing like this in the States'. We are so far ahead. They cannot convince their growers that netting's the way to go; they're still shooting birds, they're using all the noise generators, the growers just want to spray. They were very impressed.

Had there been any attempt to export that idea, that concept?

It's grown. It really started in New Zealand on cherries and it's spread around the world. We picked it up and ran with it. There's less of it in other States, but they have less bird problems. It's just the combination of the Adelaide Hills, many of our orchards are not particularly big and many of them are surrounded by native scrub so the bird problems are exacerbated. If you go to somewhere like Young in New South Wales it's almost a monoculture of orchards: much less scrub, much more modified habitat there, so their bird numbers are very much lower so their need's far less. In Victoria there's a fair bit going on there. But yes, it spread.

Was there any impact, therefore, on the bird numbers, once you'd cut off the chain of supply, so to speak?

I couldn't tell you that. Probably not. Cherries don't ... It's unlikely that they're their major food source. So that was pretty good.

I then moved on. Having become the sort of bird expert, we then applied for some money through the National Feral Animals Control Program and started to get involved in starlings and starling damage in vineyards, and combined with David Paton from the University of Adelaide's [Zoology] Department and various students and had some projects on starlings looking at the damage they do, trying to document why they damage some areas of grapes and not others, and that work extended up into the Adelaide Hills. We did some in the Barossa. We

did some in the Clare Valley area. I started to develop some expertise about starlings and vineyards and I spent quite a few years doing damage assessment, again testing repellents, testing bird-scaring devices and all the rest of it. Once again, came to the same conclusion: netting was probably the way to go. In grapes draped netting is the way to go, where it's not a permanent structure. You only need to cover them the last 6 weeks prior to harvest.

We also started to look at some of the economics of this. Given the glut in wine production in more recent years, the economics of this isn't as sound as it used to be. Unless you have a very high-value grape and you would get very high levels of damage without the netting, the netting isn't an economic proposition.

But it's not the only consideration. Netting allows farmers to sleep at night. So there is a social aspect to this. I don't know how you put a cost on that. But once they've netted their vineyard or their orchard … They're now using draped netting on tree orchards, they've gone away from the permanent structures that we built because the cost of that had just blown out because of the increased cost of wire and poles and all sort of things, and they can put a draped netting over 5–6-m high trees without any trouble at all, got new equipment.

But do they use some cherry pickers or something like that to get up?

They have special equipment that lifts the net up and it's pretty good stuff. That's gone to the commercial industry, that's taken over. It's a great result as far as we're concerned because there's a lot less birds being shot these days and people are getting reasonable … You don't have to be 100% perfect, but you can get reasonable levels of control.

I also had money from the Dried Fruits Research Council. We started that in '89. We had a research officer [Christine Campbell] and a research assistant based at Loxton Research Centre to look at bird damage in the dried fruits industry. We concentrated mostly on apricots because at that time it appeared that apricots were the main dried fruit that was getting damaged. She covered the Riverland and I did some work looking at that in the Barossa because there were apricots in the Barossa then – they've almost all gone now, problems with water. (beeps) We're getting towards the end of the tape.

Yes, we're getting towards the end so I might put another one in while we pause now.

OK.

Disk 2

We had this research officer, an assistant based in Loxton. Primarily what we found was that there was a large suite of birds, of course, causing damage in the dried fruits industry; that by and large only apricots was of significance. We found, if I recall, about 9% damage being caused in the industry by birds. We prepared a report for the dried fruits industry and they

didn't want to hear it. They didn't want to know because for them doing something about it was probably too hard. So we got a bit of a negative response from them.

We also looked at bird damage in sultanas. Much of that was in Mildura. We went across the border to Mildura. What we found there was that, apart from individual growers around the very outside of what they call the Sunraysia District, people on the inside of it, because at that time they only grew sultana grapes. There were a few Waltham Cross, a few others, but by and large the whole industry was one variety: it matured all at the one time. It was a monoculture. There's very little scrub, very little habitat for birds in the bulk of where they grow it. It's only the people on the outside, where birds come from the scrub or from paddocks or whatever on the outside, that were getting much damage. Even then it didn't seem to be all that much.

One of the things that we picked up was that they were getting high levels of damage once they [racked the grapes] ... In those days – they do it differently now – the fruit was picked, dipped into sodium metabisulphide or something and then put on drying racks. Every property would have had dozens of these drying racks for drying the sultanas or the raisins. They were getting significant damage in these racks, particularly from sparrows. We did quite a bit of work catching sparrows, tagging them, then doing … We had a toxin that we could use [alphachloralose]. We developed a technique that's still used now for controlling these birds. We were able to show that there were bloody huge numbers of them at times round these drying racks. We got one of the netting companies to sponsor us and we developed a system for protecting drying racks from these birds. On a grower's property we built a couple of these protection [nets]. It was a bit like a curtain system that we developed. We produced fact sheets. We held a field day. And we never got a single inquiry. (laughs) Some of it's funny.

Little bit of resistance to change?

Yes. Perhaps in those days profitability was too high and they just couldn't be bothered. Couldn't be bothered, too much work, couldn't be bothered.

A couple of things come out of what you were describing there, Ron. Firstly, you talked about the dried fruits industry and the damage being caused: was that a case of the damage being caused all the way through the chain, like while the apricots or sultanas are growing, or are you talking more about when they're drying?

No, mostly on the trees. They used to, of course, dry them out on lawns. There'd be a little bit of damage there but not much, because they used to sulphur them and the birds didn't like that.

So it's more the bird damage on the trees.

It's bird damage on the trees. We developed a technique for measuring damage which involved throwing a hoop on the ground in eight positions under a tree and counting the number of apricot stones that we found on the ground under the tree, because when the birds pecked on

them often the stone falls out. We know that some fruit falls naturally, they call it 'windfall', on to the ground, so you can get that in your hoop. But they take a certain amount of damaged fruit when they pick it, it goes to the shed. When we looked at it we found that they were roughly proportional. Just by counting what was on the ground seemed to be a reasonably good estimate of what damage the birds were doing in the trees. That's what the industry ... They didn't want to believe us, because to do something about it for them at that time was too difficult and too expensive. The industry was under significant attack by the importation of Turkish product. Turkish product is a different variety of apricot. It has much higher sugar content, which means they need much less sulphur to preserve them. And their labour costs are reduced because they don't have to cut them in half like we do with ours. The stone in these Turkish apricots has a very sharp point in it: if you squeeze the apricot the stone pops out. That's all they need to do. Then dry them. Also their health standards were much lower. They came onto the Australian market and our apricot industry has gone cactus. We were right on the brink of this time when the industry was worried more about survival than losing 10% of their fruit.

But they didn't see it as a way to increase profitability if they could.

No. It would have been difficult. Of course we talked to them about, 'Well, we've seen these people doing netting in orchards'. Although apricot orchards are more open and more expansive, apricot trees aren't usually all that tall and it would have been quite easy to net them, particularly now with the new techniques of draping them, but I don't think ... I haven't had any involvement now so I don't know.

The other thing you touched on, Ron, just to clarify, is working in Sunraysia ...

Yes.

… and looking at the broad span of time in your career. How much work went on over the borders?

Not much, not much, no. We went across the border illegally during the 1993 plague to go and help Victorian farmers with mouse problems, (laughs) which got right up the nose of the Victorian Department of Ag. when they found out that. People were in need and we went and helped them.

Took a national approach.

We did, yes, we did. No, the time spent there wasn't significant.

But were there projects of ... Were you collaborating with other State authorities or colleagues?

No.

Nothing?

No, this was just me plus the research worker at Loxton and her offsider. That led into 1993 when we had our big mouse plague. That mouse plague ... I assume Richard's spoken to you at length about the mouse plague.

