

A SOCIAL AND ECONOMIC HISTORY OF FORESTRY WITHIN THE ACT

Oral History Interviews

Transcript of Interview

with

Bob Cruttwell

conducted by

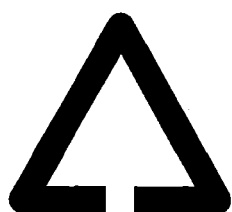
Brendan O'Keefe

at the

Australian War Memorial

on 26 May 1994

This project was carried out with the assistance of funds made available by the
ACT Government under the ACT Heritage Grants Program



ACT FORESTS

"More Than Just a Pine Forest"

ORAL HISTORY RECORDING

INTERVIEWER:	BRENDAN O'KEEFE
INTERVIEWEE:	ROBERT (BOB) CRUTTWELL
DATE:	26 MAY 1994
SUBJECT:	ACT FORESTRY HISTORY
2 TAPES	2 Hours 18 minutes

BEGIN TAPE 1 SIDE A

Identification: this is tape 1 of an interview with Mr Bob Cruttwell, conducted by Brendan O'Keefe, recorded on 26 May 1994 at the sound studio at the Australian War Memorial. The topics covered on this tape are history of forests and forestry in the ACT and especially Mr Bob Cruttwell's work in it. End of identification.

Greetings, Mr Cruttwell - Bob. I'd like to ask you first how you became involved in forestry work in the first place.

When I left school I thought I'd like to get into forestry because it was the best way of indulging myself in my interest in natural history, generally. I had thought of being a vet at one time but I thought possibly it would be a more restricted lifestyle than forestry.

So you had a very early interest in natural history.

That's right, yes. I always have been.

You're not from Australia originally?

No, home was in England and I studied forestry in Edinburgh.

But you're not Scottish. Where did you come from in England?

I came from Surrey, near Epsom, and if you wanted to do forestry in those days ...

What period are we talking about?

This was in 1940. You had to go either to three universities as I remember: Oxford, Bangor in Wales or Edinburgh in Scotland. I couldn't get into Oxford which was, of course, the nearest. I think their quota was filled up so I managed to get into Edinburgh.

Who were your teachers at Edinburgh? Were they prominent people in the forestry world?

The professor had spent most of his lifetime in the Indian forests, this Professor Stebbing.

Yes, I've heard that name.

The Principal Lecturer or one of them did most of his service in Britain and the other one in West Africa, I think. The emphasis in those days was still on Indian and colonial forestry because there wasn't much doing in Britain, really.

Not surprisingly. Amongst the colonial forestry did that include Australia, at all?

Yes, there was very Of course, the Empire was so huge in those days that the Australian and New Zealand side of the world got a pretty scanty mention and that was partly because they were regarded as running their own shows and not such a big field for recruitment as the Crown colonies as they were then. And then I went into the army, of course, in 1943. I just graduated in a three year course in Edinburgh and I went into the army. When I came out of the army in 1947, the situation had changed radically and there was a little bit doing in Britain and I hoped to get employment in Britain but I found it - working with the Forestry Commission - almost everybody with whom I was working was on a temporary engagement and many of them had been for several years. So as I had family connections in New Zealand, I went out to New Zealand.

What year was that, Bob?

'47/48 I worked for a year with the Forestry Commission in Britain, as I was saying, and that was interesting work, too. It was on the census of woodlands. They wanted to see what was left after the war. Towards the end of 1948 I went out to New Zealand.

Just getting back to your war service, you hadn't been involved in forestry while you served with the army, had you?

No.

Were there no forestry units in the British army?

There were in the Australian army, I know.

Yes, the Royal Engineers took on a whole very, very wide scope of services. I think they had - I'm not quite sure what their branch was - but I went into the Engineers but when the Second Front was opened up, the army found that - as I read the situation as it appeared to us who were in the engineers and the artillery - they didn't meet the sort of resistance in France that called for a large section of support troops like engineers and artillery, and a whole swag of engineers and artillery were turned into infantry.

Including you.

I was amongst them, yes. We were trained in jungle warfare in Wales.

Where were these jungles in Wales?

There weren't many. We had to imagine them really. And then they dropped the atom bomb on Hiroshima and we were not sent to Burma as we all expected to be. We went out to the

Middle East and Palestine and the situation that was evolving then - still evolving. It's exactly the same.

We'll move forward a bit to your emigration from the United Kingdom to New Zealand in 1949, I think you said.

End of '48 actually.

You landed in New Zealand. Did you start working in forestry immediately?

Yes, I had been interviewed in London and was appointed actually before I went out to New Zealand. Like almost everybody who joins the staff of the New Zealand Forest Service, you spent your first year or so in the Rotorua district, whereas their principal forestry commitment is central north island.

Is that a native forest area?

No, there is a certain amount but it was mainly the Kainura[?] Forest, of course. It was one of the very, very big forest station projects.

What was your role?

They had a huge big team organised to assess the standing volume and growth rates of Kigaro[?] Forest which was well

over 100 000 acres - it's probably larger than that by now - at that time because they were contemplating building the Tasman pulp and paper mill. While we were there they had consultants out from Canada looking into the industrial side of pulp and paper and then they had most of the forest service chaps like myself working on the - trying to get a pretty accurate survey of the growth rates and standing volume of timber for the pulp project. That was interesting work. We were camping in the forest.

Did you have a family at this stage?

No, I wasn't married. Single chaps in the New Zealand Forest Service were liable to be shifted around a lot, which was very good actually because I was keen to see the country. It was a very happy time really - interesting.

I take it this pulp and paper mill never went ahead by the way you were talking.

Oh yes, the Tasman Pulp and Paper has grown out of it. It followed up, I think, pretty smartly really, considering what a big project it was.

How many foresters were there in the New Zealand Forest Service when you were there?

I really wouldn't like to say. It would only be a wild guess - a pretty small number of them - but they were

recruiting all the time at the end of the war. A lot of people came out from Britain that had forest service.

Did New Zealand have its own forestry school?

No, for a very long time it did not have its own forestry school. In fact, most of the New Zealanders who train in forestry train either in Australia or in Oxford.

So you were in some ways a bit of an oddity, coming from Edinburgh, I suppose - from the Edinburgh school.

Yes, I did meet some who had preceded me. You met people from all over the world there. There were Danish and Dutch - people like that - foresters there, too.

Your position there was, I assume, at a fairly junior level because it was essentially your first job there.

Yes, I stayed with the Forest Service for twelve years in New Zealand. It was largely because I married an Australian when I was in New Zealand that I thought of shifting over to Australia.

