

**INQUIRY INTO THE TASMANIAN FORESTS INTERGOVERNMENTAL
AGREEMENT INDEPENDENT VERIFICATION GROUP - REPORT OF THE
CHAIRMAN**

Mr BOB GORDON, MANAGING DIRECTOR, FORESTRY TASMANIA, AND
Mr JOHN HICKEY, GENERAL MANAGER, FOREST MANAGEMENT, WERE
CALLED, MADE THE STATUTORY DECLARATION AND WERE EXAMINED.

CHAIR (Mr Wilkinson) - Welcome, gentlemen. Would you like me to go through the formalities in relation to the giving of evidence or are you aware of that?

Mr GORDON - I think we were both given that document.

CHAIR - So you know you are privileged in here but not outside. If you want to go in camera at any stage in relation to evidence you don't believe should be for the general public, please let us know.

It was a fairly short term of reference and was a result of the report from Professor West. As a result of that, it said:

To inquire into and report upon key finding of the report of the chairman, Mr Jonathan West, as part of the work of the Tasmanian forests intergovernmental agreement independent verification group which found Tasmania's native forests, not including plantations, have been and continue to be harvested substantially above long-term sustainable yield in respect of the key product segments to which they provide resources.

Professor West has been before the committee, as you probably know, and stated that in any debate about sustainability what should be looked at is not only native forests but also plantations. He didn't believe, for whatever reason, that plantations were part of his charter. As a result of the comments that came from certain groups in the community as a result of the report from Jonathan West, the markets were damaged to some degree immediately because people were trying to twist what was stated to suit their own purposes. As a result, Forestry Tasmania was under the pump. Can you please let us know what you did as a result of that and what the conclusions were of the decisions you made in order to cope with what was going on?

Mr GORDON - There were two parallel things going on. The first was that some groups, in Professor West's words, misinterpreted and misused what he said and lodged complaints with PEFC and our certifier. Our certifier was going through our normal recertification process anyway and in doing that dealt with the two complaints that had been lodged, and decided that, given the public nature of the complaints, that Professor Ian Ferguson,

who was one of the world's pre-eminent scientists on sustainable yield forestry, would be engaged by them to investigate and report on the complaints.

CHAIR - Which were the groups that made the two complaints?

Mr HICKEY - There were quite a few e-mails, but probably the most coherent complaint was from Geoff Law, which was picked up specifically as part of Professor Ferguson's work. Malcolm Mars, Frank Strie, John Maddock - and there may have been others.

CHAIR - So you responded to those complaints by having Professor Ferguson -

Mr GORDON - We didn't engage Professor Ferguson. John will go through the way the recertification process works.

Mr HICKEY - It is quite complex. The governance arrangements around the Australian Forestry Standards were very good. The Australian Forestry Standard was recreated by Australian Forestry Standard Limited and it registered the standard with JAS-ANZ, the standards body for Australia and New Zealand. The standard was also recognised by PEFC, the program for endorsement of the forest certification scheme, which has its centre in Geneva. Compliance assessment bodies such as our certifier, NCSI, are all assessed and accredited by JAS-ANZ to audit against that standard. When PEFC raised the complaint, they followed a very formal procedure and turned all these messages and e-mails into a complaint, this is serious, and contact NCSI, our certifier, and said, 'You need to go through a formal procedure'. NCSI then made the judgment. They would normally investigate it fully on their own behalf but because this was a high-profile complaint coming from an independent chairman of a government-appointed group they employed the best technical expert they could get, Professor Ian Ferguson, and we were comfortable with that.

Ms FORREST - Is Professor Ferguson totally independent of PEFC?

Mr GORDON - Yes.

Ms FORREST - He was seconded by them as a totally independent expert?

Mr HICKEY - Yes, and their choice, but we were comfortable with that.

CHAIR - But Forestry Tasmania had no say in relation to who was going to have a look at it?

Mr HICKEY - No, it was their decision.

CHAIR - We have the report he came back with. As you know, it concluded that FT's five-year sustainable yield review met best-practice standards at that time. The report also said that it merits improvement in the course of the 212 sustainable yield review. Can you inform us what improvements are needed?

Mr HICKEY - I think that's an interesting comment and worth thinking about and we are doing that at the moment. There is actually three concepts. There is the sovereign risk level, which was set at about 300 000 cubic metres at the RFA or even before that -

Mr GORDON - 1991.

Mr HICKEY - which is a minimum level and that is put in legislation so that industry has some assurance that they can operate at least at that level. The sustainable yield calculation should be treated as a maximum and it is a theoretical level that if you cut at or below that you are not diminishing the resource. Then there is a third concept which is the contracts that will vary over time, in and out. In moving to the 212 review, depending on where governments land on the sovereign risk level, whether it is 155 000 or 300 000 as it is now, I believe that should be the minimum sovereign risk level, the sustainable yield calculation and then the contracts set between.

CHAIR - Is there anything you wanted to mention as a result of the Ferguson report?

Mr GORDON - Just a bit of an overview. The recertification of Forestry Tasmania was really pleasing for the hard-working staff at FT. We have lots of scientists who are experts in their field who felt that they had been unfairly and quite incorrectly criticised for their work and so the recertification, particularly at a time when FT has been under considerable pressure for the last couple of years, I think was a real boost for people. At the same time, and we are having a series of staff meetings next week, we achieved our best ever safety performance by a magnitude for both our silvicultural contractors, our harvesting contractors and our staff. If you look at the amount of quite unfair and generally untrue criticisms being levelled at FT by activists attempting to denigrate FT because it suits their political argument I think it is a credit to the professionalism of staff at FT that in this most difficult time, with a staff number about two-thirds of what we had two years ago, that they have kept their professionalism at a high level. I think if you read Professor Ferguson's report we are at the best practice end of forest management in Australia and perhaps the world.

CHAIR - Are you able to say now how many independent reports, which of course the Ferguson one was, there has been on Forestry Tasmania over the last 15 years?

Mr GORDON - Every five years since the RFA was signed in 1997 there was a five-year review, so there was one of those in 2002 and 2007 and we were in preparation for the one this year but you probably notice we have been doing a whole lot of work which has distracted us from that process. On top of that, professors Brack and Vanclay were asked by the Kelty group to independently review FT's sustainable yield calculations, the standard of our forest management, and again that came through with flying colours. If you read the report that we gave to the Kelty group and launched publicly, the Vanclay report attached to that again said that we were world's best practice. And then Professor Burgman and Andrew Robertson, engaged by Professor West's group this time to again go through the methodology and professionalism and robustness of FT sustainable yield calculations, and again we were given, I thought, a very pleasing outcome from that report as well.

If you go before then there have been many Legislative Council and House of Representatives joint select committees. The first one I was involved in was the Helsham royal commission. That was in 1988 where I gave evidence for two days about sustained yield calculations, which used to be my area of expertise. Again, it found that within our work professionally, that the calculations were good, there was no bias in them and they

accurately reflected the growth of forests. Unfortunately, the federal government of the time overruled completely the royal commission findings and decided to do something else. But there has been a series of independent reviews of FT's resource calculations and methodology for sustainable yield calculation. The ones in 1997, 2002 and 2007 were also all signed off by both federal and state governments.

Mr HARRISS - On that notion of sustainable yield, I am aware that of your choice you publish sustainable yield documents probably every year. If that is the case, what then was your reaction to the West statement against those reports?

Mr GORDON - I might get John to outline what we do in our stewardship report each year. The report we released two or three years ago is quoted in the Ferguson report about the area by age class in the forests, now and in 2096.

Mr HICKEY - That was in the 2007 sustainable yield review. Under the RFA we publicly report our sustainable yield position and it is like a snapshot. Forest zoning is changing all the time but at a particular time, over the last five years, we review all the performance history of what we call provisional coupes and what we got from that coupe and the area discounts that resulted by 91 forest classes. We calculate recovered volumes. We calculate the standing volumes, the land base, the view of what the plantations are doing, what is being planted as a result of the RFA and the TCFA. It is all gone through in great detail and then reported and then audited. People might say, why don't you do that all the time? We are internally updating all the time, but to bring that all together and get the whole group to say that is the best view we can put over a 90-year period, is a major exercise. To be honest, if you had too much interim reporting along the way it would be creating noise rather than clarity.

Mr HARRISS - Am I also right in understanding or presuming that the Forest Practices Code requires adequate regeneration as part of what anybody does with regard to forest harvesting in Tasmania, whether it be FT or private foresters?

Mr HICKEY - Yes. The regeneration standards in the code are rigorous and came from Forestry Tasmania.

Mr HARRISS - As the Chair said at the start of this, Professor West qualified his comment by, in brackets, not including plantation. Did that create any alarm within FT or a suggestion, in fact, that maybe Professor West was not really tuned into what forest management was all about? You just cannot make kind of a comment and put in brackets 'excluding plantation', because, am I right in understanding, plantations and native forests are part of the mix in determining sustainability?

Mr HICKEY - Yes and the staff who are involved in doing the work were very concerned. They wrote a letter to the paper, which was probably an appropriate response to help them deal with it. Excluding the plantations was hard to understand when the plantations were put there under the Regional Forest Agreement and the Tasmanian Community Forest Agreement, precisely to off-set the resources that have been put into the new reserves, and that is the point that wasn't made. That was a concern. I guess it was the fact that activists seized on those comments and then we read these comments in the *Sydney Morning Herald* and the staff were feeling that our reputation was being brought down.

Ms FORREST - Professor Ferguson said, after that comment from West, 'not including plantations' -

I am unable to see how the West 2012 report can logically exclude plantations given that definition of the defined forest area, not to mention the long history that explicitly incorporates plantations for the transition of the greater use of regrowth forest and plantations in the place of old growth harvesting. This probably occurs in the following excerpt ...

and he goes on to the West report. I think that is basically showing that that was an inappropriate assessment - from Ferguson as well as others.

Mr HICKEY - I think that is well summarised here.

Mr GORDON - To answer Mr Harriss's question a different way, I don't believe that any of the people who are working for Forestry Tasmania, particularly those who have professional expertise in sustainable management, had any doubt that Professor West's comments were not correct. People didn't say, 'Oh, what have we done?'. They said, 'What do we need to do to correct the public record so that these comments can't be misused by others'. If we hadn't gone through the process with the independent certifiers and their engagement of independent experts, then I believe we would have done a similar thing ourselves on our own initiative anyway.

CHAIR - Bob, even walking around the corridors here, some people are saying, 'We told you so, FT has been overcutting now for a number of years'. They were the throwaway comments that some were making, which obviously were offensive to you because they were made, it would seem to me, by people who certainly do not have any science in the forests at all. They are just commentators and don't really know. It puts you under pressure. I am saying this as an independent chair of a committee; the whole process has to be fair. What happened as a result of that, as far as I can see, was totally unfair because of the comments that were made, which were totally unsubstantiated and have been found to be totally unsubstantiated.

Mr HARRISS - The Chair has mentioned people around the corridors here, but publicly a very vocal comment was made by Nick McKim, specifically, who publicly said, 'That confirms what we have been saying for years, that FT has been overcutting our forests'. From my point of view that, coming from a government minister, sends an entirely different message than somebody scuttling around the corridors here and making a comments. Personally I have a concern about that because of the message which that sends to the world from this government. I throw that into the mix. You might not want to consider that as part of your -

Mr GORDON - I think our role is to be scientific and professional and to report publicly on the facts, and that's all we'll do.

Mr HARRISS - It seems to me that you were forced into a position of defending your scientific track record because of what Professor West said. Was there specific damage to markets, either in this country or overseas, as a direct result, from your judgement, of what Professor West said? If so, how quick was that damage?

Mr GORDON - To answer it a bit differently, one of the challenges in the public debate some time is that it is easy to make an accusation and often that gets quite a bit of exposure. When the scientific independent investigation is done and it shows that the allegation was not correct, often that gets nowhere near the exposure or publicity of the original claim. I think that is what people find quite frustrating. There is probably a list of 100 such allegations that have been made against FT, all of which have been shown not to be correct, but again often that correction does not get anywhere near the exposure of the original complaint.

When the allegation was made we obviously contacted both our customers and, through Ta Ann, their customers and said that there is going to be an independent review of the allegations. When Professor West's and the NCSI reports came out we obviously distributed those to our customers and through Ta Ann to their customers, but unfortunately it is human nature to probably remember the allegation and not that you were proved not only not guilty but at world's best practice.

Mr HARRISS - On that, then, do you feel that you have adequately recovered the position or the brand or the reputation following what has been done with your recertification?

Mr GORDON - I think any independent fair-minded person that read the Ferguson report in particular could only come to the conclusion that FT, and particularly the staff who deal with sustainable yield calculations, have done it professionally. There is no bias. It reflects best practice in Australia and best practice in the world. One of the things that we pride ourselves on is if there are improvements we can make, we will make them. Professor Ferguson has suggested some quite interesting improvements with using stochastic models to better predict probability of events, which is actually quite a complicated thing to do. We will pick up all those suggestions, as we have at every other audit that has been done. Wherever it is practical and able to be done we pick up on those improvements, which is why every time we are reviewed they generally say we are at world's best practice because we continue to improve.