He touched on it.

He may well have touched on it. It seems it was a plague unprecedented since about 1917 when they had another huge one in Australia. We were thrown in the deep end. Basically, the minister was up for preselection in his seat. He hadn't got preselection and he needed to pull a rabbit out of the hat in order to be noticed. When the mouse plague kicked off and it was pretty obvious that something was happening in the rural areas, nobody knew at what scale or what it was, the minister called ... Kevin [Heinrich] was our executive officer. He was called in and asked for advice. Greg and I were called into the minister's office. He said, 'What can we do?'. We said, 'There isn't anything. There's no registered products. We don't believe that there's anything we can do'. He said, 'There has to be something'. Greg said during the 1987 plague he had done a little trial with a motorbike and a cardboard box on the back of it with a hole in the corner of it and we had prepared some strychnine-treated wheat according to the recipe, and he'd run up and down the rows in a paddock with this dribbling out, which turned out to be about a kilogram to the hectare. It seemed to kill all the mice, most of them. 'Right', said the minister, 'we're going to prepare strychnine-treated wheat. I will declare its use under an emergency order. Within 10 days we'll have five factories established around the State. In three days' time I'm going to announce what price the bait's going to be so you'll have to let us know what the price is going to be'. That was it. I have to say that the whole group, everybody, pulled in to help. We had that recipe, right? A couple of boards, particularly one at Pinnaroo, had been making up bait for landholders. Landholders could buy strychnine by going to a chemist and signing the poisons book. They could buy a little bottle of strychnine. They were taking it to the board. The board officers, they had the recipe, they were mixing it up in their 1080 mixing equipment for the farmers and then giving it back to the farmers. That was the safest way of doing it.

We decided we were going to do that so we started to order tonnes of sugar, tonnes of flour, tonnes of bicarb. of soda and all this stuff, and tried to find strychnine. We had no idea how much we needed, no information about the size of it. Richard Carter, who was at that time the principal pest weeds guy, he was a bit of an economist. We said, 'Richard, you've got to work out what the price of all this is going to work out [to]'. Literally on the back of an envelope Richard sat there and he did some calculations and he said, 'Right, it's going to be $1.50'. (laughter) No, no, it started off at $3, that's right: $3 a kilo. So the minister made an announcement and the following weekend we held a training day at Pinnaroo and flew in officers from all over the State. The guys who were at Pinnaroo had already been making bait. They were going to demonstrate how it was done. We were going to have all this stuff done and they were going to go back to their boards and set up factories and do it.

It turned out a total shamozzle. We had the ABC [Australian Broadcasting Corporation] there. Alison Caldwell as a young, junior reporter came down. We had a couple of TV channels as well there. These guys have got their shed set up and they've got their poison room where they'd mix all their 1080 stuff and they'd got the [safety] equipment on. But one of them had a beard, as I recall, with a full-face mask, which is not particularly a good thing to do. Strychnine powder is extremely light and doesn't pour very well. They were mixing the concoction up in glass wine flagons, and they had a funnel in the top and they would pour in some strychnine, a measured amount of strychnine, and there was this little cloud of pink dust around them working, and then they'd ... It wouldn't flow, wouldn't go down the little hole in the thing, and they had a rod there and they're pushing it in and there's this cloud of strychnine. I could see the television camera there and I thought, 'My God, this is going to be terrible'. We had to move them. Then they put in the sugar and the flour and some hot water, and they got this glass bottle and they're shaking their glass bottle like this. (groans) You know, [if] it slips out of their hand you've got a major issue. Then they walk out of the poisons room out to outside where they've got their cement mixers running. They've got a running cement mixer and they get this glass bottle and they're emptying this solution, this strychnine stuff, over the wheat that's in this thing. They then empty it out into a bucket. Then they had sheets of black plastic down on the ground. They're preparing it in 14-kg lots and they would spread this out on the ground to dry. I thought, 'This is not going to work. We're going to produce tonnes of this stuff'. The ground round this shed, everything was covered with these little 14-kilo bits. (laughs)

Spread very thinly.

'This ain't going to work'. (laughs)

One of the things that I had developed … When we did the work with alphachloralose for controlling sparrows, we'd started off with this same recipe but realised that that wasn't any good and decided that we could stick the alphachloralose onto a grain with ordinary vegetable oil. It worked really well. I decided that this was what we were going to have to do here. We spent the night trying to develop a technique and how much grain and how much oil. We were not sure about whether you did need this bicarb. ... Turns out that's a load of crap: it had nothing to do with it. I don't know where that came from, the sugar and bicarb. and flour and stuff. Anyway, we had to change the recipe. In the meantime, the boards, the guys in each of the five areas went away and started to scrounge equipment. Cut a very long story short it was an amazing effort by all those guys out there, the board officers, and everybody. Everybody helped. We had 99.9% good media. We only had one or two phone calls from the public objecting to the use of strychnine and a few of the conservation groups were not particularly supportive but could understand why it was being done. Richard and I worked unbelievable hours during that time. There's a thousand stories that you could tell. It was an amazing time.

At the end of it the estimate was that we saved the State about 40 million bucks, but the plague probably cost the State 20 million in lost production, but that we saved them about 40 million.

At the end of it we were worried about what might happen in the following year, in 1994, and we decided that, if we were going to continue with strychnine, we were going to have to really improve things because one of the boards had got hold of a giant cement mixer, they were making their bait ... I think two of the boards were using cement mixers. One of them was using a thing called a 'grain rocket' for mixing grain with fungicide. One of the boards just used dozens and dozens and dozens of little cement mixers, not the great big truck things. They all were using different recipes. There was all these issues about occupational health and safety. We had an occupational health and safety audit going on; we just ignored them, we didn't have time. We were as careful as we could and nobody got crook. All the blokes working mixing the bait found that they had a bit of problem when they shaved – they would bleed, (laughter) they could taste the strychnine. The thing about strychnine is it's a very safe chemical to use because you can detect it in the most minute quantities. A lot of poisons you can't do that. But we decided we had to do something about that. So in 1994 I worked with Robin Hood down at Tailem Bend and we put in a huge effort to develop a system. We bought some specialised equipment, we had great big stainless steel oil/strychnine mixing machines manufactured; we developed systems for getting strychnine into this in an enclosed environment; we did lots of working out recipes of how much of each you need and how to mix it with the grain and all this sort of stuff. We did a lot of work on that. '94 we didn't get a plague. We'd done all this work and it didn't matter because what happened was that mice broke out again in the Riverina of New South Wales. They borrowed our what we called 'Daleks'. They looked like Daleks out of *Dr Who*. And Western Australia for the first time ever had problems and they started to use strychnine too.

In the meantime, there was a lot of work ... GRDC [Grains Research and Development Corporation] provided us ... One of the agreements that the minister made was that the environmental fate of strychnine would be determined. There was almost no data on it. GRDC gave us almost a blank cheque to do this work. We contracted CSIRO Land and Water here to do a whole lot of soil retention and plant uptake environmental studies. Unfortunately one of the things that happened was that the guys that we contracted were not particularly pragmatic sort of people and thought, 'If you add a little bit of strychnine you'll never get any uptake so you add a lot'. They did some glasshouse pot trials with a range of crops and they used large quantities of strychnine to see whether they could get them to take it up and they got some. They wrote up a paper and wanted to publish it. We had to do some string pulling in order to have that withheld, because of the impact on the Australian grain industry. If it got out it could

have had a really significant impact. We had a big meeting here with GRDC, the Barley Board, the Wheat Board, all the big heavies came down here, and we had the CSIRO people in, explained to them that what they'd done was not realistic and was extremely dangerous and they agreed to withhold the stuff and redo the trials at realistic levels. Of course they didn't pick up anything there except in one pea plant where the wheat grain had lodged in the plant itself. When they analysed it they picked up a little bit of strychnine. However, it looked like everything was OK. We got a couple of papers published out of that.