When did you move over?

That happened in 1961.

How long had you been married then?

I'd only been married about three years.

What brought you to Australia apart from marrying an Australian woman?

Well, we did have some thoughts that Australia was growing and it would provide a better future. It's hard to speculate really about those sort of things. Really the personal considerations were more overriding than the financial ones then because I was happy in New Zealand and both my wife and myself liked living in New Zealand, but we thought the future was possibly a wee bit brighter in Australia as well.

My next question has to be: do you regret moving over?

No, no.

That's good.

We go back to New Zealand very, very frequently. I don't feel I'll cut my ties from the country.

Could I ask how old were you when you came to Australia in '61?

I must have been just under forty.

Did you come specifically to a forest job?

Yes. When I was on some annual leave from New Zealand I visited Melbourne and looked around the forestry situation and through interviews I found that there was this vacancy in Canberra working for ACT Forests and so we took that.

What was the vacancy, Bob?

It was assessment officer for the ACT Forests, running the assessment of the standing timber here.

The pine forests, in other words.

The pine forests, yes - plantation forestry.

And you took that up in 1961 as soon as you came over.

That's right, yes. In some ways it was rather like going back to what I'd been doing before, most of the time, in New Zealand or quite a lot of the time in New Zealand.

I'm intrigued that you were an Edinburgh trained forester and you go to New Zealand, you have experience in New Zealand and then you come to the ACT. How did you find the Edinburgh and New Zealand background fitted in to the forestry work in the ACT? Did it fully prepare you for it or was it a bit of a shock?

No, not really. The general principles you learn still hold good, you know. The circumstances are very different, I

suppose, from what they were in Scotland. Things like the growth rates are very much greater in Australia and New Zealand, and so in many ways forestry is much more rewarding, particularly plantation forestry, in Australia and New Zealand in that respect because in ten years you can see a tree become just about a commercially viable proposition in Australia and New Zealand, whereas you're still looking at a little sapling in northern Europe. It's terrific in that way, forestry. I've seen areas clear felled and replanted and they're ready for being felled again in my lifetime. This just doesn't happen in northern Europe; things don't happen like that. In fact, I think a lot more experimentation because growth rates are different happened in the southern hemisphere. I think that's only in South Africa, Australia and New Zealand. And then Europeans, I think, just woke up to the fact that they could improve their options a bit by studying papers and results obtained in the southern hemisphere.

Is that so?

I think so, yes.

When did they start to wake up to this sort of thing?

I think after the Second World War. And, of course, nowadays it's a funny thing that France, Spain and Portugal, they have big pulp and paper plantations based on eucalypt.

Yes, that's right.

And some of those countries have also started following southern practices by introducing radiata pine, too.

The countries you mentioned: Spain, Portugal and France are essentially Mediterranean countries.

Yes, they've got a more suitable climate for it, admittedly.

So Australian forestry hasn't had so much of an impact on the northern European interests.

No, I think the British practices have smartened up a bit. I think they realised that they could be a bit more venturesome in that way.

In what way?

I think in their tending practices. They were very, very conservative in things like thinning out plantations to stimulate growth. I think that has happened since the war.

This is a direct result of forestry or their waking up to forestry practices in Australia, South Africa and New Zealand. How much of an impact do you think Australian forestry or how responsible do you think Australian forestry has been for this, and possibly even ACT forestry?

I wouldn't like to say. I'm not academically I haven't been qualified or in touch with the I'm really not in touch with the progress of things in Britain and northern Europe, really. What I'm saying is just a general impression. I couldn't really quote many examples.

That's okay. Anyway, you were assessment officer when you started with ACT Forests in '61. Were you assessment officer for all the forests under the ACT Forestry Service's control at that time?

That's right, yes. These forests had been commenced around about the First World War although the bulk of those plantations that were planted during the end of the First World War were burned in 1952. So there were the old When I arrived I think the oldest stands were planted in 1926 and '27 and '28.

Whereabouts were they, Bob?

They were mostly in Stromlo and Kowen Forest and the early '30s, Uriarra, Pierce's Creek Forest - the oldest stands there were planted in the early '30s. In '61 they would have been nearing maturity, so they were anxious to try and get a good idea of the growth rates and standing volume. Quite a lot of Canberra was booming in the 1960s and there was a good demand for timber and they wanted to know what could be safely cut.

What did your work entail? Can you give me an idea of what you would do from day to day in your work?

They base an assessment on a sampling of systems and because the trees are very - in most forests, of course, and it's true of the ACT - the trees go over a range of soil and site so that you need a very careful sampling system to base any estimates of volume on, particularly a tree like *Pinus radiata* which was big and that was the principal species and that was the one that we were sampling. It reacts very sensitively to changes in productivity and site. You have sites such as Stromlo generally, it's a lower rainfall than Pierce's Creek and Uriarra areas and the growth rates are much slower. So you have to have a sampling system that takes into consideration all these differences. Individual trees, of course, always - the standing volume of a particular tree is never the same as the volume of the tree next door to it, so you have to do a lot of detailed measurements; there's no getting away from it. We had a very good aerial survey photographic done in the - I think it was the middle '50s - middle 1950s. That enabled us to classify the different sites with their productivity by measuring the standing height of the trees which would show up on the aerial photographs. They had a site productivity map based on that, which we could work on and that was very helpful. Apart from that what you have to do is to put gangs into the field, measuring up sample plots. That's a very monotonous job which is just something you had to face up to.

What were they measuring exactly, the number of trees?

You lay out your plot of a particular area and then you measure the number of trees growing on the plot, of course, and the basal area of the live trees on the plot by measuring the diameter and the standard height above the soil at ground level, and then you measure the height of the trees and that would be all that were necessary if you knew that every tree was the same shape as the other but, of course, that's not the case. So you need to measure samples of the actual profile of a stem and that varies considerably. You have to make some record of the defect of the stems because you can't assume that every tree will be merchantable.

In other words, dead straight and without knots.

That's right.

How do you do this sort of sampling then?

The best thing is to actually fell sample trees and do detailed measurements of them and when you've got a sufficient sample to be statistically acceptable you can make up tables of volumes.

END TAPE 1, SIDE A

BEGIN TAPE 1, SIDE B

... you can make up tables of volumes for trees and for that particular diameter. We worked a lot with the Division of Forestry Research in Yarralumla because they are interested in the same things and so was the ANU. There are tables being made up all the time and corrected, modified for the whole of Australia, of course, but Australia is such a big country that the trees grow in a very different pattern all over the country. We'd have to really make up our own tables, tables of trees - comparable tables. They would have, say, Tumut Forest which would probably come fairly close in many respects. But on the whole forests in a district like Tumut are on a bit more fertile sites and so they have these subtle differences. They are all commercially significant, those points in the management of a forest.

