

Design Group

Warra 8G

Post Regeneration



Final Field Trip 6/11/07: Post Regeneration

A final field trip to Warra 8G was held on Thursday 6th November 2007 to review the efficacy of the regeneration treatments and reach an agreed position.

The field trip looked at the earlier Warra 5D trial and the operational work in a Special Timber Management Unit (STMU) (Warra 17B) to provide a context for the previous and current work. Attendees on the day were: Mark Leech as facilitator, George Harris, President of the Tasmanian Woodcraft Guild, Roger Linnell, special timber sawmiller, Ian Johnston, Julian Wolfhagen, President of the Tasmanian Beekeepers Association and Myles Kean, beekeeper (hives in southern forests). Marcus Tatton was an apology. Forestry Tasmania was represented by Mark Neyland, Project Manager, Leigh Edwards, John Hickey, Steve Whiteley, Rod Hill, Murray Jessup and Amy Robertson from FT Huon with guest Sean Riley, Manager of the Forest & Forest Industry Council.

Ian Johnston provided a very good one page summary of the day that has been appended unabridged and his notes have been incorporated in the discussion notes.

The outcomes of the trials visited are briefly noted and the discussion, individual positions and group agreed position (in the absence of Marcus Tatton) is noted.

Warra 5D

The method of single tree and small group selection as practised in Warra 5D is inappropriate for management of tall oldgrowth wet eucalypt forest in Tasmania. While providing for some rainforest understory regeneration, the gap sizes are too small, the incident light too low and the slash cover too high for there to be sufficient eucalypt regeneration. The safety issues were considerable and the need to use explosives to fall large trees caused increased damage to remaining stems.

- The limited eucalypt regeneration at 6 years is on average about 2m high. Equivalent regeneration in traditional clearfell coupes is about 7m at age 6 years.
- The lack of burning has resulted in 50% of the area being covered by slash and while the height of the slash piles has decreased by about 2m or 30%, they still cover the same area, limiting the available space for a dispersed, mixed regenerated forest.
- It was concluded that this method while providing a partial ecological answer has not provided a social license as it was an economic loss. While it failed the goal of providing an alternative management option for managing old growth mixed wet forest, it provides a valuable comparison and makes a significant contribution to the knowledge base.



Warra 5D Lack of *eucalypt* regeneration and low height

Summary Observations

§ Unsafe

- § Uneconomic, not enough volume and value to pay for the operational, planning and management costs
- § No burning, high slash levels covering 50% of harvested area
- § Most of the harvested area is receiving less than adequate light leaving many areas totally unstocked with eucalypts.

Warra 17B

Warra 17B is a Special Timber Management Unit, (STMU). STMU's are areas rich in special timber and generally low in eucalypt volume. The principal objective for STMU's is to provide for a long term supply of special timbers using lower impact harvesting with a long rotation period to produce commercial log sizes.

Warra 17B is one of the first STMU coupes planned and harvested using new methods.

Planning and development of the management system for STMU's was the basis of a Field Management project for FT Technical Forester, Shannon Clark. Shannon developed an innovative assessment method to identify location and volume of the scattered special timber resource and provide total coupe volume.

Summary Observations

- § Difficult operationally, both to harvest within the design specification and to get the burning done on time within the narrower window of opportunity.
- § The fairway width should be 2 tree lengths to provide better eucalypt regeneration opportunity.
- § 60% of the area reported as having a receptive seedbed.
- § Single tree selection prior to burning from the edge of harvested gaps provides a dangerous burning edge and the opportunity for the fire to "wick" into adjacent forest.
- § Dangerous trees remain an issue, how to make them safe, who does the work and who pays?
- § Site preparation was undertaken by an excavator raking back from the edges with the burn done late in the afternoon and late in the season.
- § Gaps are often too small to allow appropriate site preparation and safe burning. Design of 2ha gaps, at least two tree heights wide was not delivered on the ground.



Warra 8G

This final field visit followed the post harvest visit in March 2006 when the Design Group members agreed that the design and operational implementation of Warra 8G was a success. This trip followed burning of the coupe.