But the head of the Barley Board at that time started to get very nervous. Our overseas competitors were starting to say to our markets, 'We can offer you cereal grains that have never had strychnine used in them, even if the Australians claim there's nothing in it'. They were testing; all the export stuff was being tested by the various boards for residues. But they were saying, 'We can offer you stuff ...'. Australian export boards were saying, 'Look, here's our results. We can show you the grain's perfectly all right'. The head of the Barley Board lost it one day and came out and made a media statement, 'Australia's not going to use strychnine anymore', without consulting anybody. I think that was '95. Shit hit the fan because there was mice everywhere again. It had started up in the Darling Downs. The guy who was head of the Darling Downs Grain Growers Association had decided, 'If strychnine's not around we've got to find something else'. In local papers, on radio, he started trawling the net and he started giving out recipes of alternative chemicals that could be used to kill mice, including an organochloride insecticide, eucalyptus oil, I've forgotten what else. GRDC were very unhappy about this but it was out there, so they held a research day and this bloke was invited to come along and all the options were explored. Finally he said, 'I've read some stuff in the literature about this zinc phosphide. Why aren't we using that?'. Nobody really knew the answer. But Greg and I had planned to set up an experiment anyway to test some of these other things that this guy was promoting in the media. I recalled that many years ago a colleague in WA had said they'd tried zinc phosphide on native rodents that were plaguing in the far north of the State but it didn't work on rats, a native rat, didn't work, but if I ever wanted some of this stuff he had some in the cupboard. So we got hold of this stuff and we ran the trial and we found that, in fact, it was as effective as the strychnine. To cut a long story short again, that was the start of the zinc phosphide being used for mouse control. We handed that across to the commercial manufacturers. It went to Animal Control Technologies and they took it over and they bought our Daleks from us. They didn't buy them; actually, we swapped them for [rabbit] cages, but essentially they bought them from us. We handed that over and they've taken that over and run with it. That's what's used today. So it was pretty successful.

So that's the … '93 is the plague then '94s the follow-up work?

By '96 we'd done trials and stuff …

In ’96.

… and then handing this over to the commercial manufacturer. It’s done on big scale and it’s all done now through the commercial industries. Government has very little involvement.

We haven’t had a major plague since. There’s a whole lot of reasons for that. If we were to have a major plague again, I suspect that politics would say that government’s going to have to do something to help, maybe. Maybe, who knows? We could get dragged in again. But it’s unlikely; the commercial operator can operate at a fairly big scale now. So that was into ’96.

For me, I had avoided ever getting involved in rabbits because we had all these other people in the organisation working on rabbits and I decided, ‘No, I’ll keep out of that’. When calicivirus got off Wardang Island on 12th October 1995 Mark Williams went down there to set up a control centre. He’d been down there for a week and he was obviously working terribly hard under huge pressure. I volunteered to go down to Port Victoria and took a whole lot of work with me and I’d sit on the phone, that’s what I said. I said goodbye to my family on a Friday and said, ‘I’ll be home on Sunday night’; well, I didn’t get back for a month!

Yet again said goodbye to them.

(laughs) I got down there and there was a caravan and a couple of phones. Mark said, ‘If you just answer the phones that’ll be fine’. The first phone call is from the minister’s office saying, ‘There’s a Channel 10 helicopter arriving in 10 minutes’ time on the oval at Port Victoria. We want you to keep them away from the infected zone but give them a story’. I said, ‘I’m sorry, I don’t know anything about rabbits. I’m just here answering the phone’. ‘No, that’s unacceptable. Just keep them away and give them a story’. There wasn’t anybody else there. All the rest of the people were out killing rabbits, and on the peninsula. The control centre was in the middle of a little town [Port Victoria] ... So out I trudged to the oval and out come the television cameras, the reporter and all the rest of it. I knew that when rabbits bit off a plant you get this nice 45° angle incision on the plant and that rabbits do lots of damage to the environment and dig up the soil and stop regeneration and things I’d heard the guys talking about, but I knew absolutely nothing. I gave them this incredible bullshit story and this is going fine. They asked me about, ‘What are the plans?’, how this is going to be contained. I had had a tiny involvement with two of the board officers from the Yorke Peninsula some months before; they were supposed to prepare a contingency plan in case it did get off the island and I’d had a bit of a discussion with them and talked to them so I knew just that little bit. So I said, ‘We’ve got different zones of effort. Zone 1 is within 4 km of where the first rabbit was found dead and that’s where all the intensive work’s being done and they’re out there killing rabbits’, and whatever. ‘The second zone is where they’ve got intensive surveillance but there’s very little control work going on there because there’s no dead rabbits we’ve found there’, and so on. The

guy said to me, 'What about the rest of the State?'. I thought, 'Oh, that's Zone 3. There we're asking the public – and that's why you're here – to look out for dead rabbits for us'. I made up this story. This became … This was the most wonderful thing, politically. I got the job of being the mouthpiece for the program, and that's why I was kept there.

Then my job was also to go down each day to the Aboriginal community. There was enormous tension because all the work was on Point Pearce land, which is the local Aboriginal community. They had 50 government people and vehicles running all over their land, nobody telling them what was going on; a wombat had been found dead, which was their totem; they were worried about their dogs dying from the use of 1080. My job was to go down and talk to the council each day. I thought every day I'd go down there if I'm going to get a spear through my thigh because it was a really difficult situation. It turned out all right in the end.

When they discovered that the virus had escaped out of there and been found at Yunta, I was then told to come back to Adelaide and to be part of a media information service providing stuff – this was a world thing, had people from all over the world ringing up every day wanting stories and stuff. Then there was the big fight between the Department and CSIRO and the funding body that was funding the work, everybody running for cover: who was going to be at fault? I was immediately pulled out, because until this time everybody was working together; at this point in time I was pulled back to work here, 'You're not to have anything to do with CSIRO people or the funding body people. You'll be told what to say'. (laughs) So it went on.

This is your first hands-on experience with the rabbits?

This was really my first hands-on experience with the rabbits.

And also your first hands-on experience as a media ...

Yes. Oh, no, no, I'd done a fair bit of media stuff during the mouse plague, I also did that during the mouse plague, so I had some experience. But we had things like a contingent of New Zealand regional council heads. New Zealand wanted to import RHD (rabbit haemorrhagic disease) into New Zealand, but the government was opposing it. So a group of the regional councils over there got together, put in a lot of money, employed a scientist, put up a case, and all of them – there was probably 30 of them – flew over here and flew me with them up to the Flinders Ranges to see what was happening with the virus, to talk about what they could do. They then flew me over there to address their High Country Farmers' Federation Annual General Meeting and stuff, so they were really serious. We had a lot of interaction with them during this time. But things started to quieten down, although there was a lot of political stuff going on, and during 1996 we as a government – and then the same with all State governments – couldn't do anything about moving the virus around or having anything involved, to be involved with the virus, until the *Biological Control Act* was invoked. The *Biological Control*

Act there is a federal Act which is mirrored in all States and identifies a target organism, which is the rabbit, and a target agent, which was the RHD virus, and the minister is required to produce documents saying what are the likely effects of this, open it for public comment and consider public comment – he doesn't have to act on it, but consider public comment – before the Act can be invoked, and that took a year. Once the Commonwealth Act was invoked all the States had agreed that they would invoke theirs. So we couldn't do any releases and anyway, by this time, we had been tracking the movement of the virus in South Australia very closely. I was involved in a lot of that work, maintaining records and doing tracking work and whatever. We found that the virus moved during '95 until the first week of December, kept spreading, through the northeast, just crossed over the border into New South Wales and Queensland, maybe 50 km into Queensland, and stopped; moved across to just west of Port Augusta or maybe Streaky Bay and around Tailem Bend, then stopped. In May 2006 it suddenly broke out in the middle of Victoria, no known movement here, and started to spread through Victoria moving into New South Wales moving south, jumped Bass Strait into Tasmania – assisted or not, we don't think, probably not – and then continued to move west in South Australia and north. But about this time, when all this movement was going on, the *Biological Control Act* was invoked and every State went ahead with official releases of the virus, because this was seen as a political thing that governments would be helping farmers. We said to our minister, 'There's no point in doing this because it's already spread throughout South Australia'. He said, 'No, we've got to be seen to be doing it'. So we organised for him to do a release at Turretfield Research Station because this was [Rob] Kerin, he used to go home to his electorate each weekend and he would go up almost past the research station on his way home each weekend and it was convenient. Anyway, it got delayed for some reason and it didn't happen till 22nd October, it was supposed to be a week before that.

