

**STANDING COMMITTEE ON  
ENVIRONMENT AND PUBLIC AFFAIRS**

**INQUIRY INTO THE SANDALWOOD INDUSTRY  
IN WESTERN AUSTRALIA**

**TRANSCRIPT OF EVIDENCE  
TAKEN AT PERTH  
WEDNESDAY, 21 AUGUST 2013**

**SESSION TWO**

**Members**

**Hon Simon O'Brien (Chairman)  
Hon Stephen Dawson (Deputy Chairman)  
Hon Brian Ellis  
Hon Paul Brown  
Hon Samantha Rowe**

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**Hearing commenced at 12.11 pm****TREDINNICK, MR JOHN****Director Forest Operations, Forest Products Commission, sworn and examined:****SAWYER, MR BENJAMIN****Manager, Sandalwood Branch, Forest Products Commission, sworn and examined:**

**The CHAIRMAN:** Firstly, on behalf of the committee, I welcome you to our hearing today. Before we begin, I need to ask you if you could take either the oath or affirmation.

[Witnesses took the oath or affirmation.]

**The CHAIRMAN:** Thanks. Gentleman, you will have signed a document entitled “Information for Witnesses”. Have you both read and understood that document?

**The Witnesses:** Yes.

**The CHAIRMAN:** These proceedings are being recorded by Hansard, and a transcript of your evidence will be provided to you. To assist the committee and Hansard, please quote the full title of any document you refer to during the course of this hearing for the record. Please be aware of the microphones and try to talk into them too. I remind you the transcript will become a matter for the public record. If for some reason you wish to make a confidential statement during today’s proceedings, you should request that the evidence be taken in closed session. If the committee grant your request, any public and media in attendance will be excluded from the hearing. Please note that until such time as a transcript of your public evidence is finalised, it should not be made public. I advise you that publication or disclosure of the uncorrected transcript of evidence may constitute a contempt of parliament and may mean that the material disclosed is not subject to parliamentary privilege.

Did you want to make an opening statement to the committee?

**Mr Tredinnick:** No, I do not think so. We made an opening statement last time we appeared, and so I think we will probably leave it to you guys to initiate the questions.

**The CHAIRMAN:** Thanks very much. I note that you appeared, I think, on 26 September last year, and we thank you for that. This committee in the 39th Parliament now, because we have had a general election and the committee has been reconstituted, has reported to the house that it is going to accept the recommendations of the previous committee and continue an inquiry into sandalwood. That was reported just the other day to the house. So we have got to build on the evidence that you have already provided, and we thank you very much for your assistance and for coming up to do it.

There are a number of questions we wanted to cover and there may well be a requirement to go into private session for some of this material. I appreciate that there are some sensitivities around. So whether you initiate that or the committee does at the appropriate point, I just wanted to touch firstly on the tender process for the sandalwood contracts that are coming up. Has the tender process for the next year’s contracts begun yet and, whether it has or has not, can you talk committee through the process?

**Mr Tredinnick:** This is for the sale contracts, which is the Wescorp process?

**The CHAIRMAN:** Yes.

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**Mr Tredinnick:** We did not get far into this, but we would probably prefer to discuss that in closed session, because there have been some decisions made there but it is commercial-in-confidence at this stage. We are happy to share our thinking on that with the committee.

**The CHAIRMAN:** Right. We might come back to that a bit later then. So we will only touch now on matters that you are comfortable to talk about in open session. What terms are being considered for inclusion in the next round of contracts for sandalwood, or again, is that a consideration you would rather take behind closed doors?

**Mr Tredinnick:** I think it is easier to discuss it as a whole so that you can understand what our thinking is in the process and some of the issues we are trying to address. With the next round of tenders, as you will appreciate, we actually have two primary contracts. One is the agency agreement we have with Wescorp to sell on our behalf largely to the export market, and the other one is with Mt Romance. The Wescorp contract expires in 2014, the Mt Romance contract in 2016. We have looked at strategies to consider how we deal with these issues on a holistic basis rather than piecemeal on the individual contracts, we might talk through that.

**The CHAIRMAN:** Okay, we will come back to that a little bit later on in our hearing. Let us move onto something else now—the sustainability of the resource. Does the FPC still support the managed harvest of wild sandalwood, given the increasing scarcity of the resource and the fact that plantation trees are nearing maturity?