Whether we have fully recovered from the series of allegations that have been made against FT over the last two years, I know our staff are feeling battered and somewhat unloved. It has corresponded with a very difficult set of circumstances where effectively there has been a blockade on Tasmania trying to get woodchips out of the state because of the closure of Burnie and the sale to green groups of Triabunna, and the Australian dollar has gone up so it has been very difficult. I think it is a real credit to the professionalism of staff in FT that in all these difficult circumstances and trying times they have maintained their professionalism so that Ian Ferguson says that they are very good at what they do. We have maintained and improved our safety record at the same time. But it has been very difficult for the average FT employee, who, by the way, generally has at least one degree. It has been frustrating that when some allegations are made, the response and the clearing does not get sufficient media attention compared with the original claim.

Dr GOODWIN - I think what you are saying, Bob, is that basically once the damage has been done it is very difficult to completely unravel it because there is not that media attention on the correction to the same level as perhaps the original allegation.

Mr GORDON - I think it is probably not as exciting, a bit like what happens in law cases. You have the allegations made and the fact that someone was proven not guilty sometimes just slips out again.

Dr GOODWIN - Presumably there is some accumulative effect as well, so if allegations about Forestry Tasmania keep coming up, and you have mentioned a two-year period, people start to think that there must be something to that because here is another allegation. They are perhaps not listening so much to the fact that each one has been refuted.

Mr GORDON - I don't think people who work in Forestry Tasmania or have a good understanding and knowledge of the forest industry would think that. When John and I go out to national industry [inaudible] or national meetings I think Forestry Tasmania is held in very high regard by our peers. John and myself and the other members of the general management team have been having regular visits to our staff, probably every three months. I am going next week; I haven't been for a while. There is a level of frustration that many of these claims they know are ridiculous but for whatever reason they appear to get a reasonable amount of coverage.

Mr VALENTINE - For a layperson like myself, can you explain a stochastic model?

Mr HICKEY - A stochastic event is one you know will occur but you don't know when; a wildfire is a very good example. You know there is going to be another megafire but you don't know when. I think Professor Ferguson, being Victorian-based, is very mindful of that. They have had a couple of megafires in the last decade, whereas the last megafire that affected the forest estate at a wood supply level was probably 1934. We know there will be something major again; 1967 was big and damaging but not so much in terms of the wood supply.

Mr VALENTINE - Being an ex-public servant, I know sometimes public servants can be targeted, even though they are doing their professional duty. Health comes under the hammer sometimes, but nowhere near as much as Forestry Tasmania. Can you give an indication as to what the stress levels might be at the moment? Do you have people off on stress leave and is it higher than the norm? I know that might be difficult to answer here.

Mr GORDON - No-one in FT is a public servant or under the State Service Act, so they are under our employment conditions.

Mr VALENTINE - I appreciate that.

Mr GORDON - There has not been a spike in sick or other leave. We have a different system in that we have a no-credit, no-debit sick leave. If you are sick, whether it is for a day or six months, you pay sick leave. If you're genuinely sick, we cover the sickness.

Ms FORREST - You can't accumulate it, then?

Mr GORDON - You don't need to because you get whatever you need. We have an independent referral service where any employee for any reason, whether it is work related or not - it might be a personal issue about a marriage et cetera - then they are

perfectly entitled, and we encourage them, to engage that service anonymously, and no-one from FT management ever knows about it. In the last month we have asked for that service to be a bit more proactive and go around and have sessions, if necessary, at a workplace level. I think most people at FT are pretty resilient, but even resilient people after a while need a bit of a break and a refreshment. It has been pretty constant in the last few years and I think the very pleasing thing has been that we've gone from having a lost-time incident frequency rate of close to 30, traditionally. Over the last five years it has gone down and this year it's a bit under six; for harvesting contractors it is four and for silviculture employees it is zero. That is well below the industry standard and I think it is probably a sign that even though things have been fairly tough people have fallen back on their training and experience and been extraordinarily professional. For example, we've had various members of the ENGOs in our office almost constantly for the last five months. We have had representatives of our customers, unions and FPA with us helping to explain the concepts of sustainable forest management and running scenarios - 'What if you did this, what would the answer be?'.

CHAIR - These are the environment groups that are asking you this question as well?

Mr GORDON - All of the groups, yes. We agreed to facilitate the process by effectively having the merchant bank turn Chinese walls, where individual interest groups could ask questions which we would analyse and give them the answers to without those answers being shared with any of the other groups, so that they could confidently ask questions which might lead them to come to a different conclusion than if they had to put it as a proposition to the wider group in a negotiation. All of the feedback that we have had is that the staff involved have acted in an extraordinarily professional and efficient manner and I would probably add, showing enormous tolerance.

CHAIR - Have you found that, in some ways, that has been a conciliatory approach because the people who are making these accusations and making them, maybe - because I do not personally know - without any scientific background, are then able to come to you as the so-called 'enemy' and ask, 'Is what I am saying correct or is what I am saying incorrect?'. That seems to be what you are saying.

Mr GORDON - I believe that if we could get all of the people who oppose sustainable forest management in its current form in Tasmania out in the bush for a few days, a lot of the angst would go out the debate, if we could better show people what actually happens. It is probably easier to have an enemy if you don't know them.

Ms FORREST - Once you personalise anything it makes it harder.

Mr GORDON - It makes it really hard. People in FT are honest, hard-working and professional and really good at their jobs, and I suppose some people can still do it but it is much more difficult to demonise people if you have met them and you know them. Everyone here would have met lots of people in FT. There is no-one in Tasmania who would not know quite a few people that work in Forestry Tasmania or our contractors or their employees.

Mr VALENTINE - In respect to threats to staff, has that occurred? Do you have any information in relation to that?

Mr GORDON - We wouldn't normally talk about it. I am happy to talk about my personal experience, where I have had my house graffitied, my car vandalised and, until we received a silent phone number, threatening phone calls which my children answered. But that could happen to anyone in forestry; I am sure it happens to members of parliament, police officers and others.

CHAIR - They normally don't give you their name though, Bob, so they are very brave people, aren't they?

Mr GORDON - They never give you their name. But, again, I think most people in FT are confident enough in their own work and proud of their work so that I think most of it, they just brush it off. I am not saying it just happens to people in the forest industry either. I know it happens to people on the ENGO side. I do not think it is at all helpful.

Ms FORREST - Aurora workers had a stink there, didn't they, for a while?

Mr GORDON - I don't think it does anything to try to resolve issues and I think it is quite a cowardly way to go about it.

Mr VALENTINE - I was really trying to get an understanding as to how the staff are coping and, indeed, whether or not there is an overt amount of that going on at the moment.

Mr GORDON - I think that the most difficult thing to cope with is uncertainty and there has been a lot of that in the last couple of years. I wish I could give people an answer and say, 'This is what is going to happen' but, unfortunately, that is not within my power, it is up to the parliament to change laws or to implement changes to law. We have to act within the law as it is and, at times, that has been challenging.

Ms FORREST - Going back Professor Ferguson's report. It has, looking to the future, as opposed to whether there was a past event. In his conclusions on page 21, number 2, it says:

The Forestry Tasmania (2007) process of calculating sustainable yield meets best practice standards at that time but merits improvement in the course of the 2012 review of the Regional Forest Agreement, in order to better address the Australian Forest Standard principles underlying sustainable yield and the calculation of it.

- and one of you alluded to that previously. It goes on to say:

In particular, the constraints imposed by current legislation to make available a prescribed minimum harvest of 300 000 m³/y of high quality sawlogs needs to be amended to enable the Australian Forestry Standard principles underlying the calculation of sustainable yield to be properly implemented. Also, the implied rigidity of a steady annual harvest in the seamless transition of volume involving greater reliance on supply from regrowth forest and plantations needs to be reconsidered, not least in relation to the uncertainty and risk attached to the transition to greater use of eucalypt plantation sawlogs and peeler logs.

World's best practice has been acknowledged - this is according to the 2007 standard at the time. The 2012 standards have obviously changed it to a degree and we know that in the current IGA process this is being looked at. Is it a fairly safe bet that they are going to have to see some reduction in that 300 000 - I think is almost a certainty - to meet the 2012 requirements for the standard?

Mr GORDON - What the 2012 review under the RFA will do is do the calculations. If you look at the previous page of Professor Ferguson, he has the sawlog cut over about a 15-year period, and it goes up and down. A lot of that was to do with markets, and some of it was to do with weather. For example, in the blackwood swamps, you can't harvest every year, you can only harvest maybe every second or third year, so that volume goes up and down. But over a long period of time - 90 years - that will all even itself out.

As John said, there are actually three different components to it. There is the sustainable yield calculation, there is whatever the legislation says is the minimum, and what was the other one, John?

Mr HICKEY - The contracts.

Mr GORDON - And the contract volumes that are written. If the parliament sets a minimum then obviously they have to be greater than that.

Ms FORREST - Should the parliament set a minimum or a maximum?

Mr HICKEY - My view is that it should be a minimum because it is a sovereign risk assurance to industry for a period but it should clearly be below the sustainable yield calculation. If you have it as a minimum but the sustainable yield position is below that -

Ms FORREST - That's where you would have problems.

Mr HICKEY - That's a problem.

Ms FORREST - So should there be a minimum and a maximum then, and the sustainable yield somewhere between those?

Mr HICKEY - I think the sustainable yield is the maximum, over a period. It is not to say that for individual years you might go above it.

Ms FORREST - Can the sustainable yield vary on an annual basis?

Mr HICKEY - It is usually calculated over a long period. We take a 90-year view.

Ms FORREST - Bob's comments about blackwood swamps and not being able to harvest every year and things are up and down because of weather and a range of other factors - perhaps markets as well -

Mr HICKEY - That's the actual cut.

Ms FORREST - Oh, right.

Mr GORDON - If you looked at the cut like that, you would expect the sustainable yield to be below the average level of that, about the average level of that cut.

Ms FORREST - Is it possible to, and should we, legislate the sustainable yield as well as the minimum? I understand the sovereign risk issue there but would there be value in prescribing the sustainable yield, if it can be determined over a 90-year period?

Mr HICKEY - We provide our best view of that every five years. I think if you put into legislation -

Ms FORREST - Or regulation; I'm not saying that legislation is the answer.

Mr HICKEY - Maybe regulation. I believe it is better to let the scientists give their best judgment and report that, and if it appears to be at odds with the sovereign risk minimum, then you go to legislative change. I think having a legislated sustainable yield is a bit at odds with good forest practice.

Mr GORDON - Because it will change as things change. For example, in 2007 we didn't have any LiDAR information. We had limited real plots in a plantation that measured actual diameter and height of trees; we were using simulations of growth plots. I would expect in 2012 the amount and accuracy of information to be much greater than in 2007. We have better computer techniques for running simulation models and the sustainable yield will vary as you get more information. If you go back to before 1991, the legislative minimum forest yield was 317 000 cubic metres and it was changed in the public land use and administration legislation, I think in 1991, which was as a result of the Salamanca Agreement and the Forests and Forest Industry Council, which was the last time the ENGOS, industry and unions had all got together to try to work out a solution. That solution at the time involved removing large areas from state forests and putting them in reserves. The calculations of sustained yield at the time were closer to 300 000 than they were to 317 000, so as part of that arrangement the parliament reduced the 317 000 to 300 000.

Ms FORREST - According to Professor Ferguson's comments, he would expect there to be a reduction. In regard to what is going on in other processes at the moment, I take it he is suggesting that if we are going to meet ongoing requirements under the revised 2012 standards, there will need to be a reduction.

Mr GORDON - We still have to do the numbers, but when it was done in 2007 it was very tight. Getting the simulations to meet the objective function of a constant 300 000 cubic metres of wood meeting the specifications in the act was very tight. Since then, even though there has been no substantial legislative change in forest practices, there have been a whole lot of administrative changes which have, in my view, substantially reduced the amount of timber we can harvest. As John said, the scientists will put the thousands of pieces of the jigsaw puzzle together, run the simulation models with the best available information and that will produce the number you can cut each year without reducing the capacity of the forest to produce that forever and without substantially changing the age mix, composition and robustness of the forest.

Ms FORREST - So you're saying that in 2007 it was tight to assure yourselves that 300 000 was a number you could continue to have as a minimum and maintain the sustainable situation?

Mr GORDON - Correct.

Ms FORREST - So you agree with Ferguson that there's every chance it will need to be reduced, but you'd have to run the figures?

Mr GORDON - Yes, we have to run the numbers, but given what has happened with administration for the practice of some of the changes - which haven't been made in the code but which maybe in practice have - that has lessened the amount of timber available. For every sustainable yield calculation we use what has actually happened for the last five years to adjust what we had theoretically predicted. For example, for every area of forest we harvest we compare the area that was harvested compared with what was planned and we also compare the volume per hectare by product type that was actually harvested compared with what we expected using multivariate analysis. It is a quite a complicated thing but it gives you a very good idea of whether we've been recovering more or less than we expected. In general, we harvest less of the area we planned to harvest than we predicted we would. What is the current average, John, 26 per cent or something like that?