During this time Peter Allen had been seconded to AQIS [Australian Quarantine and Inspection Service] to do a review of AQIS. I sat in his job and was executive officer for the Commission. This 22nd October was the Tuesday before my last day when Peter was coming back the following Monday. So we went up to Turretfield – I'd never been to Turretfield before in my life. Went up there – the staff had caught us some rabbits which they'd held in the shower alcove of the shearers quarters for the week because the thing got delayed. We'd learnt from a vet. here who'd shown us how we should inject these rabbits with the virus. We went up there, we injected these rabbits, we had a great media contingent there – radio and television and newspapers and all the rest. The minister wasn't there, turned out he couldn't come. We had the chairperson of the local board whose name was Penny Hopper. The press loved Penny Hopper letting these rabbits go. It was terrible because she liked rabbits and she said, 'Come on, darling, off you go, off you go'. It wasn't quite what she was supposed to be saying. Anyway,

so this was done on Tuesday and Friday was my last day. Friday afternoon I said, 'Bugger this. Going to go up there and just see what might be there to see'. I went up there and lo and behold I find … We'd sprayed a few of the rabbits that we'd injected with a stock mark saying to the press that we're going to monitor this; we had no intentions of it. I went up there and had a look around and I found some of these sprayed dead rabbits but I also found a couple of others that hadn't been sprayed. I thought, 'Gee, this virus, this is pretty bloody fast, it's amazing. Next Tuesday I'm going to come back and have another look'. So next Tuesday I went back and I started to wander round the area and I found a whole lot more warrens. We'd just gone to this one warren where the staff said they'd caught the rabbits, whatever. I started to find dead rabbits around there. That was October 1996, and I'm still going back on a very regular basis. We now have, on that site, probably the longest-running rabbit study ever been done, certainly the longest-running one looking at calicivirus and myxomatosis, rabbit haemorrhagic disease, they're both the same. That's where most of my work these days still centres. It's become the most challenging work of my whole working career.

So it's been like 10 or 12 years now on rabbits.

It's been 12 years and I don't think we're any closer to the answers to be able to explain what's going on there. We're collecting an enormous amount of data which we're currently just starting to get some statistical help to try and analyse it. But there's no other site in Australia that's had that sort of intensive study. With various people helping, including a lot of my family – and I've spent a lot of my own private time going up there in my own car because we didn't have funding – more or less on a six-weekly basis we go up there, we trap all the rabbits that we can trap; any that haven't already got an ear tag we put in an ear tag, we take a blood sample, we weigh them, we sex them, we determine whether they're pregnant or not in females and we record fleas and all sorts of stuff on them. We've had 66 trapping sessions over that time. We've caught two and a half thousand individual rabbits, we've got about 5000 blood samples out of them that have been analysed. But we still do not understand what's going on, what the real what's called epidemiology, the behaviour of the virus there, and it makes it very difficult for us to be able to recommend to farmers how to use this virus if we can't really understand how it works, why it does the things that it does do. Although we know it turns up, we find evidence of it every year only in spring – usually the second to the third–fourth week of September, occasionally just into October – and not there the rest of the year, it comes and it disappears over a 10-day period or so, some years a bit longer. We now know that you can apply the virus onto oats or carrots and run it out as a bait material and start a small, localised outbreak; but we know from this work on this site in particular that if you do that in spring when there are plenty of young rabbits around you have almost no impact on the population of a short time later. Kills lots of rabbits, but those that are left behind replace those that die very

quickly. We're now currently working on whether we can do this in autumn. We don't know what the true vectors of the virus are. We suspect it's flies; of course, in autumn there are less flies around and we're starting to get some information back about if you have these artificial outbreaks that we create in autumn how effective they're likely to be. Now we're getting into the area where rabbits are starting to show some sign of not being infected by the virus and rabbit numbers are starting to come back in various areas. On our site, that doesn't seem to have been true. The numbers are up and down a bit but there's no real evidence – this last trapping we did we caught a lot of rabbits and so our little graph starts to show an incline, but that might get knocked down during the summer.

It's almost like it's an insoluble problem. You think of rabbits, yes, myxomatosis, that'll get rid of them; calicivirus, that'll get rid of them.

Well, a combination. Myxomatosis is still doing an awful lot of good and we sometimes get very virulent, very strong strains occurring out there that kill a lot of rabbits. Sometimes, like this year, we get a very weak strain going through and they get vaccinated, basically, by it. There's no evidence that rabbit haemorrhagic disease virus is doing that, although maybe we are getting more rabbits surviving infection, too. In New Zealand they believe that's true. But we also have been able to pick up that a lot of rabbits are not being infected, so their resistance is developing in a different way. Now we need to determine whether we can use the virus differently, whether we could bring in additional strains to increase its genetic variability, or whether – what most of us believe – is that we really need another biological control agent. We need another, a different attack.

Does the virus itself have any effect on other animals?

No.

So it's very specific?

There's been extensive testing of Australian native species. There's no evidence that any other species gets infected by the virus. Some of them, the virus … For example, we know that if a fox eats a rabbit that dies from it you can get a bit of an antibody reaction in the fox. No, you don't get an antibody reaction; you can pick up antibodies in the faeces. I don't think you get an antibody reaction because that would indicate infection, no; you can pick it up in the faeces.

There's been a negative impact on some natives species, some people believe, particularly things like wedge-tailed eagles that would have relied ... because in much of the arid zone rabbits drop to 5% of what they were, 5–10%, and species like wedgetails and some of the other large, predatory birds that relied on rabbit for raising their young, that's the main thing, their numbers have gone down. Now, a lot of them might have moved. Things like kangaroos are much more common now, having taken out the rabbit as the major grazer, and there's more

road kills around, there's more people shooting kangaroos so there's different form of meat around; but it's probably true that wedgie numbers have probably gone back more to what they might have been before the introduction of rabbits and sheep and cattle. But still they're not endangered or threatened. So that's been, for the last 12 years, a very big part of my life.

But I've continued some work on pest birds. In more recent years I've been involved in providing some technical advice to the Western Australian government because they now have some small populations of starlings that have established across the border, around Esperance. I've been over there numerous times working with a colleague and providing advice to the WA government. I'm currently involved in another project funded partly by the pig industry, the National Feral Animals Control Program and the Invasive Animal CRC [Cooperative Research Centre] to look at the potential of a toxin they use in the United States called Starlicide for killing starlings, particularly around things like cattle feedlots, piggeries, places like that. Not so much with the intention of wiping out the starlings, because you'll never do that, but one of their biggest concerns is the spread of disease. There are more and more of these intensive livestock production facilities as people find extensive farming too costly, and they are very concerned that starlings are involved in the transmission of disease between facilities. There's been some evidence that salmonella, for example, has been transmitted from piggery to piggery in the Mid North. So I'm doing some work with that now, so that's the other thing.