**Mr Tredinnick:** Yes, we do continue to support the harvesting of wild sandalwood, albeit I think we pointed out to the committee previously that the best information we have suggests that the current harvest level cannot be sustained forever. There is a point where we believe that harvest of the wild sandalwood needs to step down and the harvesting needs to be blended with the plantation resource as that becomes available. We believe the wild sandalwood will add value to that plantation resource when the plantation resource is ready, so we do not want it just to fall off a cliff at a point in time and go from wild sandalwood to the plantation sandalwood. There needs to be a transition period, which will involve the level of the wild sandalwood harvest dropping down. I think we probably would not agree with the premise that the plantation sandalwood is ready for harvest. Our best estimates of when that resource is likely to produce commercial quantities of oil or to be otherwise saleable in the market is probably when those plantations are aged 25 to 30 years of age at a minimum. So I do not think we are at the stage where that plantation resource has any significant value right at the moment.

**Hon BRIAN ELLIS:** That would be a really difficult decision when you do bring in plantation sandalwood, because I am advised that it would be more like about 60 years before it is of quality. How do you get the balance right, because plantation sandalwood is not as high a quality as the wild, and if you do allow plantation sooner, then does that diminish the whole overall product?

**Mr Sawyer:** Firstly, I would not dispute 60 years at all. The research that I am aware of on the yields of oil from plantation wood has only tested trees as old as 26 years. I can cite a paper published in the *Australian Forestry Journal*. The title eludes me, but it was researched by Jonathan Brand, and we align our thoughts with the results of that survey. Sixty years certainly would not be an unreasonable age; hence the development perhaps into the value of the nuts rather than the actual timber for that resource.

[12.20 pm]

To rush our plantation wood too early into the market would require dilution somehow into the wild resource. I think that would seriously jeopardise the reputation of WA sandalwood in the market. Substitution of sandalwood products by other non-sandalwood substitutes, even artificial materials, is a real problem as it is. If the Western Australian production was diluted with inferior effectively young sapwood into its wild resource, I think we would risk damaging our own markets and reputation of the highest quality sandalwood.

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**Mr Tredinnick:** I guess the challenge we have with any forest plantation, whether it be sandalwood or pine plantation or a eucalypt plantation, is that there is an optimal point of time when the plantation reaches a bar which can provide a satisfactory yield to the investor. You establish a plantation and wait 60 years to get a product and then you discount that—I think at 10 per cent, or 11 per cent we are using at the moment. Obviously you do not have a lot of return when you look at that return overall. So you are looking at what value that plantation has at various points of its life cycle and what that optimal harvest stage is. But at this stage some of those factors are unknown because we just do not have a significant resource that is pushing towards those ages. We think most likely that we will be able to get some commercial product at age 25 to 30 but that does not mean it will not increase in value by age 60.

**The CHAIRMAN:** Looking in perpetuity, are we always going to ideally have access to wild sandalwood for essential blending purposes?

**Mr Sawyer:** My thoughts are probably not, certainly not live or green harvested wood. I think there will be a level of dead resource out there. As you are probably aware, the dead harvest is not half but it can be assumed it is a significant part of the harvest at the moment. There will always, I imagine, be a dead resource out there that can be salvaged or collected, but in terms of in perpetuity harvesting the wild resource, with the population structure as it stands at the moment, there will definitely be a gap between when the current resource of living trees finishes and when the regeneration that is finally now having some success and being established in the rangelands gets to an age in that wild environment that can enable that next growth to be harvested. So there is almost undoubtedly a gap in time there at some point.

**The CHAIRMAN:** How big will that gap in time be, do you think?

**Mr Sawyer:** Possibly 100 years.

**The CHAIRMAN:** That long?

**Mr Sawyer:** Possibly, yes.

**The CHAIRMAN:** That is a clear, significant break in continuity?

**Mr Sawyer:** Yes.

**The CHAIRMAN:** Offset, of course, by the dead stock.

**Mr Sawyer:** Yes, that is right.

**Mr Tredinnick:** The challenge is in the transition. We need to step down that wild harvest at some point without disrupting the markets so much that it is very difficult for the plantation wood to re-establish those markets. And obviously the lower we transition that native resource down to, the longer it will last through that period. That is a challenge, and that relies on having good inventory information to start with. Obviously the illegal harvest impacts on this as well. But with good inventory information we can get a better knowledge of the plantation estate and what it will produce. Then we can look at what that transition needs to be between the native wood and the plantation wood.