Did your assessment work occupy you year round?

Yes.

There were no seasonal variations in your work?

There is a seasonal variation insofar as you try and do - if you're remeasuring a plot - in order to obtain the volume of growth between measurements you try to do that in mid-winter when the growth has eased up and stopped. It's a funny thing though, if you go back to some of these plots to remeasure them you'll sometimes find that smaller suppressed trees have actually shrunk. You think, oh, somebody's made

a mistake with the tape, they misread the tape, but that does happen in periods of drought. They're just about ready to keel over and die. And the same thing with measuring the height of a tree. The chap who's measuring the height will give it to you and you look at the record of the previous year or two years back, whatever it was - the last record you had - and you see that they've given you a smaller height, so tops get blown out of some of these trees; it does happen. It's a funny business in that way.

You mentioned that when you came to Canberra that Canberra was booming and that there was a good market for timber here. The forests you said were ready to be cut, had they been already selling thinnings from the forests?

Yes, that's the case. Because very little in the way of clear felling had started in the '60s, I think the only clear felling that had been done was for cases like clearing for public roads and things like that, not altogether in our hands. They reckoned that forty-year rotation was probably the desirable one for radiata in this district and so if most of the older stands had been planted in and around the 1930s, they were still pretty - like ten years - too young in the early '60s, so in actual fact they wanted to use the time available in the '60s to make an estimate of the optimum cycle of felling and the best area to fell and what was the allowable cut. And that worked out pretty well because the bigger mills such as the Integrated Forests

Products mill down on the Cooma Road were not there in the '60s, but they were being planned. It was possible, using the results of the assessment, to open that mill. I think it opened in about 1971, I think, or something like that and that's when the clear felling started in a big way.

That's interesting. So through the '60s it was essentially thinnings from the forest that were providing timber for the local market.

That's right. The government sawmill was operating in the '60s but it, I think, must have been some time around about - I wouldn't like to say exactly when it was - 'round the early '70s, I think, the government sawmill closed down because these bigger, private sawmills were available. The government sawmill in Kingston had been set up in the absence of sufficient private enterprises in the early days of Canberra. That had a capacity of sawing very big logs. It kicked off sawing hardwood logs from the Brindabellas and neighbouring forests and it went over to the smaller pine logs and then it closed down. I think it must have been in the early '70s when Canberra really doubled its size from what it was in the '60s that not only the government sawmill closed but, I think, the government brickworks closed about then. Bigger, private enterprise took over in a bigger way, I think, in the early '70s.

You're almost suggesting that, in the absence of private enterprise, interest in milling the wood here

that the government was virtually forced to set up its government mill to saw the wood that was available and it wasn't an economic proposition, at all.

I wouldn't say it wasn't an economic proposition but, I think, it would be true to say that the government set it up so that the building industry in Canberra wouldn't be starved of timber in its early years. I suppose the same thing would probably apply to the brickworks.

When did the mill start, roughly, do you know?

I don't know.

I would imagine, though, that in the '60s when you were here that the amount of building in Canberra was such that the thinnings from the local forests would be quite insufficient to cater for the demand here.

Yes, I think it was. I think Canberra has always received quite a big proportion of timber, whether its softwood or hardwood, coming in from New South Wales and South Australia and Victoria possibly, and New Zealand, too. And the Pacific coast of America, too; we're still getting a lot of Douglas fir in and Western Red Cedar and all this big specialty timbers from the Pacific coast. To say nothing of the tropical ones.

When you'd been working for several years through the '60s with ACT Forests on your assessment work, was it in fact your work that confirmed the view that forty-year rotation was the best for the pine forests around the ACT?

Yes, that's been adopted although I think it's been whittled down a bit to thirty-five years in some cases.

Why is that, do you think?

I think because some of the better sites are that much more productive. I think possibly forty years is a conservative figure.

This might have been your northern European bias.

I didn't make those decisions, really. I just got the measurements and fed them into the people who were making the actual management decisions. In forestry, too, you're subject to the phenomena like bushfires and things like that that you can suddenly reduce half your gross stock. The situation can never be regarded as solid cast iron.

Yes, indeed, I can understand that.

... set irredeemably. It's always subject to review.

Anyway, about the beginning of the '70s a lot of the older forests were maturing and were ready to be cut and clear felling, as you said, started in a big way around '71, especially with the establishment of larger scale, private mills. The government mill you said, I think, closed down at that period.

Yes, about the same time, I think, as the bigger mills, particularly the one on Cooma Road It's changed its name a good deal. I always knew it as Integrated Forest Products and then it was called APM and what it is now, I'm not quite sure.

Were there any other older mills prior to the establishment of these large private ones in the early '70s?

Yes, there were small private ones set up in Fyshwick, I suppose, almost as soon as Fyshwick was created as an industrial suburb and they were very important customers for us because they would take smaller logs - handled smaller logs. And then there was a preservative plant in Queanbeyan and then - I'm not sure whether it was under the same management - it moved out to Cooma Road - Koppers preservative plant established out there in the early '70s, I think, too. So there were quite a lot of much smaller private concerns which were very valuable and a lot of them are still going, too.

When the clear felling started in the '70s and they were, as you said, clear felling in a big way, this must have reduced your work in assessment because there wouldn't have been so many trees around to assess. Is this a fair comment?

Not altogether because Actually I ceased to be working in assessment in 1968 and I went out to take charge of Uriarra Forests - bit of a change. There is, of course, foresters have great interest in the permanent productivity of site and they like to go back to see whether their second generation of trees on a site is as good or better than the initial one. So they introduced a permanent inventory system that was based on refining the sampling of the same site, same sample plots. As far as I know, that's still going on. It's all hitched into a computer and it's a good deal more sophisticated than the system I was running because we did use computer systems for the calculations, but as I remember they were the old punched tape formulae that I suppose are real museum pieces now.

Just going back a moment. When you first took up your position as assessment officer, what sort of assessment had been done before or were you a kind of pioneer in this assessment area?

No, I wasn't really pioneering because I was only using systems that had already been pretty well tried elsewhere

and I think it was just that they came to be expanding the staff and felt they ought to have an assessment officer.

So there hadn't been one specifically?