But the last aspect is because of the first job here working with 1080 I accumulated a fair bit of knowledge and experience with 1080 over the years and so I've been very much involved in trying to get our 1080 products reregistered following the Agricultural and Veterinary Medicines Authority's review of 1080, which required us to resubmit all our registrations, and that's been a nightmare. That's been going on for coming up to five years, six years. It's been a bureaucratic nightmare. We're getting towards the end of it but it's taken up a lot of time and energy because of the bureaucracy.

I'd like to ask you more about the bureaucracy, but I'm also conscious we've only got a few minutes left.

All right.

We might get another opportunity, if I can twist your arm.

Yes.

But what's interesting, coming through from your description today, is you've been able to live the life very much of a research scientist all the way through from when you joined the Authority through to the present structure, that you've been able to break your career up into specific projects over specific time periods ...

Yes.

… and in a sense carried on independently of the mob that employ you.

Oh, yes. Almost. I made a conscious decision, having spent six months in the boss's chair, that that wasn't the life that I wanted at all, I just hated it. It was not what I want to do. I've just wanted to stay as a field researcher, that's where I want to be and want to remain. If you want to advance or get higher pay here you have to go into admin. and that sort of stuff. I don't want to do that. Never have.

So your career has been very much a research focus.

Yes. That's where I will stay. I would resign if I had to go and sit in a chair and administrate. (laughs)

The way you've described it you've obviously had a very fascinating career …

I've been lucky.

… in the projects and ...

I've been very lucky, yes.

I'd say we probably haven't touched on the Authority or Commission or the new structure, the Group now.

Yes.

We might be able to do that another time, depending on your time commitments as a research scientist.

OK, yes. (laughter)

And we've probably got a few things that will spin out of what we've been talking about today …

Yes.

… we'll perhaps cover in a bit more depth if you're happy to.

Yes, I'm happy to do that.

All right. So, given we've only got a couple of minutes left, perhaps we'll put a pause on for now and try and tie you down for another session.

OK. Yes, well, hopefully early in January.

Thanks very much, Ron, for the contribution to the project so far, and I hope we can continue and get a little bit more of the Sinclair insights into animal and plant control.

OK, very good.

Disk 3

An interview conducted by Bernard O'Neil with Dr Ron Sinclair at the Waite Campus on 8th January 2009 continuing the interview of late 2008 in regards to the history of the Animal and Plant Control Commission.

Ron, last time we talked a fair bit about your work projects and the things you've been involved with. You gave us lots of information about that. I thought today we'd perhaps just spend a little bit of time talking about the actual …

Organisation.

… work situation, your workplace, the work environment, people you work with and so on, just to get a little bit of a feel for the Commission and its predecessor and its successor. Perhaps just starting with a little bit about the work itself, change over time: you began in the 1970s, we're now in the 2000s.

In some ways I've been a very fortunate person in that there are probably not a lot of people who spend 30 years of their life more or less doing exactly what they like to do and working on projects almost, *almost*, of their own choice. That hasn't been true all the time, of course. When I started, which was with the Vertebrate Pest Control Authority, which at that time had John Bromell as its head, one would have to say it was a golden time for us. The Authority was a statutory authority with its funding supplied directly from government, although we at that time came under the Department of Agriculture, but we were pretty free with our budget. We had a good budget. We were well supported. John Bromell – he was called 'Principal Officer' those days, or whatever he was – was a visionary man. He was a leader in Australia, without a doubt, in the strategic control of pest animals. He'd formed this unit which was supported by both the research group and the technical group, and we were looked upon quite jealously around Australia because we were such a good group. We had a large research group in those days.

The Authority was unusual, compared to other parts of Australia?

No, there were similar bodies around Australia, formed under different legislation. Not all of them were statutory bodies, but there were similar sorts of organisations. But they didn't have the hierarchical nature that we did, with the Authority itself being landholder members who had direct access to the minister in those days, and underneath that was the Adelaide-based organisation, but then with regional offices and with boards throughout the State. It was all very tightly combined and there was a lot of interaction between the Adelaide organisation, the Authority, the government authority and the board people and board systems.

In those days many of the board officers were not well-educated people; most of them were weed control or rabbit control experts on a local basis, and most of them didn't have tertiary education qualifications. But they were experienced people. And we're still in the early days then. That continued, and when the Vertebrate Pest Control Authority combined with the Pest Plants Commission there was a great deal of uncertainty in the organisation. Many of the older board officers didn't want to do both jobs, they couldn't see that there was an advantage in it; but John Bromell at the time could see that it was inevitable. There was duplication of services, it was a way of reducing costs, and by this stage things had started to tighten up.

For us in the research area we did start to feel a little less comfortable because there was an agreement or an understanding initially that the Weeds Research Group within the Department of Agriculture would continue to do the weed research work for the joint Animal and Plant Control Commission. In fact, that didn't happen. The Department more or less gradually whittled that Weeds Research Group away. There was continual pressure on those people

involved in the animal research within the Commission to be redirected onto weed projects. That was always a bit of a concern because that's not what most of us, and certainly what I didn't want to do. I'd always been an animal researcher and that was where I wanted to stay.

Would have been another learning curve for you.

It would have been. There are crossovers, there's no doubt: pest animals impact on weeds and weeds impact on pest animals, so they're not totally separate. There have been some opportunities for us to do that crossover, but not hugely. I've worked on starlings and there's the issue of starlings spreading olive seeds, for example. Foxes: foxes feed on lots of weed species and probably help spread them too. So there are these sorts of crossovers. That was always a bit of a concern.

Just on the point there about the Weeds Research Group: was it an option for them to be brought into the Commission?

It was never going to be brought into the Commission, but it was kind of understood that they would continue to do the weed research work that was necessary; but that didn't happen, that group was disbanded.

While they're being whittled down, then, was it an option then for the Commission to say, 'We'll take them on'?

No, because there wasn't an increase in funds for the Commission and so there was always this threat that they might reassign somebody within the research group or if somebody left they would reappoint somebody into the weed research area. But that didn't happen until Peter Allen came and there was much more pressure. The Commission members changed a lot. John Virtue was appointed as really the first weed researcher. We had weed technical people up till that time but no actual weed research within the group. John's input has been tremendous, there's no doubt about that (but he denies that) and it hasn't been a bad thing.

As far as the group went and that change from two separate statutory authorities into the combined Commission, ultimately it was a good thing. But quite a few people, particularly in the weeds side, left; some of the older people there didn't like having to work within a joint Commission, didn't like what was going on, they'd been very free beforehand, done a lot of their own things, and that caused a number of people to retire early or whatever. But as a group in general it was a good move. The Commission operated very well for many years. We had some really, absolutely top commissioners. But my own opinion is that the quality of our commissioners declined and the direction which the Commission took was probably to some degree forced on it by the Department of Primary Industries and under Roger Wickes's leadership. He just had a different vision than what we'd had before: in the back of his mind he could always see the formation of the NRM [natural resource management] agency and that we would form part of that. From a personal point of view, there are some good parts and bad parts

to that. Unfortunately, it was an attempt to push together a whole series of disparate groups that had only slightly tangible connectivity and push them into a unit and make them work together, and it hasn't really worked. There's the group called 'Sustainable Resources' in PIRSA [Department of Primary Industries and Resources SA]. There was very little interaction between the groups. Since we've come into [the Department of] Water, Land and Biodiversity [(DWLBC)] it's my feeling that that's continued; we still stay within our own silos. Even within our current office system there are people across the room or within our working area who I wouldn't have a clue who they are, I don't know what they do. We meet occasionally for a cup of coffee over the light table, but we're just working on different things in totally different areas. Although the attempt at getting a seminar series up has been quite good and we're getting some better idea of what some other people do, you tend to find the people who work within a group go to the seminars put on by their own group and not to other people's. It's very difficult because of this lack of degree of connectivity between these various groups.