**The CHAIRMAN:** Any other questions?

**Hon STEPHEN DAWSON:** I was interested just to find out more about operation woylie. We had it raised with us previously, so I would be interested to hear from the department what it is and what it entails.

**Mr Sawyer:** Firstly, one development since we last appeared is that a document tabled at the last hearing was a draft paper, which is the initial paper for the operation of woylie research, so I would like to table the now published work for the first stage of operation woylie. Operation woylie was a research program that the FPC started in around 2007. It was in recognition that the silviculture works of the replanting that was done in combination with the harvest was not as successful to

replace the trees that were being harvested, certainly not on a one-to-one ratio. It did not recognise factors of soil preparation or lack of rainfall. It did not look at seed quality or even things like dormancy treatment. So a whole range of factors that are really important to establish sandalwood regeneration were not considered in the previous silviculture regimes and, in fact, until the year 2000 there had not actually been deliberate replanting of wild sandalwood during the harvest. There was what we called the boot method, where a harvester would pull a tree out and kick a boot full of nuts into the hole. Until 2000, that is when we went to the 12 seeds. By 2007 we realised through our monitoring that that was not producing a sufficient number of seedlings for the trees that were being harvested. So operation woylie was the research program to work out how to get this stuff to grow in the arid and semiarid environments in which it grows. That program is still ongoing and we are developing new areas to research, particularly how to push the success we have had further north. So we looked at firstly soil treatments and other treatments, such as fertilisers, to boost growth, water crystals, ripping, creating water catchment and harvest—all those aspects—to work out what factors you need to put in to successfully achieve sandalwood regeneration.

The first phase, which is the paper that you have got there, describes what we measured in terms of thresholds of rainfall. What we are finding is that an average winter rainfall in Kalgoorlie, which just happens to be 264 millimetres, seems to align with the threshold of rainfall required to get sandalwood regeneration to germinate. That effect can be really improved by some soil preparation treatments, which is the simple ripping process, and then further improved by choosing high-quality seed which has a high viability and also pre-treating parts of that seed so it is already germinating in some instances when it is going into the soil. The information we learnt over, I guess, a reasonably short period from 2008 to about 2011, because there was such an urgency to get sandalwood establishing. FPC then took it to an operational phase. That is where we started getting the seed produced from the plantation estate—high-quality seed. Mixing it in with a little bit of wild collected seed just to enable the strong diversity of genetics within the seed we were using. We were treating a portion of it with gibberellic acid—a portion of it by cracking the seed—so in different rainfall conditions you would get different levels of germination, and still leaving some of the seed untreated, so that if you did not get rain, it would remain intact in the soil for perhaps five, six or maybe seven seasons. Putting that altogether, over the last two years we have been using skid-steer loaders and backpacking labour to rip the ground, put the seed in and covered all over. It is highly intensive, and having people of all different nationalities wandering through the arid regions of WA obviously has some pretty important safety aspects, which took a lot of FPC time and effort to do. It was a pretty good effort at doing it but not perfect.

Over the last year or so we have developed a specific seeding device. This is a photo that I would like to table as well. This device was completed in probably about April of this year and went through some testing. We have now awarded a contract for the operation of that device, and in an annual season which runs from January through to the end of April, we expect that machine to put in 3.5 million seeds over some 700 kilometres of rip line, as a minimum, as an annual seeding program based on the information we learn from the operation woylie studies. You can see in the device a tank that holds about 400 litres of seed, which is enough for about 10 or 15 kilometres at a time. It feeds down into an auger mechanism, which then meters the seed out at a rate which is variable, but basically one seed every 20 centimetres is the kind of average that we are looking to feed the seed out. In environments, even with all the inputs we are putting in, you are still expecting a low establishment rate, but that is just the environment we are working—so a lot of seed. We only need one and a half per cent to actually survive and establish to replace the trees that we harvest annually. We think that is easily achievable. The 2010 year, which was the first year that we did it, we only managed to put in, I think it was about 500 kilometres of rip line and we easily surpassed our annual harvest for that year. In fact, it was probably the first year that we actually witnessed a net increase in the sandalwood population in Western Australia since some of the damaging effects of European settlement arrived, so that was really encouraging.