There hadn't been one specifically, but the headquarters staff had instituted a system of permanent sample plots which covered the same ground but doesn't cover it in the same detail, or they realised it wasn't adequate for the range of conditions that they had. This partly evolved from the fact that ACT Forests in 1961 was part of the Forestry Timber Bureau which is not the case now, of course, and the Bureau staff included a lot of researchers who subsequently became CSIRO staff on subjects such as growth rates and research into growth rates and a lot of pretty high-powered academic research into the best formulae to use that sort of thing. It was those Bureau staff who had started these permanent plots, so I was able to take them over and use their results which, I think, some of them probably had records for nearly twenty years, which gave you a pretty good start, really.

Yes, indeed. The Bureau was a federal government body which was controlling forestry throughout the Commonwealth?

That's right, yes, it was a federal thing. It was split up during the 1960s, I can't really remember exactly when, in the middle '60s, and the research part went to CSIRO and the

Forestry School part went to the ANU, so there was almost nothing left because the territorial part became ACT Forests which were a section in the Lands Division of the Interior or became the Department of Capital Territory, so they changed their name every few years.

Who were you working for during the '60s when you working in the Forestry service?

Started off with Ron Green. He was the Supervising Forestry Officer, as they called him then, I think. And then Bill Bateman took over from him. And then, I suppose it was in the middle '60s that Mark Edgerley took over from Bill Bateman. They were called Directors of the section.

How did you find them?

They were great to work with, yes. Mark Edgerley had a very long innings and there was a quite succession of chaps who succeeded him. I'm not really game to try to put them in the right order.

Don't worry.

I'll look at the official records for that.

Just on a personal side, when you first came to Australia or to Canberra where did you and your wife live?

We lived in the Stromlo forestry settlements on the Cotter Road. Of course, there are about thirty houses there. It's quite a minor suburb. It's a small part of Duffy, but in those days it was the only bit of housing out there, what is now Duffy.

And how did you find living out there?

It was good, really. The nearest shops were Yarralumla. You used to have to go into Yarralumla or Manuka and Kingston for groceries and things like that.

How long did it take you to get over to Yarralumla or Manuka?

Not really long. It was remote by suburban standards, but not really remote by Australian standards, is it? And also, of course, it was not nearly as remote as the settlements out in Uriarra or Pierce's Creek. We had a different remote allowance. They had a bigger remote allowance than the chaps living in Stromlo. And at that time there was a small settlement at Bulls Head as well. Actually, the number of houses and things in these outlying settlements contracted over the years.

What was the house like that you lived in there in the Stromlo settlement?

It was a standard Works Department house, I think. They were all on Works Department patterns. They were basic. You had a copper in the laundry and had an open fire, but you had a wood stove in the kitchen - I think it was a wood stove.

What about water? Was it tank water?

No, we were fed off the direct pipeline from the pumping station, so actually you had a terrific water pressure. You had to be careful you didn't split the hoses and things in the garden. Every now and then you'd see a break in the pipeline with a huge great fountain like Captain Cook's fountain coming up.

And you had electric power on, I suppose.

Yes, we were on electric power; so I'd lived in much more basic places in New Zealand, although my wife thought it was pretty basic. She came there with small children.

I was going to ask about your family, too.

The travelling pre-school used to visit us. They visited Stromlo Observatory and mothers could go up and join the Observatory mums and children at the Observatory, and vice versa - they'd come down when the pre-school was at Stromlo which was quite nice.

So the pre-school wasn't in one set place.

No, it was a Combi van, I think, that shuttled all the necessary gear around these settlements. The same way as the library used to call - the library van.

This van didn't go up to places like Bulls Head and so on, too, did it?

No, I don't think so.

An amazing sidelight; I've never heard of this before.

Yes, it was very good.

How many rooms did the house have that you were living in?

It was a three-bedroom. It's still standing.

END TAPE 1, SIDE B

BEGIN TAPE 2, SIDE A

Identification: this is tape 2 of an interview with Mr Bob Cruttwell conducted by Brendan O'Keefe, recorded on 26 May 1994 at the sound studio at the Australian War Memorial. The topics covered on this tape are history

of forests and forestry in the ACT and especially Mr Cruttwell's work in the forests.

Well, Bob, we were talking about your house at the Stromlo forestry settlement and I think you said the house had three rooms or three bedrooms or just three rooms in all.

No, it was a standard dwelling house - standard cottage, as they called it. It was no better or no worse than the rest of the forest settlement's housing. We were lucky because after we'd been there, I think about a year, we got a new house that was built and that was a very nice house, indeed. It was a good deal more modern in the settlement.

You also said that you had young children. Was that as soon as you moved into the original house at Stromlo?

Yes, we already had a family.

How many?

We had two and the youngest son was born while we were in Stromlo.

He would have been born in Canberra Hospital.

That's correct.

So you had two sons at that stage.

That's right.

And later on they, of course, were looked after by this travelling creche, if you like, which sounds quite good. So they grew up to, I suppose, eight or ten years of age whilst you were still living in the Stromlo forestry settlement.

No, they didn't really because, I think, at the end of '65 after we'd been at Stromlo for four years or a bit more than four years we bought a house in Curtin, a private purchase, and moved in there.

A bit more civilised.

Yes, it was Curtin's a very good suburb to live in and we've been there ever since.

Your wife, I imagine, appreciated that because ...

Yes, we could really settle down there a bit more than you can with a rented premises.

What were you paying in rent, just as a matter of interest, at the Stromlo settlement?

I couldn't remember. No, I would be wildly inaccurate probably. Certainly it was rent that allowed you to save because there was a big rent strike while we were there because the rent was suddenly just about doubled and there was a great deal of strife. That was not just for forestry houses, I think, it was for all rural rental properties such as conservation and agriculture staff, too.

So in other words, the government suddenly doubled the rent.

The strife arose from the fact that they were unrealistically low and instead of putting them up by stages they put them up in one huge great sort of hundred per cent rise and it caused a lot of bitterness at the time.

What year was this, do you remember - roughly?

I wouldn't like to say.

You said it amounted to a rent strike so did you all

I think the union members took the case to the TUC and the TUC supported the strike action. It went on for several days. It wasn't just a refusal to pay rent. I think it was a stop work as a result of the

What was the outcome of this action, this industrial action?

I think they agreed to phase it in over a longer period. I just forget but I know that there was a great deal of trouble on that particular issue and I think it was in the late '60s or early '70s, but that's a bit vague. I'm sorry about that.

You said earlier that in '68 you'd basically changed your job and you moved to Uriarra at that point. What position were you occupying when you moved there to Uriarra?

Just the officer in charge of the forest, which is a sort of jack of all trades, really.