Do you think that will change over time?

No, I don't think so. I don't think there's anything that will ... I can't see any reason why it should. Personally, the move to NRM has not been a good one, particularly for our organisation, because I believe it's still dominated by water and the priority … It's supposed to be driven bottom-up, and any surveys of landholders usually says that pest animals and pest weeds are a major, top priority for them, and yet water still dominates the agency. It's broken the connection between the Animal and Plant Control Group in Adelaide and the regional groups. Until the formation of the NRM organisation we had frequent contact with our board officers. They had no qualms about ringing us up and asking us questions; if there was a priority, the way that it'd sort of work was that when people needed to have a research answer or a technical answer they would channel it up, back through their regional officers, and it would come here and we would look at them and try and get them an answer and get it back to them, and that doesn't happen anymore at all.

Is that a two-way process, then, that breakdown?

Yes, it's a two-way process. We're going to try and do something about it by having some regional meetings with our people. But their priorities have been changed, it's been forced on them, and a lot of people are doing an awful lot more desk work and less work out in the field. We think in the long run this is going to come back and bite them because pest weeds and pest animals by and large are getting out of control. We saw this happen in Victoria when Victoria went to the NRM-type system, catchment management system. They did away with their regional structure and they lost their regional officers and all the skills. Now what we're finding, particularly in Victoria, is a lot of graduates going through, which is a good thing, but they have no field experience, no knowledge, and they're starting to reinvent the wheel and

stuff that was well known by the board officers and landholders 15, 20, 30 years ago is something totally new to these people. The biggest lack within all these organisations is any form of successional planning. When somebody leaves, their knowledge and experience goes with them, and that's a big issue.

That's something you associate generally with a bigger structure, a bigger bureaucracy now than the smaller one that you had with the APCC.

Yes, very much so. I can see that on a landscape scale the NRM has some really big advantages, that it offers lots of opportunities; but somehow I don't think the existing structure is built to cater for that. What we've done in this State is created eight more bureaucracies and, although they're all young and it's going to take time, we still have those eight bureaucracies where we didn't have it before and that's a real issue. There are huge resources gone into building those bureaucracies, huge resources into badging and all that sort of stuff, but where are the results? I'm not convinced. I know that in our field, in animal and plant control, the results are not there and we know that things are not good in that area.

Have there been any gains, any benefits, for animal/plant work?

Certainly in some areas, particularly perhaps in the Far North – and it's probably personality-driven there – there have been some good things done. I suspect that in time it will settle down, but I'm still not sure that it's quite the right model. Yes, there have certainly been some wins. The opportunity of getting money out of Caring For Country, for example. Prior to NRM, we had great difficulty in getting money for research out of NHT [Natural Heritage Trust] for things like rabbit control. They just didn't want to know about it, whereas that seems to have turned around and maybe that's partly because it's seen as part of this juggernaut called NRM.

What about for you personally, then, and changes to your work practices as a result of NRM? Do you get out in the field as much as before?

No, that's partly due to the sort of projects we're doing at the present time, partly due to the fact that I'm getting older and not quite as fit and ready to go out into the heat throughout the summer as I used to be. (laughs)

I was wondering about that.

I'd have to say, though, by and large, we have been very much protected from the admin juggernaut. You weren't at Monday's staff meeting, but things might change a little with some of these new project management computer systems coming in. That was something that John Bromell initiated very much. He protected, he looked, one of the things that he wanted to do was to make sure that research people did research. We've always been in the situation where we've had to be very careful because the Department very early on moved all research out into SARDI [South Australian Research and Development Institute] and we weren't allowed to be called a research group for very many years. Even the last CEO wasn't too keen about the

Department being involved in research. But most of us, if not all of us, have had joint roles: we've been involved in research that's been used either to formulate policy or also to act; because of the relationship that we had with our boards, we were also providing technical advice as well. If we'd gone across to SARDI we knew that SARDI would, first of all, take off management costs off the top of the money that we had, naturally enough, and therefore our resources would have been reduced significantly and we would have been absorbed and could have been redirected away from animal and plant control easily.

Was that option of moving to SARDI (the South Australian Development and Research Institute), was that a serious option? Or just a fear?

It was seriously fought. They were always – and still are, often – trying to get hold of our group. We fought them off all the time by saying we're not only involved in research and that there's a need from the way the Commission or the Group functions for us to be (a) located together and (b) to come under the direction of the Group rather than direction of SARDI. Yes, they tried to get us on many occasions. On several occasions the landholder Commission had to go to the minister and say, 'We're not letting that group go'.

Do the landholder commissioners still have that status?

They don't exist anymore. We don't have a Commission anymore, since ...

But not on the NRM structure?

Not anything on the NRM structure. There's an NRM Advisory Council that advises direct to the minister, but we don't have any contact with the Council. We used to have the ability that if we didn't like something that was going on we could ring up a commissioner – wasn't what you *did*, but we did it. There were certain commissioners that we had whose heart and soul, we believed, were in the right place. Often, if we wanted something done or wanted something not done, we would lobby our commissioners and things would happen, there was no doubt. They were that powerful.

Did that apply in both the Vertebrate Pest time and the APC's time?

Yes, it did. Yes, yes. A lot of them were the same people – or some of them were. But, as I said before, that dwindled away over time and the last commissioners ... There were some good people on there, but there were some that I had so little contact with anymore, we lost that contact too. Previously, every Commission meeting somebody would have to go and give a short presentation on what they were currently doing; that disappeared, so they didn't have any contact with us anymore.

Was that a matter of practice, going along every meeting, or a requirement from the ...?

Whilst we were in the Vertebrate Pest Control Authority it was our practice, every meeting. It dwindled away when Roger Wickes took over: it was probably something he thought that he

didn't have time for. But it was just one of those things that cut us away from the Commission, distanced us away from them.

That's an interesting observation about Roger, because he comes from that research scientist background.

Yes, but he was always a very ambitious person and he had ... From very early on he had this vision of NRM and that's where he was working towards. Yes. Just a different view, different view.

Of course, he was involved with PIRSA, as you mentioned, Sustainable Resources and so on, for quite a while.

Oh, yes. It was just too hard a group to pull together.

But then you end up with the Rural Solutions people at PIRSA being involved.

That was a catastrophe. The fact that we lost all our people to Rural Solutions and then had to buy them back at Rural Solutions costs is insane. It was one of the nails in the coffin of our old system because we lost a lot of the ... We had regional officers based out in the regions, living and working in those communities. Whilst not all of them were effective it still provided a very good conduit between the board officers and the landholders back to the Commission itself. It was a good system. With them moving to Rural Solutions and in many cases getting taken off animal and plant control issues because they had to make money for Rural Solutions, it was a nail in the coffin. So what happened within our organisation is that every time we got a reduction in our budget the first thing that would go would be some of the Rural Solutions time. That's where we could see that we could cut back. But in terms of communication that had a big impact and just slowly the boards drifted further and further away.

There's an incongruity in some of that in that the work you were doing at Commission level and on Authority level is for the public good, the public benefit, as opposed to this notion of the Rural Solutions having to return a profit.

Yes, that's right. That's right, yes. Yes. (laughs) Government decision. (laughter)

To take a different direction, perhaps: did you get involved in government matters, political matters, legislation, meeting with ministers, you know, that sort of ... does that come into your ...?