Mr HICKEY - The area discount is about 26 per cent, so you get 74 per cent of a provisional coupe that is actually harvested.

Ms FORREST - When do you expect the modelling and the numbers to be known?

Mr HICKEY - We have to get the land base agreed.

Ms FORREST - The point I was leading to -

Mr GORDON - We were ready to run them in the expectation that there would have been an outcome of the intergovernmental agreement process by 31 December last year, which is what was said, but all of our resources have been focused on assisting participants in the process, understand the consequences of their proposals -

Ms FORREST - You have some more work to do now in this two weeks.

Mr GORDON - and also assisting the Professor West process and again, we did all the resource modelling and had it verified by Professor Burgman's process and then having to do the work for the NCSI Professor Ferguson review.

Ms FORREST - Are you saying you cannot really do it anyway until you know the outcome of the IGA?

Mr GORDON - We could but you have to make a judgment and, as John said, it is a lot of work and we probably haven't the resources to run it twice.

Ms FORREST - Yes, so you would be pre-empting a decision of that group and the decisions of parliament effectively.

Mr GORDON - I keep on saying to people and I am not necessarily popular but the law is the law. At the moment we are bound by what the law is, not what people say it might be and I think we would be very reluctant to do any substantial body of work in accordance with the last RFA five-year review until we were pretty sure that what we were running was what was likely to be the law at the time.

Ms FORREST - So you are not keen to see another two-week extension at the end of this two weeks then? That is the loaded question.

Mr GORDON - We will continue to provide information and professionally analyse questions that are put to us by the signatories or by either government or by the parliament, if they wish to do so, because without us providing that service there will be an information and knowledge vacuum.

CHAIR - Can I ask a couple of questions resulting from those answers. The first is: there seems to be some confusion about various discounts applied to sustainable yield calculations, so can you explain the difference between area discounts based on recent performance and various headroom levels which estimate possible future reductions in available supply?

Mr HICKEY - Yes. Bob has outlined the area discount process, which is based on performance and updated every five years. When we did the preliminary modelling for the signatories back on 6 June -

Mr GORDON - It was 6 June last year.

Mr HICKEY - Yes, 6 June 2011, we built in for the first time a headroom percentage of 10 per cent because we were using preliminary models and doing it on the fly. That concept, that idea really took off so when we had professors Brack and Vanclay look at the work they said that maybe 10 per cent is a bit low and it should be perhaps between 10 and 20 per cent. Then Professor Mark Burgman from the University of Melbourne, from the Australian Centre for Risk Analysis, said that maybe that is a bit low, too, and maybe it should be 20 to 30 per cent and then I think other people have said maybe it should be 40. I think two things are happening: one is that some of those, not the professors' but some of the public comments around that, have confused the area discount factor of about 26 per cent based on known performance with the headroom concept, which is all about your appetite for risk and what you think the future holds for you and some people have said that it needs to be higher because we might have a megafire, we might have climate change; and others have said that we might find new species that we need to protect. They are all making these predictions about the future and I am almost at the point of saying that maybe we should go back to what we do at each RFA and give everybody the best number that we can and say, 'You apply your own thoughts about how this might vary in the future, but be assured that every five years we will be updating that number'. I think this head-room idea is a little out of hand.

CHAIR - Do you believe that is causing some confusion out there for those that are not dealing with it day in and day out, like Forestry Tasmania and other scientists?

Mr HICKEY - Yes, I think so.

Mr GORDON - There were two articles in the newspaper which said that head room was the discount for current forest practices. That is simply untrue. The discount for current forest practices is about 26 per cent. The head room concept is about things that may or may not happen that we not yet know about, like a major fire. Tasmania, as John said, has not had a major fire since 1934. It will happen some time. If it happens at the size of Victoria, which could happen, that will be completely driven by the number of ignition points and the weather conditions on the day and the preparedness to fight those fires through doing adequate fuel reduction burning, then it will have a significant affect on the forests. When will it happen? I do not know. Inbuilt into our current calculations is the 1934 fire. That is, the history of the last couple of hundred years of fires are imbedded in the calculations of sustained yields, because that is what has happened. The plots are in those forests. We know which areas have been burnt. According the early reports, there was a very large fire about 400 years ago.

CHAIR - I think we can just about remember that, Bob.

Laughter.

CHAIR - We were talking about 300 000 et cetera and that was not hectares. But if I can get you down to hectares, Forestry Tasmania expressed a view back in August of last year that new reserves in the order of about 300 000 might be consistent with the wood supply targets in the Tasmanian forestry intergovernmental agreement. Is that still Forestry Tasmania's understanding?

Mr GORDON - It was in this June 2011 report that we were asked to provide to Mr Kelty. It was in the context of the map that had been provided for us to analyse; that was the ENGO claim of 430 000 hectares at the time. Depending on what area you are talking about it has quite a different impact. The biggest impact is the areas of high quality regrowth that have been created by clearfall burns, so silviculture over the last 60 years, because they are really good quality forests and they are ready for harvest in the next 10 or 15 years. For some of them it is the second time they have been clearfall burnt and there are large areas of those that were included in the ENGO claim as areas worthy of protection.

In a rational world you would look at the relative value of a particular area for conservation versus its value for wood production and try to optimise the outcome so that you minimise the impact on wood volumes and you maximise the value of the conservation outcomes. That was the process we suggested to Professor West back in November last year, which has now been, in some ways, picked up by the signatories group, which is why they have been occupying, in a friendly sense, our offices for the last few months to see if they could work through if there is a different way of looking at how you might do things.

CHAIR - There seems also to be some uncertainty about whether the sawlog plantations established under the RFA and TCFA produce suitable sawlog material. What is Forestry Tasmania's view on the suitability of the emerging sawlog plantation resource?

Mr GORDON - There is a range of views. Back in 1988 at the Helsham inquiry, I gave evidence on what I thought at the time was a way we could produce sawlog suitable for

processing values in what then was quite radical silviculture of pruning eucalypt trees to remove the lower branches and thinning the forest out afterwards to make the remaining pruned trees grow faster. There is a range of views on the suitability of that silviculture for producing high-quality [inaudible] sawn timbers. One of the limitations we have had is that *Eucalyptus globulus*, which is our preferred species to plant - and we have significant areas of *globulus* planted - is not frost tolerant. So the areas we had available for planting weren't always suitable for *Eucalyptus globulus*. *Eucalyptus nitens*, which is a species from Victoria, is very frost tolerant, and so *nitens* were planted on those areas where we believed that *globulus* would be killed by frost. I don't think there is any substantial doubt that *globulus* is a suitable species for high-quality timber. It has been used in Chile, Spain and Portugal for years, and it all came from Tasmania in the first place. If you go into a flooring shop and you buy Tasmanian blue gum parquet, it probably comes from Portugal. It has been used there for a long time.

Ms FORREST - It is called Tasmanian because the species originated in Tasmania?

Mr GORDON - Correct. Tasmanian blue gum, *Eucalyptus globulus*, is from Tasmania. There are other blue gums - *grandis*, *saligna* and others - that occur on the mainland as well but I think the most widely planted species in the world is Tasmanian blue gum. It has been grown in plantations in other parts of the world for quite a period of time. We have done, as part of our technical services company, quite a bit of consulting on that, particularly in Chile, where we suggested some changes in silviculture. So I don't think that *globulus* suitability is in great debate. *Nitens* was used for sawn timber production in Victoria. It is more prone to what is called internal collapse than most other species are. For example, when a board of timber gets dry it gets little cracks at the end and that is to do with the structure of the wood. *Globulus* doesn't have that problem and it is also much denser and harder.

Mr VALENTINE - *Nitens* is faster growing too?

Mr GORDON - It grows about the same. The characteristics of timber are basically determined by the wood structure, which is basic density and the way the wood is built. To produce sawn timber you need to do what is called quarter sawn, which is saw with the long direction of the board on the radius of the log, whereas with a lot of other species you can backsaw, which is the tangential of the log - the circles on the wood.

Chris Harwood, who was at CSIRO, led a lot of the work on drying and utilising of *nitens* and believes that it has potential for solid timber value production. Part of that relies on drying technology. If I took you back to 1978 when I think there was a joint House committee looking into the forest industries, particularly *radiata* pine, at the time a lot of millers said you couldn't use *radiata* pine to produce sawn timber or structural timber to build houses, because it was relatively new to Tasmania. There are technical challenges with *nitens* and probably the jury is still out on how much you can use. Our role has been to grow a consistent product that we believe technology of the time will be able to successfully use. If I had come to one of these committee hearings 20 years ago and said to you that I believe that in 20 years time I would have in my pocket a computer that could find out anything that I wanted to know about anything that ever occurred in mankind and I could communicate with any other person in the world instantaneously, you would have said I was crazy. That is what all of our smart phones do nowadays and process and innovation in the forest industry has happened at a huge rate. Again, less

than 20 years ago there weren't mechanical harvesting machines; it was all done by people with chainsaws. Now the most common form of harvest is the mechanical processor that measures the log, strips the bark and limbs off, measures the log and cuts it to a set length and records that in its computer. So things do change and the forest industry in Tasmania has a proud history of innovation doing things differently, but as John said there is a level of risk and uncertainty about it. Unfortunately, the trees are the age they are. We can't go down and find a whole lot of 30-year old plantations that have been treated this way because the funding didn't arrive until after 1997 and so they are a lot less old - 12, 13 and 10 years old - and you therefore can't process them through existing technology. They are just not old enough, which is one of the reasons that the strategy that was outlined in the 1997 wood volumes was a transition to plantation which would occur sometime in the 2020s when those trees would be old enough to have the best chance of being suitable for sawlog timber processing.

Dr GOODWIN - I am still a little bit puzzled by why Professor West didn't look at plantations, despite the fact that we have had the opportunity to talk to Professor West. I am just wondering if perhaps you know why he didn't factor in plantations in his particular report. Do you have a clearer picture of what happened there?

Mr HICKEY - No. Professor Burgman's wood modelling included the plantations. Professor West didn't seem to see it as part of his own brief.

Dr GOODWIN - It is still as clear as mud then.

Ms FORREST - It is still a mystery.

Mr GORDON - I think you need to ask Professor West.

Dr GOODWIN - I did but I still don't have a clear picture.

You mentioned that the three key concepts are the sovereign risk level, the sustainable yield and the contracts, and they appear to be inexplicably linked. They are obviously very important concepts and of course those levels depend on the resource you have available to you, so that is going to change when you have areas that are locked up and it will depend on how much is locked up and obviously you have been doing a bit of modelling around that. You did some modelling that you referred to last year, so does that modelling still stand and is still accurate?

Mr HICKEY - We are pretty comfortable with this report. The recent modelling, as of last week, was that signatories are putting a new scenario forward so that is still being evaluated and at a corporate level we are not close to that process. It has been between the modellers and the Melbourne University verifier and we leave it to the signatories to -

Dr GOODWIN - It is a quite a complicated and time-consuming process to go through this modelling heaps of times?

Mr HICKEY - It is.

Mr GORDON - Because a relatively small change in the physical area can make a reasonably large difference in the wood flow model.

Dr GOODWIN - Can you talk us through why that it is?

Mr GORDON - The 1967 regrowth is an example. There were around about 30 000 hectares burnt and regenerated and that is a very, very significant component of the supply for southern sawmills and Ta Ann in the next 20 years. If that was available for harvest, it's completely different from having 30 000 hectares of mature forest somewhere else which throws up little volume of peeler billets. The whole concept of sustainable yield is about harvesting the right bits of forest and regenerating them at the right time to keep the age distribution, composition and productive capacity for forests. Some bits of forest are more important than others in time and space to do that.

Dr GOODWIN - So it's not purely a numbers exercise; it is also about the actual area that you're discussing

Mr GORDON - Correct. These numbers are based on the specific areas that were described at the time, with us being asked to analyse them. If you change the physical map, even though it might be the same total area, you would get a different answer.

Mr VALENTINE - That is through regeneration, not plantation?

Mr GORDON - If you go the diagram that was published in the Regional Forest Agreements, you can see the plantations marked in pink. It all comes in a lump because it has to be a certain age and size before you can harvest it. Effectively what the computer does is use that to fill the gaps, for want of a better word. The other colours are different types of forest - green is regrowth, yellow is regrowth that has been thinned. So it is not as simple as just saying you can take 1 000 hectares; it is what type of forest, what stand condition is it in, when are you due to harvest it again? More than half our forest is regenerated by selective logging techniques where you have multiple harvests continuously. After each harvest the computer simulates the growth of the remaining stands and of the regrowth that is coming up and lets you know what you can harvest in another 30 years time, or whatever the number is. It has to be area-specific and time-specific, so changes in time and space can make big changes, even if the total area you're looking at is similar. It is the composition of the area that matters. That is what we have been working through with the signatories to try to explore what options there may be to minimise the impact on production forestry while at the same time maximising the values of areas that may be reserved for harvest. It's not a simple task. I have substantially simplified it in the last couple of minutes but it is much more complicated than that.