How many staff did you have under you?

At that time I think there were about twenty-five or thirty people employed at Uriarra. Certainly all the housing there was full up and there were also cottages and houses - buildings occupied by contractors, too. You were responsible for the whole lot of those, so it was rather like being a mayor of the place which was a sort of a big distraction, I guess, from the forestry work. There were always troubles with housing and there always are, I think, everywhere. Dogs causing complaints and water supply failing and all those sort of things.

Had you bargained on this sort of thing?

Yes, I was expecting it, really.

What were your main tasks in forestry as such when you were at Uriarra? - apart from all these distractions, I mean.

We had a lot of contracts to supervise. There were logging contractors and then there were also contractors on tending operations such as pruning trees and planting contracts. And then there was road building and minor surveys of new areas that were planted. There was a lot of liaison with research bodies from forestry research folk who used the forest for their experiments. Then you also had quite a lot of work to do with the Forestry Training School, too. They used the forest for their training operations. That became the ANU Forestry School. You had to liaise with them if they had any operations that they wanted to carry or survey.

Did you have any role in the growth of the forests as a recreational outlet for Canberra?

Yes, that's a very time consuming business, too, because ACT Forests was very well disposed towards recreational use and you had to try and fit that into the running of the forest without any damage to anybody. That was not always easy, particularly with things like the car rallies and motor rallies that still go on there. You had logging traffic and

things using the same roads as the rally drivers wanted to use. And then you also had the Duntroon cadets and people wanting to hold odd field operations in your area, and search and rescue people wanting training in those areas. And as Canberra grew, of course, the number and size of all those sort of public relations things grew with it.

How did you feel about that because they wouldn't have been generating any income for the forest? They might have been generating some goodwill.

That's right. Well, that was what makes it all very difficult because you couldn't claim on that sort of work at all and it took up a lot of time and sometimes you had to put other people on to liaising with it. You had to mark boundaries for different things and have people watching what goes on. Yes, there was a lot of unexpected calls, really, on your time. You even had people like - a lot of overseas visitors would be diverted out on to your track and you had to show them round. That's all time consuming, too. Very interesting it could be, too, but time consuming.

You said ACT Forests was well disposed towards the recreational uses of the forests. I just wonder how that came about, particularly if, as we said, these uses weren't generating any income and in fact were, as you also said, quite time consuming.

I think that was just a recognition of the fact that that has to be the case in the world that we live in, really - probably going with the current and it makes life difficult but you have to agree, if it's a policy that's adopted by the management there's no point in really trying to oppose it except in any instances that arise where you have to - safety issues or something like that. There would be some things arise that you'd say, well, no, we definitely can't fit them into this particular forest. Generally speaking it could be done. You've got the same issue all the time with the trail bike riders and that's still the current issue. We couldn't put trail bike riders on the Cotter catchment because we'd be breaching the water catchment regulations, so they were put on Stromlo Forest outside of the catchment, and they're not welcomed there by the Observatory for various reasons and other people. But because trail bike riders are not welcomed anywhere, somebody's having to lean over backwards to try and create a corner where they can operate legally. That's only one.

Did you get many accidents or injuries from these sort of recreational uses and I'm thinking particularly of trail bike riding and rally car driving - that sort of thing or, indeed, anything else?

There have been from time to time and I suppose there always will be. There was an unfortunate incident some years ago when a girl - I think it was a child - was killed by a rally car. I can think of at least one incident when an illegal

trail bike rider in Uriarra Forest broke his leg. There must have been lots of other minor accidents which we never heard about.

What about the forestry workers themselves? What sort of injuries did they get?

They got the full range of forestry injuries from broken legs, logs rolling on them because we did have our own logging crew because there were certain jobs which were not suitable for putting on to logging contracts - cutting special sizes or special species and things - and we had our share of logging injuries. I don't think we had a bad record but inevitably there were some injuries.

How were most of them caused?

I wouldn't be able to Forestry has - one of the headquarter's staff is a safety officer and they kept records. I think really that back injury was the commonest cause and that can be caused by anything from lifting to stumbling on steep ground, but I wouldn't be sure but I should say the safety officer's records could be very interesting, actually, because they've been kept for many years. It's one of the diversions, of course, with your own staff, particularly if they were injured, you had to run them into the Commonwealth Medical Officer in town or else into the emergency casualty ward in hospital.

If somebody was seriously injured, how long would it take you to get them into town, for example, from Uriarra?

Very short time, I think. Of course, nowadays they can call on a helicopter and within the forest there are helicopter landing places cleared and a very big comprehensive network of roads within all the forests, so it's usually pretty quick.

I suppose you had first aid available and people trained in first aid.

That's right, yes.

Was that a prerequisite of the job or was it required of some people that they must have first aid certificates so that they could render first aid if necessary?

I'm not sure what the position is at the moment. Originally we were not able to do that. What the position has been since I retired, I don't know, really. As I remember it, the ambulance staff would give regular lectures in training in first aid and, of course, all vehicles and working parties had to carry first aid boxes, but beyond that I wouldn't like to say.

Were there many injuries caused in cutting the trees down?

Quite a few but I don't think they were above what would be expected, really. Any injury is always one too many.

You said a little while ago that when you were at Uriarra you had a lot to do with putting out contracts and dealing with contractors and so on and I noticed you said that you had contractors doing the pruning work and planting and so on. I just wonder why ACT Forestry staff themselves didn't do that work.

The staff would do some of that work but areas that were suitable for completion by contract as a general principle were let out to contract. That would, of course, also have depended on the finance being available which sometimes was the case and sometimes was not the case. When there was a relative abundance of funds for private contracts there was a distinct advantage in getting work done by private contract because you could get more operating at once. Forestry is very much dependent on seasonal conditions and you could, particularly in the planting which is in winter, you could get dry, dry conditions such as occurring now. You'd have a whole lot of plants ready for planting but you'd be holding off planting because the conditions are too dry. Then that might prevail for the first half of winter and you can't really start your planting program till half the planting season is over and if you can double up the

number of people planting by bringing in private contractors you can reach the target instead of failing to reach the target. That also applies to quite a few other jobs - more spectacularly, I suppose, for planting than any other operation.

How did you find dealing with the contractors?

It varied immensely. A lot of them would not have done much of that work before and they would come to your office and say, 'Can I have a progress payment? I think I've worked over ten acres now.' And you'd go out and measure up and found they'd worked over three. And when you told them that they'd be a bit disgusted and sometimes, quite frequently, walk off the job. Of course, those were the times when they could get other work and they'd underestimated the job badly, which very often happened, particularly on steep ground where your acreages are taken on the plane survey and on a flat projection on a map, and three acres as measured on the map looks more like six acres on steep ground. You had that sort of situation arising very frequently with contractors.