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[12.30 pm]

**The CHAIRMAN:** How close would you plant the seeds in this experiment?

**Mr Sawyer:** We really try and get the seeds under the drip line of a host. So, if you can imagine quite a bushy, shrubby host, the contractor is instructed, and part of the specifications of what they need to do is operate that device so that they have the shoulder of the tractor and that device in and under that drip line. So we have got in the specification of the contract a very small tractor that can sort of work in and under that environment. The device itself has a left and a right ripper. Only one is fed at any given time. So the contractor will work in an east and west direction, so that means they will always have the south side of every host being seeded, and then as they turn around, of course, they can, inside of the cab of the tractor, flick a switch. That will then divert the seed to the other side of the seeding machine, so as they come back in the other direction they will continue to seed up the south side of the host. The south side is an important factor because shade in the first two or three years of seedling establishment is one of the critical factors. The seedlings themselves seem to be very fragile at that early stage and easily burnt by the sun, which, as we all know, out there is red hot. So just that protection of a bit of shade in the first two or three years is critical. Obviously it is a parasite as well, so it needs to get strong root contact. Of course, in those zones we would expect there to be plenty of roots from those hosts.

**The CHAIRMAN:** The rootstock.

**Mr Sawyer:** Yes.

**Mr Tredinnick:** We will get a real test of the process this year because we have sown seed in the last couple of years but it has been followed up by some dry periods. We have not had the rain that we know we need to get for regeneration. This year we have had the rain, so we will be very interested to see what the results have been for the last couple of years.

**Hon PAUL BROWN:** The 1.5 per cent that you require to achieve survival to replace the stock taken, that 1.5 per cent is of illegal stock taken?

**Mr Sawyer:** Yes. It is hard to work out the numbers of illegal and it is hard for us to implement a regeneration program for it. Maybe some of the funds from the illegal sales that have to be sold through those markets could be put straight back into regeneration, which is something we of course encourage and make our resources available to do.

**Hon STEPHEN DAWSON:** Does FPC have a sense of what illegal harvesting is going on and what tonnage is being harvested illegally?

**Mr Tredinnick:** Only what we hear back from the markets and through Wescorp and their observations in the international markets. I think at this time last year we were talking figures of around 700 or 800 tonnes that over the last 12 months could have gone in the market. Certainly until very recently, from the feedback we were getting over the last six months, that had significantly reduced and we also saw that in terms of the prices in the markets, but we are just getting feedback over the last week that there might be some activity which has started up again at a significant scale.

**Mr Sawyer:** Certainly our inventory teams have come across large patches of illegal harvesting. One such area is south of Menzies. A team were up there planning it for legitimate FPC operations. It is also very good area that would have been receptive for our regeneration follow-up. In the process of us doing our own resource survey it turned into more of a how much we lost survey because of the scale of some of the illegal harvest that was encountered. So it is certainly very apparent and significant.

**The CHAIRMAN:** That would be easily detectable because of the trees chain-sawed off.

**Mr Sawyer:** In many places, yes.

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**Mr Tredinnick:** It is true, but it is also tracks into those areas as well. There are new tracks that are being made.

**Hon PAUL BROWN:** The other impact—if you do not mind—of that machinery being used not just for cutting the sandalwood, but I imagine the illegal harvesters are not too compassionate with the surrounding environment either. They obviously mow down a lot more than just what they are cutting.

**Mr Sawyer:** Obviously with the operations we have our environmental management systems and all the systems expected that the government agency would need to manage any part of the environment. It takes a significant amount of time in the management of our operations ensuring that excessive vegetation damage, soil damage and all those sorts of things are very closely monitored. Hydrocarbon spills, if they occurred, are picked up and prevented in the first place. I cannot imagine that the illegal harvester would worry about any of those aspects whatsoever.

**The CHAIRMAN:** I think at this stage we have asked all the questions we want to ask in public today, so the committee has resolved to move into private session so we will do that now.

**[The committee took evidence in private session]**