Dr GOODWIN - Is there a particular starting point in the modelling? Do you start with the area you want protected and work with that to see what resource you can end up with?

Mr GORDON - In our sustainable yield modelling Professor Ferguson refers to what is called the 'defined forest area', which is the forest over which we have management control. Then because we have all that forest described on our geographic information systems and we know which areas are able to be harvested, remembering that almost half of the current 1.5 million hectares of state forest is not available for harvest. Of the half that's left, we go through this process looking at what has happened in the last five years with areas we are proposing to log and we actually log. That's where you get the

26 per cent of the forest that was set aside for logging that can't be harvested because of forest practices and other reasons. Then we say to the computer, 'This is the forest' this is how it will grow if you cut it different ways', and it churns away to try to meet the objective function of meeting the minimum of 300 000 cubic metres and maximising the present value, based on a discount rate which, again, Professor Ferguson refers to in his discussion about what discount rate you should use to cater for intergenerational issues.

Dr GOODWIN - Presumably, if you have a smaller defined forest area to work with but you still want to try to get as much wood supply out of that as you possibly can, the harvesting intensity has to increase, does it? Or does that mean you end up with not as good environmental outcomes or is it better if you have a greater area to work with?

Mr HICKEY - I suppose most foresters would prefer to operate over a broader area and less intensively. As the estate shrinks, it is managed more intensively. Issues like coupe dispersal are harder to factor in. But I think I have heard the signatories say and there has been talk of a Forest Practices Code controls act. I don't think anyone is intending that and I don't think anyone should. The Forest Practices Code as we know it and put out in 2000 is a good code.

Dr GOODWIN - That would mean some relaxation of the requirements of the Forest Practices Code - is that what they are talking about in terms of roll-back?

Mr HICKEY - I hope not.

Dr GOODWIN - Is that what you mean by roll-back?

Mr HICKEY - I would think that what they might be talking about is not rolling forward. This goes to the headroom issue again. The trend has been that the codes get progressively tougher over time. Keeping at the current code level would be an appropriate position but an expectation of rolling forward would probably be incompatible with a reduced land base.

Dr GOODWIN - Okay. Bob, you talked a bit about the tightening of the Forest Practices Code having an impact.

Mr GORDON - It has and that is included every time we do the five-year review. What the headroom is really about is what might happen in the future for unknown things. It wasn't about what is currently happening and that is where the error was made in the *Australian* report and it was quite misleading the way it was worded in the *Australian*.

If we go back to the Kelty report of June last year, we made a few suggestions about the sort of things that people could look at. One of those was that the current plantation estate on state forest is probably at the maximum it can be because, back in January 2007, we stopped conversion of native forest to plantations. One of the suggestions that we made in this report was that there was the capacity on farm land in Tasmania, not using the managed investment scheme model of buying up whole farms, but using the models they have in South America and elsewhere, that there would be no farm in Tasmania that couldn't have 10 per cent of a farm area go into trees without affecting the agricultural production. If you drive on the Midland Highway, at Kempton and you look up on the western side, one of Peter Downie's properties where he has put radiata pine in,

Peter said the sheep production had gone up. He has put about 10 per cent of that farm into trees and that provides shelter in summer and in winter and substantially reduces the wind speed. If those trees were grown for long rotation, high value sawlog wood crops, there is a large area that could be utilised for that purpose. You might find an increase in farm production as a result and farmers would have an alternative income source. If sheep and beef were down, then they might harvest their trees for an income source.

One of the things we have also explored is a lot of those large farming areas in Tasmania and Circular Head is a good example, where there has been very large areas cleared of old growth forest to put dairy farms in over the last 200 years. Most of those, I think, if you put 10 per cent of the farm into high-value tree production, would benefit. The cattle would benefit from shelter and it would have effect on drainage lines and things. It could produce quite large volumes of high-quality timber. I think it would generally get support from the conservation movement because there would be a substantial increase in biodiversity of farm land compared with pure cropping.

Mr VALENTINE - It would improve the salination issue too.

Mr GORDON - There are some parts of the Midlands that have high salty water tables - you can see them particularly in drought when you fly over. It is highly unlikely they would produce high-value timber but part of this should really be about biodiversity and amenity planting as well.

When we plant trees we are disappointed if 95 per cent of the trees don't survive. When most voluntary organisations plant trees they are probably happy if 10 per cent survive. We have very good techniques of planting trees. You probably remember Wellesley Park 20 years ago - I was in the South Hobart Progress Association - and we planted a whole lot of trees there and I think about 30 per cent survived, which we were very pleased with. If it had been FT planting them we would have expected 100 per cent, or close to it. So there are a couple of win-wins where you could decrease the risk level for the future by having more high-value plantations and have an environmental outcome at the same time.

The other thing we suggested was that you could have more intensive management in terms of thinning the managed regrowth forests. I will give you a brief history of a regrowth forest: clearfell, burn, sow seed within three days of the burn, maybe a couple of thousand trees per hectare, regenerate and start growing. By the time those trees get to the age of about 30, they have killed each other because you can't have 1 000 trees per hectare in a stand where the trees are 20 metres tall.

Ms FORREST - It's why you have wallabies, isn't it?

Mr GORDON - It is also competition. Eucalypts have very strong hormonal signals where they compete for light. You want to be the tallest tree because you get the most light, so you survive. So they self-thin.

If we had gone in at age 20 where there might be 1 000 trees per hectare and thinned them to 300 or 400 trees per hectare; all of that wood is extra wood because those trees are all going to compete with each other and by the time you get to age 60, you will have less than 300 trees per hectare.

So there are ways that you could manage the stands differently and more intensively. As John said, you would have to be careful doing that that you didn't damage or reduce the other values of the forest, but I think there are options.

Ms FORREST - On that point. That is like a form of selective logging where you are talking about going in and taking out the trees that aren't going to make it -

Mr GORDON - Which is what we do now, we are thinning.

Ms FORREST - Yes. You talk about the safety record, which is really encouraging that it has improved, but it is an inherently dangerous area, particularly where you are selectively taking out trees. Does that create additional challenges?

Mr GORDON - We were thinning 200 or 300 hectares a year when we had RFA funds to fund it, and a lot of that was perfecting the techniques. It is almost exclusively done with mechanical harvesters. You need to accurately know the size of the tree because that determines the economics of the operation. It was an area that we put in the report in June, an idea that could try to give more space to work through a negotiated outcome.

Mr HICKEY - Another issue with thinning is fire risk because you do have a lot of slash and if you could include some biomass opportunities to use that residue and get it off, that would make thinning a lot easier to implement.

Ms FORREST - What is the main use of that residue now - the thinnings?

Mr GORDON - What we were doing up to three years ago - actually up to five years ago we stopped when the RFA money ran out - they were being put into woodchip for pulp production. That was just before Ta Ann started and some of that could go into Ta Ann's mill because its terms currently are a contractual diameter of 20 centimetres, but they have agreed to go down to 18 centimetres, and these thinnings would produce materials for Ta Ann. In terms of the biomass, we are talking about the wood that's left after you take out the current commercial product. In many of those stands you have quite large volumes of trees from the previous harvest. Even though it was 30 years ago, you still have quite large logs on the ground. If we could remove some of those - and there has been a whole lot of science that's been done that shows - we have a coarse woody debris policy where we keep a certain amount of dead, down and rotting timber so that the bugs that only live in dead and rotting trees of certain sizes can recolonise, so you always have a similar not just floristic composition but also bug composition in the future as well. You could remove those downers as part of the process and it would make the harvesting process much safer and easier.

Ms FORREST - But you are going to reduce the biodiversity by doing so.

Mr GORDON - The way the guidelines have been produced is to keep the biodiversity of coarse woody debris at the same level it would be otherwise.

Mr VALENTINE - Could those thinned trees also be used for fibre for clothing and things like that?

Mr GORDON - I don't think I've shown the showroom to everyone here, but you are welcome to come up. We have a new range of engineered products we've developed and one of those is fibre rayon we have had run through a couple of mills overseas. Instead of using the cellulose in the wood to make paper, you can use a slightly different pulping process which doesn't require bleaching to make fibres - which is called 'dissolving pulp' - which is then extruded to make it into rayon, which you see in a lot of sports goods and non-crushable material.

Mr VALENTINE - It's known as modal, isn't it?

Mr GORDON - There is a whole series of brand names that different manufacturers use. Its general characteristics are that it is generally crushproof and quite warm.

Mr HARRISS - On the back of the things you've just discussed, Bob, what is the comparison between the intensive management of natural forests and their value as opposed to plantations? It has been suggested to me that we could benefit more by highly intensive management of our natural forests, if we have any left, than plantation forests as they have been progressing.

Mr GORDON - It's a bit like asking someone if an organically grown apple tastes different from an apple that wasn't organically grown. You can produce similar products from both plantations and native forests depending on how you manage them. Native forests are grown organically, effectively. We don't use chemicals. The seed that's collected and sown is from the crop that was there previously. If you look at, say, Bruny Island and go to Adventure Bay, that big face at Adventure Bay was all clear-felled and burnt at least once but everyone says it's wilderness - that's how good we've done the job. There are tramways and sawmills all the way through that hill. John and I know because we walked up and down that hill assessing the trees.

John is right, you'd have to carefully judge how intensively you manage the native forest so it still kept its other values of water protection, catchment protection, biodiversity. Plantations are relatively easy; they are all uniform and you can manage them fairly intensively but you generally need to put in artificial chemicals, whether it's a herbicide at the start or occasionally pesticides to stop insect attack, although most of our insect treatment is now done with biological agents as well as chemicals.

Mr HARRISS - In answer to some questions put to you by Vanessa a moment ago you were talking about the intensification of effort et cetera, can I go to the first question: the assessments that FT provided as to sustainability et cetera during the Kelty and the West process were required to be peer-reviewed.

Mr GORDON - Correct.

Mr HARRISS - In the current process which is being undertaken since the group whenever it decided on the day that it was not able to report just yet, you are doing some work there -

Mr GORDON - And we are insisting that it be peer-reviewed.

Mr HARRISS - You are insisting that it be peer-reviewed?

Mr GORDON - Correct. Not that it appears to make much difference sometimes because the Burgman stuff was and the Kelty stuff was but it is good practice that if you are doing something important you always get a peer review.

Mr HARRISS - Base on that then - and I am still focusing on this term of reference for us because Professor West suggested overcutting - my best recollection is that at some stage in the not too distant past your assessment was that you could only reserve 300 000 hectares and deliver 155 000 cubic metres of sawlog.

Mr GORDON - Of the 430 000 hectares that was described that we were asked to look at.

Mr HARRISS - Of the 430 000?

Mr GORDON - Correct. I am just trying to be specific because it does make a difference depending on the mapped area that you are asked to look at.

Mr HARRISS - The so-called polygons.

Mr GORDON - Just like drawing a line on a map, if you draw a line on a map - take the Huon - and you said this area is going to be reserved, just for an example, what is the impact on apple production? If the area that you drew, which was 1 000 hectares didn't include any apple plantations it would have no effect. If it included all apple plantations it would have a significant effect. It is a bit like that with drawing maps in a forest: it is depending on the type of forest, its age, its composition and its product-type flow over the years will have the most impact. The physical total area is one issue but the types of areas that are inside it are also very important.

Mr HARRISS - Can I conclude from that, Bob, that with the bill currently before parliament for 155 000 cubic metres of high-quality sawlog or veneer we cannot reserve 572 000 hectares?

Mr GORDON - I think the simple answer is yes. Could you reserve more than 300 000? The answer is probably yes, if the maps were different.

Mr HARRISS - In the public domain in the last few days there has been a suggestion that we are over 500 000 hectares as per the agreement, but if 500 000 hectares were to be reserved as a snapshot can there be delivered 155 000 cubic metres of high-quality sawlog and veneer?

Mr GORDON - I think that would be challenging but it would depend on what the description of the 500 000 hectares was because remember I said before when I asked the question about the discounts, of the 1.5 million hectares of state forest, only half is effectively available for logging and when you then harvest it and then you look at it afterwards, another 26 per cent isn't actually harvested.

Mr HARRISS - The non-retrievable stuff?

Mr GORDON - It is not just non-retrievable it is for good biodiversity, stream protection, forest practices, a whole range of reasons which are all included in the area discounts that are already included in our sustained yield calculation. They are nothing to do with

headroom. If you then ask the question, would it be possible to draw a map, if you went right around and you found 500 000 hectares it might theoretically be possible.

Mr HARRISS - But that is not what we are talking about. The process here which we are talking about is 500 000 hectares or 572 000 or 430 000 which has already been identified by others.