So they didn't understand this when they took the contract?

No.

What about the logging contractors, how did you get on with them?

Pretty well, I think. If they knew they were being watched closely they didn't create many problems and you had the logging officer in Civic who was administering the whole lot of the logging contracts so you had more supervisory staff available coming out from your head office where logging contractors were concerned. There were inevitably problems coming up all the time, particularly in connection with the weather when you knew you had to try and produce so many loads and then if the weather was very bad because of ground conditions they'd stop logging or the roads couldn't stand up to it. So there were always a lot of problems connected with logging.

Did they ever try to put one over you?

Yes, you had to assume that that was liable to happen all the time.

What sort of things did they get up to?

They always liked to make up a quick load putting in logs which were not always cut to specification. I suppose that was the biggest one. Sometimes they'd cut trees which were not marked for felling; that sort of thing. Sometimes they'd cut logs short of the specified length or too long

for the specified length which was wasteful. And those were always difficult things to check up on.

Who checked up on this sort of thing?

You had one or two log measurers operating all the time as part of the workforce. Mostly you had chaps who were very good arithmetically and wrote very clearly on their records that you could rely on. They'd keep you in touch with what was going on.

What happened to the logs that were cut short or too long?

They'd get thrown aside at the mill door and then the mill owner would put in a big complaint to the logging officer in town and ask him to come out and have a look at them. They'd have to work out some kind of move to pacify them.

Were the logs simply discarded?

No, not normally. Sometimes they could recut them - mostly had to recut them to a lower grade of log. The lower grade, of course, would give the Commonwealth a lower royalty.

Was much wood ever used for pulping from the ACT forests?

Not a lot because we're, unfortunately, so far from any pulp mills but where pulp mills are available or did have a demand that they couldn't fill locally we would be able to sell pulp logs from time to time. I've got fairly hazy recollections of what proportion went out as pulp mill and so I think you'd have to ask somebody else about that.

I would assume though that it would be the absolute lowest grade of felled timber.

That's right, yes.

Where would they be sent to?

Some of them would go down to Nowra, I think. Some of them might nowadays go down to Wagga but I think you'd have to ask somebody in the marketing head office. The situation as I remember it is what happened about ten, twelve or more years ago.

On the other side, did you have anything to do with hardwoods at all in your period in the forests?

Very little because the policy towards the hardwood forests was changing very rapidly in the '60s. In the early '60s hardwoods were still being supplied to the government mill from the Brindabellas, from Uriarra Forest. That was phased out but ACT Forests never lost interest in the possibility of re-opening commercial management of hardwood forests

because it can be done in particular areas without causing soil degradation or extra turbidity in the water supply. I think every forester has that in the back of his mind, really, in this situation.

Why do you think that is?

Because there's been too many generalisations, I think, made about commercial utilisation of eucalypt forests and I think there are always particular cases where particular conditions make it possible to be very successful and useful. It seems a pity to me that if there's a bushfire or something like that a whole lot of eucalypt timber is killed that that timber should not be harvested. If we talk about conservation of the resources, there doesn't seem to be a lot of logic in sitting back and watching timber that's within a few yards, possibly, of roads rotting on the stump.

So would that in general be your criterion for utilising hardwood forests - eucalypts that had already been killed by fire or what have you?

That would be one set of circumstances but there are a lot of others where they could be managed just like any other hardwood forest, depending on the topography and other environmental conditions. It's a natural resource that's been provided for Australia, they might as well take regard to it. It's just funny to see the eucalypts being managed with such great success overseas.

And being cut for commercial use.

And being cut for a whole of other uses, yes.

Do you think it's possible, given the political climate in Australia, that this would happen here?

I think it's got to, yes. I don't oppose conservation of forests but I think there's been too many unsound generalisations made about eucalypt forests, really. But I'm not a eucalypt specialist. I'm only talking about what little I've seen around in this part of the country.

Why was the management of hardwoods phased out in the '60s by ACT Forests?

I think they felt that it was necessary for the preservation of the Cotter catchment. But generally I don't know why else, really.

Going back to your personal career. You were moved to Uriarra in 1968 and you stayed with Forests through the '70s, I assume.

Yes. No, I went in 1974, I think it was, to Civic office to work on management plans from there.

How did you find that - being away from the forests themselves?

That was quite good. It had its pros and cons. On the whole it's no so satisfying as seeing the whole picture as you do if you're in charge of a forest. It's like being in charge of a ship, really. It's a little world on its own. If you're just looking after one branch in a head office, it's not quite the same and you haven't got the responsibility Your responsibilities are all abstract, really, rather than concrete.

Well, that says something about the work you were doing there but can you tell me a little more about what the work in the Civic office involved.

Just mainly picking up the contracts other than logging contracts for all the forests together and trying to organise them according to what funds were available because the forester in charge of Uriarra or Pierce's Creek would tell you what areas and the sum total of contracts he might want to be funded and organised for a particular year and you'd have to work out the priorities between them. That was largely what it involved, as well as looking after the planting programs and land acquisition and land disposals. Of course, ACT Forests were always having chunks carved off it by the expansion of Canberra as it grew, so there were always a lot of management considerations trying to keep a register of the land and forest assets and the building and permanent assets and trying to separate the temporary assets from the permanent assets so that it all could be tied into

the accountancies statement of assets. That was a real nightmare on its own.

What do you mean by temporary assets?

There could be internal fences and things like that which were created to protect a newly planted area and you knew that those fences would only last ... might only be needed for five years and might not last forever, anyway. And then you'd have boundary fences which would become permanent assets. But so far as the fencing gang went, they'd just be another fence. On the routine costing, of course, traditionally it would just be a cost against fencing. But the Department wanted to know what money was spent on permanent assets and what on temporary assets. There was a whole swag of definitions required which were extraordinarily complicated at times.

You said a moment ago that ACT Forests were always having bits hacked off them as Canberra grew. Did this have any major commercial impact on the forests or even an effect on morale in the forests, amongst the forestry staff?