Yes. Only really during crises. As I said before, the research group was fortunate in that it was kept away from too much admin.-type stuff. But during initially the mouse plague in 1993 I had a lot of contact with the minister, almost on a daily basis at that time, that was Terry Groom, who was capable of large-scale explosions. (laughs) He was a volatile man. But on the other hand I thought he was a bloody good minister and treated us pretty well. I had a lot of contact with his both political and public service advisers, which was a pretty interesting experience. Political advisers are amazing people to work with when you start to learn some of the political ramifications of press statements and what you can and can't say, what you can and can't show people. We ended up with an Ombudsman's inquiry into the charging of ... how much we

charged for the mouse bait in 1993. We had to do some creative accounting in order to present figures to the Ombudsman that would satisfy him and the landholders who had initiated the inquiry. It wasn't as if the government was profiteering at all, but it wasn't an easy thing to ... It was all done so fast and on such a scale that it was pretty hard to dig up exactly the right figures, so we had to do a bit of creative stuff there.

But in that case the landholders or some of the landholders are complaining about the cost of the exercise, are they?

They were indeed. Yet, in fact, it was really for them very cheap because there was a huge amount of government support that was never charged to them, but they thought it was a government function.

Would that be a rarity, that landholder-type reaction?

No. No, it's a general expectation. Landholders are very good at 'Aorta' – 'They oughta do this, they oughta do that, and the government should pay'. It's only when the government starts cracking down ... which is the way that the whole philosophy of agriculture, PIRSA, what ... DWLBC has gone from an advisory, farmer-friendly-type organisation to a user-pays purchaser. I hated that period that we went through this purchaser/provider thing, that was awful. When somebody rings up and you essentially were supposed to say, 'I can't talk to you unless I charge you for this advice', *etc*., *etc*. We, most of us just never adopted it, never took it on at all. It was something totally alien to us. As government employees we believe that our knowledge is public knowledge and we should be giving it to anybody who asks for it. It's paid for by the community at large and that's always been my philosophy.

These are changing times, as you've alluded to.

Yes.

The landholders themselves, given that you're out in the field a fair bit, your relations with landholders, generally ...

It's changed over time, too. In fact it's quite true that landholders, they'll always try it on, but they have come to understand that not all services are free or should be free. Much more they do rely on consultants now that they have to pay for advice. In my 30 years I have seen a change of generation in landholders and we now have (a) a lot more women involved in rural enterprises out of necessity; (b) the computer era has moved into rural enterprising and so people are much more sophisticated in the way they manage their land and they manage their enterprises; they're better educated, they have access to the Web, their machinery, everything is so much more sophisticated. But still, if you go to a property to talk to somebody who's got a problem and you can help them, you still get an appreciation back. There's still a fair bit of that going on, particularly in horticultural industries where I work, where you've got a lot of small players. In perhaps cereal production, people go on big and it's much more impersonal, but

particularly in the horticultural and viticultural areas where there are lots of small players, there's still a lot of one-to-one from our point of view and people are probably still in some ways less well educated and less sophisticated.

Personally were you able to develop friendships or relationships with people?

Yes, lots. I have to say I've got lots of very good landholder friends and people that I respect and probably respect me. That's been an ongoing thing. I've got ... I've had quite a lot of media exposure because of mouse plague, because of RHD exercises and cane toads and all the rest of it. Mostly I'm quite well respected around the State.

The lessons you've had in being a media adviser have paid off!

Yes, yes, yes.

But I asked, Ron, about that relationship aspect because perhaps then you're not seen as 'someone from the government who's here to help you', you're seen perhaps at a different level?

Yes. I've worked with probably some of the industry bodies too, and always tried to provide advice and help and whatever from a grower level and not from a government telling people what they needed to do but from a grower level. I've always worked at that level rather than the higher strategic level ... From my own perhaps failing, but that's where I've felt more comfortable and why I've been happy to stay in the position that I've been in, because it gives me the opportunity to do that rather than to be a strategic planner. That's not me at all.

We touched last time on law enforcement. Did you as a research person have any involvement in ...

Well, not really.

Not necessarily your job to enforce the rules and regulations, but maybe to advise some of the landholders about what they were doing or should be doing?

Oh, yes, very much, perhaps more along the lines, rather than law enforcement or whatever, but the best-practice type stuff, very much so. Usually that means staying within doing things in the legal and humane and ethical ways. Landholders do have access to a whole lot of methods that may not be (a) legal or ethical or socially acceptable or environmentally acceptable. I've always pushed that, 'Let's do it the right way and avoid any problems down the line', but I've never been involved very much, not that I can think of, in law enforcement or having to get involved in prosecutions. I've been an expert witness several times helping landholders trying to avoid being prosecuted for doing ... when I thought *they* were doing the right thing and maybe things didn't go as well as they hoped, but that would be the only legal stuff I got involved with.

What about at the organisational level, either VPCA or Animal Plant Control, the attitude there of those of the Authority and the Commission to enforcing the rules and regulations?

I learnt very early on that the Act that we had under the Vertebrate Pest Control Act was a very powerful legislation, it had a lot of powers. In fact, if I recall - I might not be correct but I think I am - that we had the powers of entry to property and search greater than the police because we

could do that on suspicion of a breach of the Act; in other words somebody might have a declared species within their property or whatever. But it was rarely enforced. We did have the power in those days - and we still do to a certain extent but it's not used very often - to take legal action against people who fail to comply with a legal order. In the '60s and early '70s there were a number of landholders that John Bromell initiated legal action against for failing to control rabbits, for example. It was seen by the Department of Agriculture in those days as a very bad thing to be doing. We were there, the government's there, to help people, not to prosecute them. But the impact of a small number of legal actions, prosecutions, ricocheted around the State and it meant that people understood that our officers, particularly the regional officers who were State-authorised officers, had strong legal powers and if they told somebody to do something and issued them a notice to do it people usually then actually went ahead and did the work.

They had the right of appeal, which was a fair thing. There were a number of appeals. They would go before the Commission or the Authority at that time. They were treated very fairly. We had a number of commissioners who had quite a lot of experience in that sort of thing and were very good at it. That was an excellent part of our legislation. We've lost a lot of that power now. In order to prosecute somebody for continually failing to comply it's much more difficult these days and it's a long time since anybody's been prosecuted for failing to control their rabbits, although there's been a recent prosecution in the case of people who've purposely released deer. That was a good part of our legislation. You don't have to do it often in order for that impact to remain for a long time. It was a good part of the legislation, I approved of that.

Of course, that would have brought you into ... Any of that legalities-type work, brought you into contact with the lawyers and so on, not necessarily you personally but the Commission.

Yes, the Commission it did, yes. We stayed out of it. There was a process. If there was something going wrong on a property and you knew about it, you'd notify the local officer and he would take it in hand and it would then go down the line. Because those people had to live within the community it was then passed on to the State-authorised officer and so on, so there was a process.

Are there any particularly notable cases that come to mind that had any impact on ...?

No, I can't think of any. Wasn't really ... research guys usually didn't have much to do with that sort of stuff. It was more the technical people like Richard or Mark Williams.

One of the grand things about working in this organisation, and you mentioned people – they're still here, some of them are – and most of the people here, of course, have worked here for a very long time and it must be an almost-unique organisation that you've got a group of people who have all worked together and stayed very stable for such a long period.

I wanted to ask you a couple of things about workplace and workplaces. That's one thing that hasn't been so stable and you seem to have moved around a fair bit, although you've kept a coherent workforce.