Mr GORDON - Or 300 000 or 200 000 or whatever the number is.

Mr HARRISS - Yes, identified by others and not through a scientific assessment of what you can do after having reserved some land.

Mr GORDON - I think there has been a genuine effort by the ENGOs, with our assistance in the spatial distribution of forest, to look at ways that might be able to change their maps. As John said, the agreement was that we had Chinese walls in place so that people who were doing the work do not tell John or I what they are doing, whether it is running it for or for FIAT or AFPA or one of the ENGOs. That was the agreement; they are running that work. But we know that people have been actively looking. If you looked at it differently, which we suggested to Professor West back in November and the objective was to try to maximise both the conservation and wood-flow outcomes, then you would look at different areas.

Mr HARRISS - I am getting to this notion of the sustainability of our cut. That is why I was working down that path. Is it then also true to observe that 155 000 cubic metres of high-quality sawlog and veneer, or a combination of that and other forest management processes, will not produce 265 000 cubic metres of peeler log or 12 5000 cubic metres of special species timber as both the Kelty and West processes have determined?

Mr GORDON - If you look at the volumes in the report we did, then the industry case that we analysed for Bill Kelty was about 300 000 hectares taken out of productive forest, if you include their map plus the informal and formal reserves. It produced about 200 000 cubic metres of sawlog and the 265 000 cubic metres of grained peel billets, but did not include the head room that their claim Brack and then subsequently Bergman and Robertson suggested.

Mr HARRISS - Vanessa visited with you the matter of the intensification of effort. My best understanding is that you or any proper forest manager has a higher duty to ensure sustainability. My understanding is that your current contracted volume wood supplies are at 163 000 cubic metres or is it 168 000?

Mr GORDON - Not all of the 168 000 is long-term. There are some shorter term volumes in there as well. The long-term stuff I think is 163 000.

Mr HARRISS - If we talk about 168 000, then, you have an obligation currently to deliver 168 000. Is there then some risk to the sustainability of the harvest if we are compressing the effort into a much smaller area. The legislation before the parliament suggest 155 000; there has to be a retirement of some of those contracted supplies to get us to 155 000, either from 163 000 or the 168 000.

Mr GORDON - What we are doing is running the scenarios we were asked to model, which I do not personally have because they are being run by the people within the Chinese walls. At the end of that we will have a much better answer to your question.

Mr HARRISS - But based on what I have seen of your documentation from the past, I can only conclude what I conclude.

Mr GORDON - Correct.

Mr HARRISS - You have an obligation to deliver 163 000 or 168 000. The legislation says 155 000.

Mr GORDON - The legislation says 300 000.

Mr HARRISS - The legislation currently before the parliament.

Mr GORDON - The bill.

Mr HARRISS - The bill, yes, says 155 000, so there have to be some retirements.

Mr GORDON - In the IGA it flagged the sawmill contract buy-out clause.

CHAIR - And also time, I take it, too, Bob? You don't get down to your 155 000, taking into account contracts coming to fruition?

Mr GORDON - My understanding of the bill would be that 155 000 was a minimum.

Mr HARRISS - That's not the expectation of some; the expectation would be a maximum.

CHAIR - And I agree with you.

Mr GORDON - I am a Jim Wilkinson black letter lawyer, I just read the words

Mr HARRISS - Lots of others don't.

Ms FORREST - It says 'minimum aggregate quantity'. Minimum aggregate quantity means 155 000 cubic metres or if another quantity is prescribed.

Mr HARRISS - Sustainability comes into that equation?

Mr GORDON - And the Kelty agreement and the IGA also set a minimum of 155 000 cubic metres, but that's a matter for the parliament to decide. We will advise on the sustainable yield.

Dr GOODWIN - Just to be clear, Bob, I think you talked about the Chinese wall, so you don't know what is being modelled?

Mr GORDON - I don't know the detail of what is being modelled.

Dr GOODWIN - You mentioned that if the signatories wanted to maximise the conservation values and the yield, they should be looking at different areas. What do you mean by that?

Mr GORDON - I gave the example of the 1967 regrowth, which is particularly important for the regrowth sawmillers, Huon and Ta Ann, because both of them can only handle regrowth material. That 30 000 hectares has a very different impact from 30 000 hectares of a different type of forest that may not have been logged for another 50 years, depending on where the boundaries are drawn. I have seen various versions of maps over the last three months. I haven't seen the very latest version that's being run, but depending on where the lines are drawn on the map that determines what the wood flows will be.

Dr GOODWIN - In broad terms, is it different boundaries and broad areas they are looking at or different areas altogether?

Mr GORDON - The ones I've seen have been variations on various maps that have been produced since the 1990s.

Dr GOODWIN - Presumably the conservation side of things has picked areas they think have higher conservation values?

Mr GORDON - Part of the West report was to attempt to describe the conservation values in those areas, and I think even he said they didn't. None of the reports found there were any high-conservation-value forests; they didn't assess that issue. Obviously some values of forests are not affected by harvesting. Even ex-Senator Brown in his proposed walking track said there were large areas that if clear-felled, burnt and regenerated would still have close to their original values, which we have been using as an endorsement by him of our forest management.

Dr GOODWIN - Is anyone listening to you when you are talking about these different areas? Are you feeding that into that process?

Mr GORDON - What we're trying to do is present the factual information so that people can make their own informed judgments - a bit like we have tried to do here today. Whether people agree with us or have listened to us or understood, I hope we have attempted to present the facts.

Dr GOODWIN - So you're feeding that information back to them about the different areas and then it's up to them to make the judgment?

Mr GORDON - Correct.

Mr VALENTINE - Obviously there is a lot of discussion going on about how we can continue to provide specialty timbers into the future - and there are a lot of people in that industry wanting speciality timber. Is it possible to look at blackwood plantations to cope with 40 or 50 years hence?

Mr HICKEY - We looked at that in the 1990s with some real vigour and after the RFA and established a few hundred hectares of it. Blackwood is a form issue so it grows really

easily but it grows like a paddock tree unless it is in a light well, so we had inter-row plantings with eucalypts and radiata pine. We called them 'nurse crops' but the trouble was the nurse killed the patient sometimes. We did find that in a commercial setting it was really hard to get the timing right. On farm land - and there are blackwood enthusiasts out there - if you are right on the scene and using your own labour you can probably grow some really good blackwood on wood lots, I would call them, rather than plantations, but the expectation of growing large amounts of blackwood commercially in our context is not there. We have fenced in blackwood, a few thousand hectares now, where we actually use the natural system but we fence it. We might fence a 20-hectare area and we have done some thinning out, releasing the blackwood. It grows well easily and you can shorten rotational lengths if you take interventions.

Mr VALENTINE - Natural regeneration rather than plantations is what you are saying in that regard?

Mr HICKEY - Yes.

Mr GORDON - We have been working with Brittons in the north-west. Young blackwood is the most palatable thing that wallabies and possums can eat so they go for miles to eat all the blackwood if they can, so if you can put fences to exclude them you get really good blackwood regeneration which, in my view, is much more cost effective and it is much easier on the environment than trying to grow a plantation. I have a little bit of it down on our farm at Nubeena and you really have to be onto it all the time to manage it.

Ms FORREST - Cows will eat them, too.

Mr GORDON - Yes, anything will eat blackwood.

CHAIR - The actual terms of reference were mainly relating, as you know, to West's report saying Tasmania's native forests, not including plantations, have been and continue to be harvested substantially above long-term sustainable yield. I note that Professor West stated on 15 May last in the inquiry that we are doing now: 'I believe I have been taken out of context because the comments I make relate to only one part of the forest estate and not to the forest estate as a whole'. Professor Ferguson's report says:

In terms of the AFS I am unable to determine a rational basis in the independent verification group report or related documentation for the West assertion about this unsustainability of Forestry Tasmania's sustainable yield calculations on practices. They do not appear to be founded on the facts pertaining to the AFS and the evaluation of Forestry Tasmania process of calculating the sustainable yield and regulating the annual harvest. From an AFS viewpoint they reflect a unfortunate confusion in the use of the term 'sustainable yield'.

I am getting back to where we started. together with the fact that NCSI said that FT has applied best practice in the determination of sustainable yield. That was the major reason why we wanted to look into that comment but it would seem from the NCSI and from Professor Ferguson and from Professor West that there is no substance in the initial comment that was made and he said he was taken out of context.

Mr GORDON - Correct, and it has been pleasing that the dedicated professional staff in FT who do this work and have pride in their work were vindicated by independent experts.

CHAIR - And that was the other comment that I could close on, where the NCSI said -

The auditors noted the high level of professionalism and commitment from staff involved in the audit process. It is clear the staff take pride in their work and endeavour to deliver the highest possible standards in all aspects of forest management. Where opportunities for improvement were identified, staff responded positively and constructively.

I was looking for a comment to say, 'What do you say about this; what do you say about that?' but in relation to all those reports you can't really fault Forestry Tasmania's work in what they have done and how they are continuing to do their work.

Mr HARRISS - We talked about the current verification process. You mentioned, Bob, that a number of models could be produced. I put this question, and it goes to sustainability of our cut: based on the 572 000 hectares identified by the ENGOs, back when -

Mr GORDON - Which ended up being 563 000.

Mr HARRISS - Yes. Based on that, without you drawing any other lines on maps, if 500 000 hectares from within that 572 000 - no new maps or new assessment - were to be reserved, can we deliver 155 000 cubic metres, 265 000 of peeler log, and 12 500 of special timber species?

Mr GORDON - Based on the information that we had back in the Kelty days, I think we did that number. We did it on 572 000 and on 430 000, I think. If you extrapolate between those two then the answer is no. It takes as the starting point that the 500 000 is a subset of the 572 000.

Mr HARRISS - That's where I am coming from, as a subset of the 572 000. So the answer is no, we've got to do some new work to deliver 155 000 cubic metres?

Mr GORDON - Yes.

CHAIR - Bob, John and Ken, thank you for coming along and thanks for giving the evidence in the way you have.

THE WITNESSES WITHDREW.

Professor GORDON DUFF, CHAIRPERSON OF THE TASMANIAN FOREST PRACTICES AUTHORITY, AND **Mr GRAHAM WILKINSON**, CHIEF FOREST PRACTICES OFFICER FOR THE TASMANIAN FOREST PRACTICES AUTHORITY, WERE CALLED, MADE THE STATUTORY DECLARATION AND WERE EXAMINED.

CHAIR (Mr Wilkinson) - Graham and Gordon, thank you very much for coming along today. Gentlemen, everything you say here is protected by parliamentary privilege but if you step outside the door it isn't. If you want to say anything in camera, please let us know and we'll discuss it. In asking you to come along, it was more for completeness than anything else. The committee originally decided to have a very quick look at the comments made by Professor West, and I quote:

Tasmania's native forests, not including plantations, have been and continue to be harvested substantially above long-term sustainable yield in respect of the key product segments to which they provide resources.

That caused some concerns with this committee because if that was being done we thought something is falling down and falling down badly. Professor West has already spoken to us and said he has been taken out of context, for whatever reason. I think we all know what the reason might be. We have also noticed that the report from Professor Ferguson has come in as well. For completeness we have asked you to come along, just to answer some questions. When that comment was made by Professor West, what alarm bells started ringing in your heads?

Prof. DUFF - I read the comment as part of the executive summary to the report of the chairman from the IVG and my interpretation of that was that it was taken out of context and also taken in isolation from the planning that was in place to gradually utilise more and more of the plantation part of the resource. It was focused on its current wood supply targets, but in isolation from the resource that would be coming onstream further down the track. As you read through some of the detail in the IVG report, that becomes apparent. I could see, for example, that that comment could be taken out of context and would cause concern, but I was reasonably confident that it could be resolved once people had taken onboard the exiting information.

CHAIR - Sure. The same comments, Graham?

Mr G. WILKINSON - Yes, that was my analysis of all of the work that has been done on sustained yield over many years, is that there has always been a component given to regrowth and to plantation wood, and to scheduling the flow from native forest, both from old-growth and regrowth so that it could be evened out over time in anticipation of the new resource that would be replacing old-growth over time. My understanding of Professor West's comments were that they were made with that in mind and they were a subset of the overall calculation of sustained yield.

CHAIR - With the Forest Practices Authority, your role in ensuring that there is sustainability, can you just expand on that, please?

Mr G. WILKINSON - I guess sustained yield is one component of sustainable forest management. The Forest Practices Act does not specifically refer to sustained yield. It

does have, as its objective, achieving sustainable forest management on public and private land. So it is one component of sustainable forest management and I think that is a really important issue for the committee that sustained yield talks about sustaining the flow of wood products but doing that in a sustainable manner. It brings in all of the other economic, social and environmental factors. What our focus has been through the Forest Practices Act and Forest Practices Code is to try to regulate how those other values are sustained into the future. Wood products are only component of that. We also have to consider sustaining the environmental impacts and the social impacts as well.