I suppose it does to a certain extent. It's good, I think, for the morale if the staff can see the forests growing. Certainly in the time I've been in the ACT, I think the losses just about compensated for the gains. Certainly over recent, over probably the last twenty years, there's very

little new land acquired for afforestation and I think it's bound to be bad for morale in a way because it's very nice to think that you're creating an asset which will bring necessary building timber and what not into the local mills and employ people and the land is being made to yield something useful where it probably only grew a little bit of grass for sheep before. I think over the long run I think everybody who is employed in ACT Forests is aware of that even though they might not think about it very much in the course of their working day. They all take a bit of pride in it or used to. Then you had an area like Long Gully Pines which is now Isaacs, which was resumed, I think, in 1975, some time around then. That's an unfortunate case because we were told it was going to be resumed and it was clear felled and then the building didn't go ahead on it for many, many years. The Commonwealth would have made a lot more money if it had been allowed to grow on until their actual engineering establishment - roads and everything like that, buildings - were started.

Were those trees not really ready for harvesting when they were clear felled?

No, I think another four or five years would have probably doubled the value of them. They were planted in 1953 or something like that. A tree that's felled when it's about seventeen or eighteen years of age is a very much - from a commercial point of view - smaller tree than one that's twenty-two or twenty-three years of age.

Did you lose many other trees through natural disasters like bushfires and winds and that sort of thing?

ACT Forests has over ...

END TAPE 2, SIDE A

BEGIN TAPE 2, SIDE B

ACT Forests has over the years has lost I suppose the 1952 fires, ten years before I came to Canberra, would be the biggest incident.

What about during your time?

Very little occurs - I don't think any comparable to the '52 fires. The '74 wind throw, I think that flattened something like 1000 acres of commercial timber, mostly in Uriarra, some in Pierce's Creek. That would, I think, be the next biggest loss.

This followed a strong wind storm.

That's right. But that wasn't a complete loss, of course.

Because you could salvage some of the loss.

Yes, I think it was very largely salvaged, although a salvage operation is never as commercially profitable as a routine one.

But there weren't any other major problems with the timber in your period?

Not that I can recall offhand.

You wouldn't want to have them, anyway.

Wouldn't want to have them. There are a few cases like species other than *Pinus radiata* that were also planted and we've tried to log them - sell them commercially: the American Western Yellow Pine, the *Pinus ponderosa*, was quite a big, sizeable percentage. The plantings of the early 1930s was in that species and although that particular tree grew in a very healthy manner, it hasn't produced timber comparable or commercially successful, which has been a disappointment to us.

Why isn't it as commercially successful or as good, in general?

I think it must be something to do with the climatic factors in this part of the world as opposed to what they are in western USA where the Ponderosa Pine has a huge range up and down the Rocky Mountains from Mexico into Canada. I think it grows in much more severe climate, possibly the milder

climate in Australia, the timber is not as dry and, as soon as you cut it, it starts warping and though the tree is healthy and grows well enough they've generally been an unsuccessful plantation species.

Where was it planted mostly?

I think there was more planted in Uriarra than any of the other forests but there has been a little bit planted in all four forests.

It had been planted in the '30s so I imagine it was felled in the early '70s.

Very largely but it's tended to linger on because the pressure of work and the lack of sales for a thing, it poses a bit of a problem.

What other species were grown and were logged?

The European Black Pine from the Mediterranean *Pinus nigra*, there was quite a bit of that grown also planted and that grew very slowly by local standards but produced quite a good timber which has been cut and used. I don't think there's any of that left, though. You have a marketing problem with all those minor species because they're not known in Australia and it's like putting a new kind of meat on the market, trying to sell - tell people it's good eating. The miller doesn't know, he's not keen to take it.

What were Ponderosa and Nigra used for?

They tried to use it for tile battens, I think, because the logs were fairly small.

That's what? - both of them or Ponderosa.

I think both of them and for framing grade timbers as they were both pretty knotty but in neither of those roles did they perform as well as radiata - the sort of main course.

How long did you stay in the Civic office for?

I saw my time out there, retired in March 1983. I did a short spell relieving at Stromlo Forest in 1975 but otherwise I saw out my time in Civic.

Doing that planning sort of work that you were doing?

Management, yes.

How did you enjoy your time working for Forests all that period - twenty-two years?

Good. I suppose it's like all jobs, full of frustrations but it's good insofar as I think forestry provides you with a good blend of field work and office work. In fact when I was in New Zealand where there were a lot higher rainfalls than you have here, the field work was interrupted

a lot more by wet weather and you had to retire from the field with all your notes and everything got soggy, and maps and field books. You couldn't work in the sort of rain they got out in the field and you'd retire and do all the plotting and maps and calculations from your field data. In Australia that sort of balance doesn't come automatically because you don't really get enough rain. I used to find in assessment a lot of the office work would fall behind because the weather was right to be out in the field and you were never ahead of your field work so there was always an inducement to get out and do it.

Sounds good.

That meant that you might more or less be up to date with your field work but you'd never be up to date with your office work.

Looking back, what do you think were the major changes you saw in the period when you started from '61 through to your retirement in '83?

I think the major change is the great awful terrible rise in costs that you were aware of when you started but you were also aware of the fact that the gangs in each forest in 1961 were large gangs and in spite of the fact that it was hard to get hold of people to work for ordinary award wages - the country was booming and nobody wanted to work for government award wages and the only way you could attract labour was to

offer them a forestry house - you still managed to get a big gang on each forest. As the years went by, you were told that your gangs were too big, overstaffed, you had consultants coming in all the time telling you that you were overstaffed; the staff were run down and the houses closed, a lot of the older ones demolished, all the camps demolished. You had outlying camps not only at Bulls Head but scattered all over the forests which contractors could use as well because they wanted to get a roof over their head on the forest. Since that time everything was steadily contracted. You got less men but you probably got a much bigger wages bill.

How do you think it has affected the forest work itself? - the diminishing staff.

I don't think it's been a good thing at all, actually, because you have Well, let's say, out at Uriarra you had a settlement, you had a school. You had enough people there to keep at least one teacher in charge of that school. What the situation is there now, I don't know but I don't suppose it's all that good. The settlements - houses - are lot of them are not occupied by forestry staff.

What about any changes in forest management practices themselves? You said that one thing was that the rotation period has been shortened but any other important changes you think you've seen?

I don't think so, no, not really. I think forestry is the sort of enterprise that imposes its own discipline and routine on anyone. It's like somebody - if a farmer's growing wheat today, he's got to do more or less the same thing as his father was doing thirty years before. I don't think, really, there can be all that - circumstances change and force a lot of minor changes but you've got primary considerations like protection of the forests and standing it, roading for access and things like that. Logging techniques can change and they all force changes from year to year but there again I don't think they're fundamental sort of changes. I think you can't run a forest without enough people on the ground to supervise it and protect it. Sooner or later the balloon will go up and the place will be burnt to the ground or something like that.