Yes, yes. We were shipped around. That was unfortunate. That was ... (laughs) I'm sure that we would never have moved out of the Grenfell Centre, where we were originally located, if John Bromell had still been the boss at the time. But the guy who was our boss at that time was less willing to stand up and fight (laughs) and perhaps saw that there was some ... We were sent to Netley. We had more space, but it was a terrible place to work. It was a very disruptive area and it was terribly isolating and it was a godsend when we then got relocated up here. The Waite's a very nice place to work in terms of environment. You'd have to say, though we thought this was going to be a golden opportunity to have contact with university people and CSIRO people and others, that for most people here hasn't happened. Again, the silo mentality. CSIRO's impossible to crack – they're just superior beings and don't talk to lowly State government workers. I've probably had more contact with university people than most, apart from perhaps John Virtue, because I got involved in a research project that involved people from the Molecular Ecology Unit and worked with them for several years. Also I have been doing some lecturing for horticulture and viticulture with bird control in vineyards and horticulture, so I've had more contact with the uni and other people probably than most of the others.

What about the recent fad or trend for Cooperative Research Centres? Are you mixed up in those at all?

Yes. Not to a huge extent. Our problem was financial. Over the years our financial resources have shrunk – in real terms, anyway. Unfortunately, with the formation of the Invasive Animal CRC, because of calicivirus or rabbit haemorrhagic disease the ball was taken away from rabbits and so the CRC put very, very little into rabbits and initially nothing into birds, for example, at all, or mice, and so for our group there was not a lot of common ground. So there's four of us that have part of our time allocated to so-called CRC involvement. That's changed a little bit in just recent times. There is a bird project getting some money out of the CRC that I'm involved with. There's currently a move to get more … They've realised rabbits are coming back and they did take their eye off the ball. There's a move to try and get more money into rabbit research and so the opportunity for greater involvement is maybe there, if they can get the money. But by and large there hasn't been a lot in it for us, unlike John Virtue who had a lot to do with the Weed CRC. For him, it was a great opportunity because there are funds available and people and opportunities, so work on what *he* was doing.

So the APC group is involved in different ways with different CRCs.

Yes. We've got the Weed CRC that he's involved with and the Invasive Animal CRC. It's likely we're going to have some more involvement with the Desert Knowledge CRC because of work on camels. That's all that I can think of.

That'd be in a collaborative sense rather than a competitive sense, from what you're saying.

Yes. Yes, probably as a partner and ... yes, not competitive.

It's interesting, though, you have a mob like the APC Group yet there's a need for CRCs as well.

Yes.

Or a perceived need for them.

No, there is because most of our issues are national, and there's a need for coordination and cooperation. Restricted number of people and finance, and therefore joint projects and whatever through the CRC makes good sense.

At the national level, in a different context, are you one for the conferences and giving papers or going and attending conferences?

Within my own field I've done a bit but not a hell of a lot. I've been to all the Australasian Vertebrate Pest Control Conferences other than one during my time ... papers there, and a few bird conferences, but I don't go to all the slightly off conferences and stuff like that.

What about your research output, then, in terms of publication and so on?

Mine has been absolutely appalling, primarily because I've not been working in the area where you do short, discrete experiments which you can then write up. My current rabbit project's been going 13 years. Although there is bits and pieces of it we have written up and published, we're still struggling to try and understand what is going on there. The major part of it is going to take us some time before we ... We're trying to get a statistician to give some help at the present time because there is a need to publish some more out of it; but it is probably, in my mind, a little too early because we cannot ... The serological analyses that we're doing are not yet clear cut because things are changing. There's more work going on in other places and the interpretation of our data continually changes. That hasn't sorted itself out. It makes it very difficult. But I've published a couple of small books on farmer-friendly best-practice type stuff; I've been involved in publications for assisting landholders with say managing mice and rats; we've just recently published a big thing on managing pest birds in horticulture and a smaller one on pest birds in viticulture. I've had a bit, but not like you'd expect from academia. I've always been much more of a practical sort of researcher rather than a theoretical one.

That's one thing I was interested in because obviously the nature of the research scientist, some produce voluminous sets of papers …

That's right, yes.

… and others just beaver away in the lab or the field as appropriate.

Yes, that's right. So it's been a bit more of the second than the first, yes.

We've got just a few moments left and I want to ask you, Ron, about perhaps some of the people. You've mentioned a few names today already, Bromell and Allen and so on, but I should say that we do have a transcript of your presentation at the 2005 conference …

Yes.

… at the dinner, where you delightfully exposed some of the characters in the area.

Yes. (laughter)

Rather than talk about the characters, perhaps the leaders or the doers, people who stick out in your mind?

I'd have to say just working within the Group itself, and even though there've been some changes in the staff over time the people in this group are extremely dedicated people who I'd have to say without a doubt are first and foremost interested in furthering the vision of animal and plant control and not people who are in search of fame, fortune or academic recognition. I've been privileged to work with Bob Henzell, for example; he is a person with the most superior brain of anybody I've ever met in my life. He has difficulty sorting out the trees from the wood – or the wood from the trees – but he's an amazing person and an amazing bloke to work with. I'd say the same with Greg Mutze, he too. Both of them are extremely smart and intelligent people. As I said, John Bromell from the very beginning, and Brian Cooke, who headed up our research group: wonderful people to work with and for. I've worked with a whole range of the board officers and I'd have to say I hold a lot of them in very high regard. Peter Michelmore, Peter Sheridan, are two that come to mind. Ian Qualmann and Robin Hood are two other people who are incredibly dedicated and savvy people. When those people leave and retire – and some of them are getting on; Peter Sheridan's probably not far from retirement, Ian Qualmann's probably close to retirement, Hoody wouldn't be all that far away, either – they're going to leave big holes in this organisation and the State.

Peter Allen was an interesting person to work with because he came to the organisation with a totally different view. Initially most of us didn't know where he was going or where he'd come from. He initially probably took the job on thinking this was a short-term stopover to retirement, but he took it on with a vengeance and did a lot for one might say modernising the organisation to some degree, changing a lot of the older paradigms for newer ones and opening up a lot of opportunities for the group. Mark Ramsey in many ways has done a lot of that too, from a different way – perhaps not as dynamic as Peter Allen, but he's done pretty well, particularly given the fact that he had to come into the job at the time when the NRM took over and he lost a lot of his position. His position's been whittled away a lot.

Each person leaves their own stamp, but ... Mark's a difficult timing one, that one.

Yes. Very, very hard. Mark Williams has been a great person to work with because there is nobody who has the drive and dedication that he has and he's got great vision and has been a wonderful person to work for. There's a whole range of people. It's been a long time, and it's just been ... I don't know anybody who's been able to work within an organisation where there've been so many good people and people who've stayed there for so long and worked in an organisation for so [long].

That's the interesting thing about your own ... the research group, to call it that: there's six or eight of you there who …

Yes.

… are pretty well all long-servers.

Yes, that's right. There's a couple of hundred years there. (laughs) But it's not only within the research group. Mark Williams has been there a long, long time and quite a few of our board people. We've got Ken Rudd from Kadina, he's been 35 or 38 years or some incredible period and he's still a bloody good officer, people like that.

It says something about the organisation or the people. I'm not too sure what it says about them, but it says something!

It's got a lot to do also with people who have a strong environmental bent, because that's what it's all about: people who want to see the land improved.

And, to round things out, you've seen a change over the 30-plus years?

Yes. Yes.

I was thinking today just in our suburban environment, the changes in environmental legislation and so on. The streets are much cleaner etc. Is the bush much improved?

In 30 years. (pauses, sighs) We have made progress, particularly probably more in the weed area than in the pest animals side. You can look at roadsides these days, for example, and the work that goes on in national parks and reserves and so on where weed problems are significantly less than they were. With pest animals, rabbits ...

End of recording.