I think sustained yield can be taken out of context. You can regulate a supply of wood in perpetuity but it is under what conditions you will be producing that wood. On the one hand you have very benign forms of silviculture that produce a yield that would be far less than the biological productive capacity of the forest. On the other hand you have very intensive forms of silviculture that are probably maximising yield from that forest, but doing that possibly at the expense of other values.

This debate is really about sustainable forest management, in my view, not what is a sustaining yield from a certain area of forest.

Prof. DUFF - I think it is fair to say that in most instances, if you are managing forest production and forest for all those multiple values, then the yield of wood products coming out of that is well below what could be sustainably extracted. We are well below that threshold.

Ms FORREST - Sustainable extraction on one level as opposed to the broader levels, is that what you are saying?

Prof. DUFF - That is what I am saying. If you were interpreting sustained yield purely in terms of how much wood you could take out and continue to do so, that is a much more intense form of management than what we have at the moment in Tasmania, which basically takes into account all of those other values. We are extracting less wood than we potentially could in most instances.

Ms FORREST - On that point then, currently we have 300 000 cubic metres and that is the minimum amount that is prescribed; that IGA legislation suggests 155 000 cubic metres. In your view, does that take into account, the way it is framed in the legislation, these other values? I understand what you are saying that you could cut down so many trees and still have that many grow back and continue in perpetuity, but there are these other factors. I think this is a bit of point of confusion in the broader community, certainly about what we are talking about.

Mr G. WILKINSON - I guess it comes down to this discussion that has been going on about headroom. How much do we allow to manage these other values at a reasonable level while still producing wood from the forest? That depends upon what the objectives are for those other values - the status of their reservation, the way that they can be managed by prescription in forests outside of reserves - and that is really an issue of what are the overall objectives of managing biodiversity and how does that take account of the normal hierarchy that you would apply to the management of biodiversity. For example, when you are considering what the objectives are for sustaining biodiversity values in natural forests, there is a natural hierarchy starting off with the reserve system, which should be

comprehensive, adequate and representative; the permanent native forest estate, and then the adequacy of management prescriptions through devices such as the Forest Practices Code. All of those things have to be considered to get the right balance because not all values can be protected in reserves and this is something that people often overlook. There are many, many values that despite the best conservation planning will not be captured in a reserve system and will have to be managed outside of those reserves. That includes the very extensive estate of private forests in Tasmania which has to be part of this consideration because you can't consider values in isolation by tenure because biodiversity doesn't recognise tenure boundaries.

Some values can be captured in reserves, particularly if they are very localised. If you have a restricted orchid or a stag beetle and that is fully within a reserve then you can say that its conservation status has been adequately protected under a reserve system but if you look at wide ranging species - say, for example, the wedge-tailed eagle, the masked owl, the swift parrot, goshawk - those species cannot be catered for under a reserve system without a complementary system of managing those where they occur outside of reserves on private land and in other public forests.

All of these things have to be factored in and I guess the issue in terms of the balance is to what extent in the forests outside of reserves we have sufficient flexibility to cater for these values. You could take two extreme points of view and one is that you could say, unless it occurs in a reserve it won't be managed, which clearly would not be acceptable to a very large proportion of the community, and the other one is that you will give them an equivalent level of protection as if they were in a reserve system as well and then somewhere between those is a reasonable compromise, and that is always the challenge for forestry management.

We have tackled that challenge over the last 20 years under the Forest Practices Code and I think we have got to the point where there is a tension between wood production and catering for these values, and I don't think that that tension is necessarily relieved by putting more forest into reserve. We still need to maintain the level of protection outside of reserves because of the nature of these values.

CHAIR - So you are saying whether it is in reserve or not doesn't really matter, you believe that they still have to be maintained whatever the case might be.

Mr G. WILKINSON - They have to be managed. Going back to the eagle, for example, we can't assume that eagles will be adequately conserved by a reserve system. That is not the case.

Ms FORREST - Who sets the objectives, how are they set and who by?

Mr G. WILKINSON - That is a really good question. The Forest Practices Act has the objective, and I will read it, it is schedule 7 of the Forest Practices Act: 'to achieve sustainable management of crown and private forests with due care for the environment'. It doesn't define sustainable forest management; there are many definitions of sustainable forest management but the reality is we don't have a definition in legislation.

CHAIR - Do we need one?

Mr G. WILKINSON - I think we do. I think as part of a policy approach, if we are going to maintain these values, we need a definition of what we are trying to achieve in terms of sustainable forest management.

There is a paucity of guiding principles and objectives for the management of Tasmania's natural and cultural values within our legal policy framework. We don't have good guidance on what it is we are trying to do with biodiversity, geomorphology and cultural diversity, for example. I think we need an overarching, very clear set of objectives for what we are trying to achieve here. At the moment we seem to be trying to work on a solution which is put forest into reserve and produce a certain amount of wood. We are not necessarily doing that in the context of overarching agreed objectives on how these values should be managed and, to me, that is a real dilemma. If we are asked the question, 'Will the reserve system and complementary management be adequate?', you can only answer that question by saying this is what we are trying to achieve. Are we trying to protect every specimen? Are we trying to maintain ecological process and what are the broad objectives? Then how can we put the 'how to do it' prescriptions into devices such as the Forest Practices Code?

Dr GOODWIN - In terms of the Forest Practices Code, it is evolving but what is the process for that? Can you talk us through that?

Ms FORREST - Where the review is up to?

Dr GOODWIN - It's changed and that was alluded to in the previous evidence we heard. How does that process occur and how often?

Mr G. WILKINSON - The code is established under the Forest Practices Act. The Forest Practices Authority is responsible for issuing the code and advising the code. There is a process articulated in the act as to how we do that, including seeking public comment. I will point out at this stage that the Forest Practices Authority is an independent statutory authority, so it is entrusted by parliament to issue the code and to administer the act. It can't be directed by the minister, although we provide advice to the minister, and I think that is quite important. It is an independent process. We have to set the code in the context of the legal and policy framework, and we have to have a basis upon which we can issue the code and any amendments to the code. We can be challenged in court, for example, so if we made decisions through the code to substantially increase the protection of the wedge-tailed eagle we could be challenged in court and ultimately that would come down to the legal basis for doing that, which is why we feel a bit exposed that when we are developing management prescriptions we need to do that in the proper legal and policy context. A good example would be the state policy on the permanent native forest estate. That prescribes how much native forest is to be kept as native forest. That is the only policy that is cited in the Forest Practices Act as one that we must implement. We can implement that policy and make decisions about whether land can be converted to other land use, secure in the knowledge that that is a policy under the legislation we are required to implement. When it comes to protecting wedge-tailed eagles or swift parrots or whatever, we don't have that legal policy framework. It is left to the FPA to try to interpret what the policy objectives should be.

Ms FORREST - That is a lack as you would see it?

Mr G. WILKINSON - I think it is. I think in most jurisdictions I have studied outside of Tasmania these objectives are articulated in the legal and policy frameworks. Not just for forestry, but for all developments. You have other decision-makers out there making decisions about subdivisions, mines, dams or whatever but not necessarily doing that in the context of a consistent set of statewide objectives for how these values will be managed. As a result of that, we have some inconsistency in the decision-making process, depending on whether you go through one regulatory system or another.

CHAIR - So far as amendments to the act are concerned, if anybody sitting here wanted to take it up and look at some legislation in another state or country, where should we be looking to get appropriate -

Mr G. WILKINSON - I don't think there is necessarily a model; I think all jurisdictions struggle with this. I think there are other jurisdictions that have policy statements clearly articulated that then provide guidance in terms of translating that into operational prescriptions. I think that is a good starting point. I think the IGA process would have probably benefited from having at the onset a very clear articulation of what the policy objectives were, whereas it seems to have become simplified down into some sort of political solution of more reserve and sustaining a level of volume to sustain an industry. They are outcomes; reserves are an outcome of what you need to do to protect the values you're seeking to protect and are they best secured under a reserve system or can they be managed outside of a reserve?

Dr GOODWIN - A sort of back-to-front process?

Mr G. WILKINSON - We have sort of been given the answers, but not quite. My fear is we will be given the answers and then be asked to put a policy framework to justify that, and there will be trade-offs; there are always trade-offs in these things and they should be transparent. We are trading off environmental, social and economic values - that is the nature of managing a resource - but that should be very transparent and clearly articulated and people should accept that.

CHAIR - Have you had much to do with this IGA agreement?

Mr G. WILKINSON - I have had virtually nothing to do with it, other than about three weeks ago Gordon and I were invited to speak to the signatories group. We were given the opportunity to basically address the issue of: if they came up with some outcomes, how could those outcomes be implemented through the forest practices system? We took that opportunity to explain that, in any talk about dumbing down the code, unless they could provide a legal and policy framework, the authority was not obliged to consider any outcomes from that process unless it was in the context of an agreed legal and policy framework.

CHAIR - So therefore there could be, it would seem to me, a conflict emerging between your authority and the outcomes of the agreement?

Mr G. WILKINSON - We are not a party to the agreement.

CHAIR - I realise that.

Mr G. WILKINSON - If an outcome of the agreement was, to use other words that are being reported in the media, to 'water down' the forest practices code, the authority would not do that unless there was a very clear legal provision made, which would then require us to do that. That would have to be set in the context of a set of objectives in the legal framework.

Prof. DUFF - That is something we have highlighted in the submission to this process a year or so ago, Graham.

CHAIR - At the commencement, wasn't it?

Prof. DUFF - Yes, it was well into the process, but highlighting that potential tension between an agreed area going into reserve and an agreed set of wood supplies and the existing Forest Practices Code. We could foresee a situation where, particularly by placing increasing pressure on the resource that is set outside the reserved area, a smaller resource, it was going to highlight some potential problems with harvesting the wood from those sites. We wanted to make it very clear that there wasn't necessarily room within the legislation or the Forest Practices Code for that to happen without that community conflict.

Dr GOODWIN - When you talk about potentially watering down or dumbing down the code, what are the implications of that? Presumably each time the code is reviewed there are improvements made and better outcomes. The flip side of that, if you start going backwards, what are the implications?

Mr G. WILKINSON - I think the simplistic view was that if you add to the reserve system then you have satisfied a lot of the biodiversity values you are seeking to protect, so there is less imperative on forest outside the reserves. That does apply to some species and some values, but it doesn't apply to all and that's the danger. Unless it is done very systematically, you don't know how far the reserve system will go to managing those other values. The reality is that most of the conservation values in forested areas in Tasmania, if you had a list of them, the first few pages would be values occurring on private land. The private sector is not involved in the current talks but they definitely will be impacted by any outcomes, and that is something we have to consider. Any concept of making a determination that by putting more public forest into reserve you can relieve the ask on non-reserve public forest to contribute to biodiversity has implications for the private sector. You can't manage biodiversity by tenure boundaries; animals don't respect lines on maps.

Dr GOODWIN - It would be nice if the wedge-tailed eagles just flew within a certain area.

Mr G. WILKINSON - We could say, 'Eagles, now, look, we've done a deal. Will you please stop nesting and foraging in this bit of forest here.' They are not co-operative in that manner. That is the reality - we will have those values remaining and any relaxation of the protection outside of reserves will be a real issue for us because we are dealing with species that are at a critical level, so there is not a lot of flexibility. We can't say that if you protected *x* per cent of the habitat you've done the job because we are basically saying that most of that habitat is of critical importance to the eagle.

CHAIR - A layperson like myself says surely you should have been part of the whole process as it takes place? I would have thought so in order to appease and carry out the work you have to do under the code.

Mr G. WILKINSON - That's not the way the process has been set up.

CHAIR - I know it's not, but -

Mr G. WILKINSON - I do think and I can only hope that the people on that group are aware of the implications of implementing any outcomes that they agree on. There is a whole range of operational issues that are issues of concern within the community. For example, we still have a situation that sees intensive harvesting of wet forest on public land from less land and we see less dispersal, more concentration. There are implications for water catchments. There are implications for smoke management. At the moment, that is not featuring as a critical issue but when we are in the autumn season and burns are being conducted, it becomes an issue of public importance and that won't go away and it won't be resolved by telling people we have more public forestry in reserves. It is an issue that still has to be managed. To manage that you need to be able to disperse impacts in time and space and have the flexibility to manage these things so that it doesn't become an imperative that there is a gun at our head, we have to produce this wood and now the trade-off is that we go ahead and do these practices that still cause public concern.

Ms FORREST - This is the thing. None of us have sat around those tables during these discussions. But at no point have I heard any of these things raised as matters that are being considered along with reaching an agreement, in any way, shape or form.

Mr G. WILKINSON - There seems to be a notion that by reducing the amount of public forest that has harvesting on it that we'll satisfy some of the concerns raised within the community and I don't subscribe to that view. I think this is not an issue of how much forest should be in reserves, but an issue of how we manage our forests. The more we restrict the area and put the imperative of wood production on it, the less flexibility we have of managing those values sustainably.