Let's hope that doesn't happen.

I hope that doesn't happen but, I mean, I think you've got that situation with national parks. They're so big and extensive that it's very, very hard to protect them with the existing staff.

Identification: this is tape 3 of an interview with Mr Bob Cruttwell, conducted by Brendan O'Keefe, recorded on 26 May 1994 at the sound studio at the Australian War Memorial. The topics covered on this tape are history of forests and forestry in the ACT and

especially Mr Cruttwell's work in the forests. End of identification.

I was asking Mr Cruttwell about the changes he'd seen in ACT Forests in his twenty-two year career with the Forestry Service. I suppose one of the major changes would have been in the growth of recreational uses and particularly things like school visits and the interest shown by school children and other recreational uses, too. I was wondering if you could expand on that a bit.

School visits seem to become very popular in the early '70s, as I remember, and I hope and I think with some certainty that they have been of some lasting value to school kids. At any rate they always seemed to enjoy a visit if one could only pick a suitable event for them to watch and it soon became very evident that tree felling was the thing that really fascinated them. I always tried to tell them that there was more to forestry than killing trees but there's no getting away from it that, particularly with primary school kids, the felling of a tree, particularly a good big pine, well over a hundred feet tall, was a great thrill to them. I would ask the contractor who happened to be working in such parts of the forest as were accessible to a school in a school bus which, of course, is not every part of the forest, if one of his fallers would drop a tree on a particular spot and I'd mark it with an old hat or something like that and then get the faller to do his stuff with the

chainsaw. As I remember it, a hundred per cent of the time that tree would come down right on the spot where the hat was and that would really get a big cheer. In fact any kind of thump on the ground which marked a tree coming down would get a big cheer out of the kids and they'd go away as pleased as punch but before they got back into the bus I'd always find that the teachers were anxious to know a lot more about forestry and explain it to the kids and we'd invariably be able to find stands of timber at different stages of growth which would be of interest to them within one quite small area of the forest. And you'd also be able to point out a lot of other plants that were growing there and very frequently, of course, you'd find wombat holes in the compartments that you were walking through and you could point them out and they'd throw cones down the wombat holes to see whether any wombats were at home and they'd generally have a pretty good morning. The teachers, on the whole, would enjoy it. I think they found it a bit harrowing to try and keep the kids all together; they'd scatter like chaff as soon as they got out of the bus and needed a bit of rounding up usually. But that was a very rewarding part of looking after a forest was to have kids come out and see what went on.

It's interesting you say that. I'm just wondering what you feel were the other most rewarding bits of working in ACT Forests for twenty-odd years.

I don't know, really. I feel it's quite rewarding to see the log truck come down the Cotter Road with a good load of logs on to show that we've got a primary industry that's lurching along, not come to a complete halt while the rest of the economy is taking a lot of knocks and a lot of industries are closing down, a lot of people losing their jobs. I always feel that ACT Forests is one of the few primary industries in this part of the country

Agriculture when I came out here in '61 has certainly retreated. I remember a whole big proportion of the Isabella Plains and what is now Woden Valley carrying a lot of wheat and bushfire council crews coming out from the forests to tend stubble fires, and wheat harvesting in that part of what is now almost central Canberra and that bit of primary industry is pretty well finished. Even sheep are pretty few and far between. And as I say, it's nice to see logs coming out of pine forests which are keeping the mills going and the houses being built and the average citizen getting a bit of employment out of it.

So there's a real sense of achievement and productivity in what you did those years.

I think so, yes. I feel it myself and I think most people in ACT Forests would feel the same.

It interests me though, we were talking just a moment ago about school children and the interest their teachers, particularly, showed in forests but it

doesn't seem to me that people in the ACT in general are aware or appreciate the commercial, aesthetic and even the recreational value of the forests that exist here and I'm just wondering whether you'd like to comment on that, at all.

I agree with you. Forestry has been under attack politically and economically. It shouldn't have been under attack economically but it seems to be somehow and I think that's unfortunate and, I think, the community as a whole will suffer from it. I think in the ACT we've got about fifty per cent or more of the ACT territory given over to Namadgi National Park which is a far greater percentage than occurs in national park status of other states and territories and, I think, partly as a result of that, plantation forestry has been very much on the defensive. I don't think the population is really aware of the fact that there are only about 15 000 hectares, which is a minute percentage of the ACT area, is allowed to continue as a productive forest. I think it's the same in all countries that forestry is always the poor relation when land resources are handed out. In a lot of places forestry can only acquire land if nobody else wants it for anything. The number of countries in the world that haven't taken this attitude are few and far between, and mankind is really suffering as a result. I think we ought to take a careful look at countries like Finland and Sweden where forestry is regarded as a great resource and industry is built around it. The Swedes produce their own logging equipment

machinery and they get a good standard of living from managing a forest resource under much harder conditions than you'd ever find in Australia. The same in Finland and in countries like Switzerland, too. I hope it's only a swing of the pendulum.

What was the basis for the criticism on economic grounds of ACT pine forests you were alluding to a couple of moments ago?

I think there is a valid criticism that productivity - the environment in the ACT is not as good relatively as it is in other parts of New South Wales relatively close. I think that's a valid criticism but I think even growing pine in less than ideal conditions at a time when a lot of other commodities are also in over supply could still be economic. There is no doubt that somebody coming from New Zealand, for instance, looking at the rainfall patterns in the ACT, might wonder why we ever went in for plantation forestry. On the other hand, there are not very many options really readily apparent at this time that I can see.

What do you think is the future for ACT Forests?

I don't know. I hope they never get beaten back any smaller.

Do you advocate further plantations in what are or were native hardwood areas or things of that nature or do

you favour - I think you said before you were interested in the logging of native eucalypts in appropriate areas?

I think there are certain areas in the ACT where commercial forestation - into which it could be extended.

Such as?

There are parts of both the Tidbinbilla Ranges and the Brindabella Ranges where further forestation by pines could be very economical and also where some management of hardwoods would also be economical. I'd acknowledge that they are limited areas but I think we should look at that. We're a small territory with small resources and we need to look at every square yard.

Do you have any ideas about changed management practices?

No, not really.

I think we've probably done our bit today. It's been a long way from Edinburgh via military training in Welsh jungles and New Zealand to ACT Forests for Mr Bob Cruttwell but it's been an interesting journey. I'd like to thank him very much for coming along and talking to us today.

Well, thank you very much for giving me the opportunity to.

Not at all.

END OF INTERVIEW