Prof. DUFF - If I could go back to Dr Goodwin's earlier question about the risks inherent in going that way. I think there is reputational risk for Tasmania as a jurisdiction as a whole. Where we stand at the moment, when we take a step back and look at the forest practices system in Tasmania and how that is viewed nationally and globally, it is held up as one of the best management systems and governance structures and arrangements globally. It is a benchmark. To take a step back from that, I know it comes under political attack despite that but, nonetheless, under a most objective evaluation of the forest practices system, it is not perfect but it regarded as one of the best. Any move back from that, I think, if I can offer this observation, is a substantial reputation risk to the state as well as being a retrograde step in other respects. That appears to be undervalued at the moment. In fact, we do have the reasons that has evolved and it would be fairly obvious. But we have an outstanding system in this jurisdiction and it is adaptive and it is constantly being improved. But I think, stepping away from that would be a bad move to take.

Ms FORREST - We touched on this and alluded to, but I have some questions I would like to put to you which may be a bit repetitive in some respect. We understand that Forestry Tasmania is in the process of developing a new planning framework for forestry management, referred to as the coupe context approach. It appears that this approach is being proposed as an alternative to some of the current Forest Practices Code provisions delivered by the forest practices system. My first question is on management outcomes: in state production forest, is the coupe context approach likely to lead to changes in the management provisions for threatened species, particularly those dependent on mature forest habitats, such the swift parrot and masked owl, amongst others?

Mr G. WILKINSON - I think the coupe context approach is one of the tools that we may use to manage biodiversity and I talked about that hierarchy earlier, about having an adequate reserve system of native forest estate and then a range of tools. Those tools are applied at a landscape level, in other words a strategic level, and they are also applied at a coupe level, depending upon the nature of the species. The coupe context model actually came out of the review of the Forest Practices Code's biodiversity provisions that we initiated a few years ago. Forestry Tasmania has picked that up and done some work on it and were collaborating on that work to some extent. We think that is going to be a useful approach but it is only one approach. It will not substitute for all of the other layers of planning that we have to do. I think that could be a misunderstanding, that it is not the panacea for saying if we apply this approach we will be adequately conserving biodiversity. It is one of the layers that we would look at because what that does is to look at the context of a particular harvesting area and look at the components that are important to biodiversity. For example, mature forest that contains hollows suitable for nesting species and foraging habitat and whatever, but we still have to go down to other scales for managing biodiversity.

One of the most important to us we have is a tool called the Threatened Fauna Adviser that prescribes for each threatened species that occurs in a forest what sort of management prescription should be applied to maintain the habitat of that species, and that, depending upon the species, can apply to a very broad scale or it can apply right down to the micro-scale within a harvesting unit. It is a very specific recommendation about not burning or leaving a certain coarse woody debris or whatever, so you need all of those layers if you are going to adequately conserve biodiversity.

That is a long answer to your question but it is being promoted by some as an alternative approach but we don't see it that way. It is another part of the process.

Ms FORREST - Do you think it will actually strengthen the protection of the special values that exist or will the coupe context approach make native forest harvesting in Tasmania more or less sustainable from the biodiversity and threatened species point of view as one aspect of it?

Mr G. WILKINSON - I think there is some work to be done on it but it essentially addresses the component of dispersing the impact of harvesting in space and at the moment we have a provision in the Forest Practices Code where they are talking about dispersing coupes. It is a fairly simple set of rules. The coupe context one is a more sophisticated approach so again the answer is: it is an important part, it is one of the layers of planning but it shouldn't be seen as an alternative to the current Forest Practices Code. I am not sure anyone is suggesting that but if they did suggest that we could operate under a coupe

context model and forget about the Forest Practices Code and the supporting tools, then I would certainly -

Ms FORREST - I am not sure that is what is being suggested -

Mr G. WILKINSON - No, I don't think that would be the case.

Ms FORREST - I understand from the government's point of view and according to the Forest Practices Code, responsibility for the development of management procedures and actions for threatened species lies with the Forest Practices Authority and DPIPW, so what role have FPA and DPIPW played in Forestry Tasmania's formulation of this approach, the coupe context approach?

Mr G. WILKINSON - As I said earlier, the concept of the coupe context approach came out of the biodiversity review, the review conducted by the FPA. Forestry Tasmania have picked that up and they have tried to apply it through their planning system. We have been involved in reviewing that and providing comment on it and, hopefully, working towards something that we would see as a useful tool.

The perspective that we bring to it is that if we are going to have such a tool, again, it has to apply across tenure.

Ms FORREST - Across private land as well as [public land]. It has to be consistent.

Mr G. WILKINSON - That's right. Forestry Tasmania has a very clear statutory responsibility for state forests and they tend to be very focused on planning on state forests, which you would expect them to, but you can't develop these tools in isolation and I guess that is the message.

Ms FORREST - Is there a risk for the approaches being taken in that you could see one rule for the management of public reserves?

Mr G. WILKINSON - There is that risk and that is something that would be a backward step. The forest practices system is - I was going to say almost unique and my wife would tell me you can't have almost unique.

Laughter.

Ms FORREST - She is probably quite correct, she is an English teacher.

Mr G. WILKINSON - I am not sure that there is any other jurisdiction, certainly not in Australia and I haven't seen one anywhere else in North America or the rest of the world, where you have an integrated, consistent approach across tenure. There are always two sets of rules and the standards are different.

Ms FORREST - Which creates its own challenges, doesn't it, because eagles don't respect boundaries.

Mr G. WILKINSON - Exactly, and the rule set is that on one tenure you may have good outcomes and on another tenure you get lousy outcomes and that is just a political reality

that governments don't like to bring private land management up to the level that might be expected of public land. But in Tasmania we showed enormous leadership back in the 1980s by saying if we are going to have a forest practices system to achieve sustainable management, it will apply across tenure and if we backtrack from that, we are going back to the international standard but we lose our position of having probably the best system for managing biodiversity in forests.

Ms FORREST - You do agree there is a risk with the approach that's been taken that could happen?

Mr G. WILKINSON - I think there is. If a separate set of rules applies on public land to private land, I think there's a risk for the values we are managing, there is a reputational risk and a risk of inconsistency and equity to the private sector.

Ms FORREST - It must make your job very hard.

Mr G. WILKINSON - The private sector is very important. There is a million hectares of private forest in Tasmania and it makes a huge contribution to all these values and if we don't manage them consistently and equitably, there is far greater risk to biodiversity that cannot be offset by putting more public forest into reserves.

CHAIR - Would it be fair to say you have an equal split between state forests of around 1 million hectares and private forests of around 1 million hectares?

Mr G. WILKINSON - In very rough terms.

CHAIR - When you look at this sustainability aspect, knowing what I know and have heard over the last 35 minutes, one would say prior to any areas being locked up there should be an investigation and a focus on what you've just been talking about - species such as the wedge-tailed eagle and masked owl et cetera. That should be just as much a part of the debate as wood alone.

Mr G. WILKINSON - I think so. I think there are two risks here, and they are important risks for Tasmania. One is that you put values into a national park that don't need to be protected in a national park, that can be quite adequately protected and managed outside of a national park. That is very clear. There are pioneering species that require disturbance so there is a challenge as to how you create disturbance in a national park. You could regard that as surplus to requirements; we put it all into a national park but it didn't need to be because those values aren't under threat by resource use in forests.

The other risk is that you don't have areas in a national park that need to be in a national park because they are impacted by resource use or other activities and need to be more sensitively managed. There is a great range of forest - all forest has conservation value, so this notion of identifying forests as high conservation value is a nonsense; they all have value. They have different values in time. A young forest today is an old-growth forest of the future. There are natural ecological successional processes that mean that the values change over time. All forests have value; they all need to be managed. They need to be protected from fire, weeds, feral animals et cetera. The issue is how we manage them at a reasonable cost to society, what the benefits are we can extract from those forests and how we can minimise any detrimental impact on those values. We

know, and have known for 20 years, that those values have been sustained through management regimes on public and private land. We have high-conservation-value forests on private land that have been harvested over 200 years, so why would you change that regime? How could you afford to change that regime? This notion, unfortunately, that gets polarised in the political debate, and particularly in the media, that forests are either protected or they are not - and the latter means if they're not protected they are destroyed - is an absolute nonsense, a scientific fraud. We have to try to get away from this notion that we are either protecting forests or we are not; we are managing forests sustainably. Some of those forests will require reservation because of their sensitive values and the value we put on them, but a broad range of them can be managed sustainably through management prescription.

Ms FORREST - 'Sustainably' in terms of active wood supply, biodiversity and a whole of range of things?

Mr G. WILKINSON - It may involve wood supply.

Ms FORREST - It may or may not, but you're talking about across the whole gamut.

Mr G. WILKINSON - Yes, the whole estate. This notion that you either protect it or you don't is a self-fulfilling prophecy because if you protect a lot and then say, 'We're not protecting this' and we intensify wood production from those forests, then we are not necessarily protecting a lot of those values. We are losing the opportunity to get a far better overall outcome for our forests.

CHAIR - The process has been underway for some time and it seems to be extending out from time to time, in order to get an agreement. But the lay people out there believe, as you have said, the notion that if the forest is protected then so too are the species that you have mentioned. You are saying, no, that is not always the case because of what you have explained here today. For you to become part of the process, obviously there would need to be that invitation given to you. How long would it take to identify whether the areas that people are speaking about are appropriate areas or not?

Mr G. WILKINSON - I think there are two levels in that. There is the course level, strategic-level planning, where you might put rough lines on maps and that is the process that we followed under previous RFAs and Helsham inquiries before that. That is a very broad instrument of trying to identify forest that has such particular value that they can be identified on the basis of a map, that they should be managed by total reservation. I think you would only do that for getting consolidated boundaries and for identifying areas that have some iconic value, that there is policy decision made to manage it in national parks, like Cradle Mountain. People might just say we will accept very broad lines on a map that say this is a national park that has a range of geomorphic and other features that we are going to put under a national park. That approach would be workable in that situation.

But our experience, over 20 years, is that until you get down to the local-level planning, you cannot make those determinations. You cannot map eagle nests until you go out on the ground and find out where they are. When you find one you have to put a management regime around that eagle's nest. If you want to put a line on a map to protect all eagle's nests, then you already have it. It is called the coastline of Tasmania.

That is how nonsensical that approach is; you have to get down to a local level. You have to ascertain whether the values are present, because we use a lot of predictive models and essentially that is what the West group did, to use modelling, and that is a first approach. You do predictive modelling and that is very valid approach, but you have to do the ground trooping as well. Merely establishing that the values are there does not mean that you then have the reserve it. You then have to say, what is the impact on that value. If it is a pioneering species, the form of management may be to create disturbance or wait for the next big bushfire to come through.

They are all the considerations. These values are present and how can they be sustained into the future, what is the appropriate management regime and how is that best applied. How do we afford that level of management; that is going to be a real issue for Tasmania. How do we manage these forests? Are they consolidated? Can they be managed? We are seeing reports now of a spike in illegal activity - firewood cutting, rubbish dumping and those things - and roads that cannot be maintained, bridges that are washing out and not being replaced.

Ms FORREST - Why do you think that is?

Mr G. WILKINSON - That we are seeing illegal activities?

Ms FORREST - Yes.

Mr G. WILKINSON - Because in some areas there is less capacity by forest managers to pay for the level of management that they have had in the past. I think roads and bridges are a classic.

Ms FORREST - Budget constraints.

Mr G. WILKINSON - They are not generating any income from the forest, so why would you spend half a million dollars replacing a bridge that is not required for production purposes?

Prof. DUFF - That is the case on both tenders too, public and private forests. Again, we have private forest owners and managers who are also suffering fairly tight budgetary times.

Ms FORREST - Does that increase your risk of a big fire coming because people are not in a position to manage the forests in a way that minimises that risk?

Mr G. WILKINSON - It depends on what management. If we transferred all of our forests into national parks, presumably there would still be fire management - if we can afford to do it. I sit on a coordinated smoke management group that has representatives of major land managers, including Parks and Wildlife. The reality is that after the dreadful bushfires in Victoria a couple of years ago there was a decision made here to increase the amount of protective burning. That, I think, happened in the first year but it did not happen in subsequent years because of lack of resources. That has been the history of bushfire management in Australia. People have short-term memories. Generally it comes down to the fact that for a while the resources are allocated because this is a public issue; we are concerned about public safety so we're going to allocate resources to

do protective burning and then in the overall scheme of things it becomes a low-order priority. So you have to look at ways that forest managers are going to have the resources in the future to do that level of management. That is a question in terms of how we manage these forests and reserves of the future. Will we have the ongoing capacity to do things such as protective burning, maintaining roads for access for firefighting, making sure bridges can be crossed if there is a fire - all those are things that forest managers have to confront?

Mr HARRISS - Graham and Gordon, you have indicated fairly clearly that conservation values can be managed through rigorous harvesting management regimes and the like. That being the case, if I have understood that correctly, is it true that certifications such as FSC acknowledge just that, that you don't have to put any particular tract of land into a reserve to adequately managing/protect the conservation values? There can still be harvesting in those areas and the conservation values either be managed or protected?

Mr G. WILKINSON - I think certification systems do what our national forest policy statement of 1996 says, and that is that you look at that hierarchy I spoke about earlier - of methods of managing biodiversity. You start off by saying, 'Are there really important areas that are sensitive in a reserve?', and certification systems do that. Adequacy of reservation, and then go to the next level down; 'Do you have appropriate management regimes in place to be protecting these values? What are those values? How are they articulated? What are the objectives for managing those values and do you have systems to deliver that level of protection?'. So, yes, a certification system is conscious of the fact that you have to look at all those levels. Your question said something about values can be protected through rigorous harvesting -

Mr HARRISS - Management of the harvesting system.

Mr G. WILKINSON - I would say 'appropriate'. I think that is part of the debate about where we go from here with Tasmania's forests, that we have options on what intensity of harvesting we can apply to our native forests. We know that our wet forests require a major disturbance activity to regenerate and that is provided naturally through a catastrophic wildfire. If we want to create regeneration conditions in certain wet forests, we know we have to create full sunlight conditions, which means clear-felling. If the community accepts clear-felling, they have to accept the consequences of clear-felling in terms of its visual impact, the short-term impact on biodiversity and smoke-management issues.

Ms FORREST - So the blackwoods require clear-felling, do they?

Mr G. WILKINSON - In dense, wet forests the only silvicultural way of harvesting those forests is an intensive regime, but even that is up for consideration because you can have intensive regimes applied to a small patch or to a large 1 000 hectare clear-fell. That is an issue here in terms of intensification. You could log wet forests at a scale where you are just having small clear cuts that are well dispersed in time and space and you are regenerating the forest, or you could say, 'That is now a wood production zone and we're going to have very large clear cuts that aren't dispersed so that when you fly over them you'll see thousands hectares of fairly young forest resulting from clear-felling'. There is a lot of discussion about how you do it, but there's not an option to apply selective harvesting regimes in wet forests and maintain the natural cycle. There is a decision

there, but that is an option outside of wet forests. Most of the forests in Tasmania are not wet forests.

Mr HARRISS - You said earlier that we have world's best practice in Tasmania. I am aware that the Forest Practices Authority, and you in person, Graham, are asked to travel to other jurisdictions around the world to share that management regime which we have in this state. That being the case, is it true to observe that there are plenty of other jurisdictions which appropriately manage the conservation values of forests without being locked away into reserved tenure?

Mr G. WILKINSON - I think it depends on the jurisdiction. The reality is that in the tropical forests of the world, unless you harvest the forest it is most likely that those forests will be cleared for agriculture, particularly oil palm plantations. Harvesting the forests creates a benefit to local landowners that is an incentive not to just clear the forest and change the land use. That thinking can be applied to the private forests of Tasmania. Why would you manage a forest as a forest unless you are getting some benefit from it? There is a whole range of people out there who will get the benefit from just having a forest and just liking the fact that they have conservation values on their land. That is fantastic, that is a bonus for us, but there are others who see their forest as part of their income and have for many, many years as part of diversifying their farm income relied on selective harvesting when they need some additional income, to produce a sustainable resource and to use their forests for other benefits as well, such as grazing.

If we take that away by legislation, regulation or by removing the markets, then there will be some forest owners out there who will start to question whether this is a liability or an asset. We are seeing, as expected, that as the future for harvesting those forests becomes less certain we are starting to get more inquiries now about converting that land use to agriculture and already there is some discussion within the rural community about seeking revisiting of the government's policy on maintaining the permanent native forest estate. I regard that with some concern because that policy again is one of great leadership by Tasmania in that we do have a policy that says that 95 per cent of the natural forest that we had in 1996 when the RFA commenced would be maintained in perpetuity as native forest. So some of it will be harvested but the bottom line is it will be maintained as native forest and we know that the forests grow back and the values are returned over time.

That is a great achievement for us and if we started to see some weakening of that policy to allow private landowners to convert their forest to other forms of land use because they don't see the value of their forest anymore, that would be a substantial loss of conservation value to Tasmania. That would be a sad, perverse outcome of the loss of public support for harvesting natural forests.

CHAIR - Do you believe there is any need at all to 'lock up' any more of our native forests or do you believe that what is in place now in relation to the management of the native forests is the way to go?

Mr G. WILKINSON - I don't think what we have currently is adequate because by and large it has come about from a combination of some scientific process and a lot of political process, so we have lines on maps. For forest ecologists, it would not be their preferred option for a reserve system in Tasmania; it is a political outcome. That is

understandable. In an unreal world you would wipe the slate clean and say let us design the best reserve system we can have to meet the aspirations of the Tasmanian community and you would end up with a totally different reserve system, but before you would do that you would set objectives for what you are trying to achieve - which we haven't had. We have ended up with a very good and very extensive reserve system, one that probably in some places isn't required to maintain those values - they could be managed by other process - but we have areas outside that reserve system that should be in the reserve system. There is an ongoing need to put areas under reserve management but that decision has to be made through a proper scientific process, and I don't see that in the current process. I keep coming back to the fact that most of those priorities would be on private land and that is a completely different paradigm for how you may conserve those values, whether the state is prepared to start reserving private land or looking at other ways those values can be managed and maintained in the long term. A very large proportion of those high conservation values on private land we know can be managed by prescription, but some probably should be under a reserve system as well.

This is an ongoing process. Until we have done the operational planning, sometimes you throw up values. I can think of an area a few years back where nothing was known of great conservation significance, nothing was mapped or modelled. A road was built into an area and an extensive CAR system was found that was rated to be of outstanding natural value and sensitivity. Clearly the correct decision then was to reserve it. It was a very sensitive CAR system, not previously known and best managed under a system of minimising disturbance. You need that flexibility for the future. To do that, it comes back to this question of head room. If the commitment to provide wood is so tight that you come across those areas and it then impairs the ability to produce that amount of wood, you have nowhere to go and you have a dilemma. So there needs to be some flexibility in the process there. There are some jurisdictions in the world where areas go in and out of reserves over time.

Dr GOODWIN - Someone asked about that. This concept of having different values in time to me suggests you need that flexibility to go in and out of reserves. I don't quite see how it works otherwise.

Mr G. WILKINSON - The whole notion of putting old-growth into reserves is fine in our generation. We have lots of old-growth forests in reserves that are 450 years old; some of the trees are just about dead and are now being replaced by myrtle forest as an understorey. The value we have sought to protect, which is old-growth eucalypt, is disappearing from the site and we will end up with myrtle forest. It is a nice forest but there are plenty of that in reserves and we don't have old-growth eucalypt forests. If you want old-growth eucalypt forest on that sort of time span, you have to be looking at younger-aged eucalypt forest that will go through to old-growth forest. If that old-growth forest in the reserve system gets burnt by wildfire it will end up as a young regrowth eucalypt forest, and we have lots of that in Tasmania. It won't be old-growth forest for hundreds of years, but it is in the reserve system. Meanwhile, there are forests outside the reserve system that are approaching that level of maturity and old-growth characterisation that is not in the reserve system. This is a dynamic landscape. If those old-growth forests that are gradually coming to the end of their life aren't burnt by a very hot wildfire - and you can't manage that sort of fire; you can't run a fire through it to get those forests regenerating again. You have to sit back and let nature come along and then not put the fire out and hope you can stop it when it gets to human habitation. The

reality is that we will probably stop most of those fires from burning those forests, which means we lose those values from the reserve system. Because we are looking at a time span here of 50-100 years, I think most people say we would leave that for the future, but it's all part of how you design a reserve system and how you manage that system and the values in it.

Prof. DUFF - Remembering, too, that some of those values are social or emotional values. There are iconic areas that are visually pleasing or have some particular cultural significance that may not necessarily be related to a biodiversity value or any particular uniqueness in that sense. Nevertheless, you may consider those going into reserves because of their social importance.

CHAIR - It is interesting how the wording has changed. It was 'old-growth forests' first, then it became 'native forests', then 'high-conservation-value forests', and now it is 'forests with a conservation value', which, as you say, is all forests because all forests have some conservation value.

Mr G WILKINSON - And that includes plantation forests and some people find that quite daunting, but there is already a discussion that plantation forests have conservation values. They protect catchments, they protect soils, some of them have threatened species in them. I have already heard at the beginning of the dialogue that some plantations forests should be managed as reserves in the long term. That might mean growing them on or it might mean, if they are not native to the site, cutting them down once and then rehabilitating them to natural forest that will be grown on. Part of that is true. Part of a plantation resources has been put on sites where it probably should not have been put. If you could turn the clock back 40 years you probably would not make those decisions now.

We have plantations in the Fingal area on steep erodible granites where those plantations were put in as a work employment scheme by the government to employ out of work miners, against the advice of the Forestry Commission at the time. They went in and there is a resource there now. They are on the wrong site. In an ideal world you would harvest the pines and rehabilitate that active, natural forest.

There are some of those issues that we will have to confront. But by and large plantations are at the end of that scale where you either have a forest protected or you have intensive wood production. It has forced the industry to look at intensive wood production in plantation form. But there are consequences of doing that; there are real trade-offs. You do have intensive land use, you have chemical use issues and you have water catchment issues. They are all issues that have to be managed as part of a sustainable forest management approach.

Mr HARRISS - Where did you hear that suggestion about plantations going into reserves?

Mr G WILKINSON - We are seeing it throughout Australia. In New South Wales, there are blackbutt forests, eucalyptus pilularis forests. Koalas like that so they walk across the road and take up camp in the blackbutt forest and by definition, then, those forests are targeted as habitat for koalas and the pressure is on to reserve them. We have some of those issues here in that we have eagles nesting in or near plantations. Our current guidelines require a lack of disturbance activity within a kilometre line of sight and that

causes real problems for plantations. What we are essentially saying is that those nests would be better managed by having a native forest reserve around them and not plantation or farm land. Those are issues that we are confronting here already.

Ms FORREST - I was interested, Graham, in the whole concept of the dynamic landscape you have spoken about. When I said, somewhat tongue in cheek but serious as well, some time ago that if we are going to have this review of this 430 000, 570 000 or whatever you want to choose, to look at that area to see whether there is any high conservation value in those areas, then shouldn't we look at the whole state? We have all these areas reserved and in the minds of people generally it is locked up and once you have locked it up, that is it. Suddenly it is locked up and that means something. I am not sure exactly what it does mean. But you talk about the dynamic landscape that changes over time and space, then is it an appropriate thing to look at the whole of the state of Tasmania? There may well be places that are already reserved, like the far south-west and places like that, that you would not want to become places of disturbance because it is obvious, even to someone who does not know the science of that area, one would assume that is it pretty unlikely that you would ever want go down that path. But is that something that we should be looking at because as things change and evolve over time, you might find you need to unlock or unreserve some areas of land?

Mr G WILKINSON - That is a provocative thing to say, obviously, but I think it is an important dialogue that needs to take place because, again, it comes back to what was the reason for putting that under a reserve system and is that still valid. If the reason is social, as Gordon said earlier, then the social imperative probably still applies.

Ms FORREST - Or it may not.

Mr G WILKINSON - It may not; it may have changed.

Ms FORREST - Because the surrounding land use might have changed.

Mr G WILKINSON - Yes, that is right.

Prof. DUFF - You could certainly hypothesise two alternatives where you have intensive silviculture taking place. The coupes and the cuts are close together spatially and in time to supply a certain amount of wood, or you disperse those so instead of logging on an 80-year rotation you log on a 200-year rotation and you scatter those coupes over a much wider landscape for the same supply of wood. As a conservation biologist, which is the better option? It is the latter, absolutely.

Ms FORREST - That was my point that I was trying to make. I think we have it all wrong, to be honest, in that approach. I said to forestry people and others, is that ever going to happen, that we are going to be bold enough to say, 'Let's have a look at the whole lot' but I think maybe we need to.

Prof. DUFF - I can guarantee you will get a reaction.

Ms FORREST - I did.

Mr G. WILKINSON - I think the concept of reservation is a relic from 100 years ago when there was an imperative on government to protect areas because they were under threat of being cleared for settlement, so it was quite urgent that we set aside areas and I think one of the quotes was 'for the delight of the populace' or something.

Ms FORREST - It is a bit like the protection of agricultural land policy, to ensure that we don't put houses on every bit of land that we could grow food on because obviously we need to be able to feed ourselves and others. It is not dissimilar to that but then things changed there, too.

Mr G. WILKINSON - It is a blunt instrument in saying we need to hang on to bits of the forested landscape to prevent it from being used for settlement, but in those days there wasn't a notion of managing by prescription. That is something that we have developed in the last couple of decades, that these values have to be managed and it is a question of how you manage them. The discussion should be about how we manage them and not this blunt 'in or out of the reserve system', which is how the debate has been simplified.

CHAIR - Graham and Gordon, thank you very much.

THE WITNESSES WITHDREW.