The group walked through the coupe to the unburnt "keyhole" remaining as an agreed trial following Marcus Tatton's earlier comments re burning. See Report 2. The group members present agreed that slash heaps that are in the centre of keyhole openings of 2 tree lengths, should be burnt, a confirmation of the thoughts expressed in Report 2.

Site Preparation

It was explained by Leigh Edwards that fuel preparation took two days with an excavator.

- § Fuel was not windrowed but pulled in from the edges.
- § less than 10% of the area is covered with slash
- § approximately 12 “frog” ponds were established with a dual purpose of providing water for fire suppression and frog habitat
- § 36% of the area was burnt
- § approximately 1/3 remains undisturbed
- § approximately 1/3 of the area has “fluffed up” soils to aid regenerative capacity
- § all present agreed that it was necessary to burn slash piles in “key hole” gaps.



Warra 8G Site pre & burn

An informal presentation by individual Design Group members indicated a very high level of acceptance of this approach to managing old growth wet forest. It was considered:

- § An excellent system provided the gaps were kept at less than or equal to two tree lengths, maintaining influence from adjacent forest.
- § Fire use is seen as essential, but doesn't need to burn everything.
- § Important to retain the main access to minimise future costs.
- § Excellent from a beekeepers perspective
- § Needs explanation for the general public
- § Important that provision is made for immediate training of contractors
- § The system is not to be used as a rigid template, rather as basis from which to develop for appropriate forest types
- § The system needs to be economically viable.



Design group and participants discuss the burn and access

It was noted by Steve Whiteley that group selection systems are potentially useful in areas that are rich in special species timbers, where some wood can be harvested now and where some wood can be held in areas set aside for future production. This will facilitate for example retention of leatherwood rich areas for honey production, or retention of areas of celery top pine for future craftwood or boat building, whilst enabling profitable harvesting at the first pass. The transition to group selection and aggregated retention systems in the broader operational landscape has commenced, particularly in STMUs and tall oldgrowth wet eucalypt forest respectively.

There is still much to learn: methods of safely and consistently burning and regenerating these coupes is a key challenge. Forestry Tasmania has formed an implementation group to assist others in the learning experience, and will in the future look for opportunities to share this knowledge more broadly.

It was further noted that operationalising this will be a challenge for Forest Practices Officers, and will need to take other stakeholders on the journey, including the regulators, especially the Forest Practices Authority. Changing the harvest design, rotation lengths and sequencing/dispersion may provide a different context and role for reserves.

Warra 8G Design Group
Final Field Trip

Design Group Members	Summary Comments	Agreement with outcome
George Harris	The system needs to be economically viable. It provides a flexible system for special timber management.	Agree for appropriate forest types.
Ian Johnston	Some fire accepted as a means of clearing. Ensure fuel remains a by product, all clearing doesn't have to be burnt. More than 2 tree lengths unacceptable. A credit to the contractors, need TCFA\$ to improve the standard by training and educating contractors	9/10 Socially more friendly acceptable harvesting method
Julian Wolfhagen	As a beekeeper very pleased. Long waited to see alternative management of tall oldgrowth wet eucalypt forest. Any loss of flowering will be gained from increased edge flowering.	10/10 from beekeepers perspective
Myles Kean	Good for the leatherwood resource, not wiped out, always something there	Agree
Roger Linnell	About the best we've seen, reasonable supply of regen	Agree
Marcus Tatton	Apology to trip 3.	

Outcome

Design Group members present agreed that the post regeneration outcome in Warra 8G is an excellent example of alternative silviculture management of tall wet eucalypt forests. The design provides operational flexibility and a social and biological licence to manage oldgrowth wet eucalypt forest.

Mark Leech

For the Design Group

From: Ian Johnston and Cathy Hawkins [ianjohnstonmarine@bigpond.com]

Sent: Sunday, 11 November 2007 10:11 PM

To: Mark

Subject: Report on the final field trip to Warra 8G

Report on the final field trip to Warra 8G
November 2007

- The first part of the trip was a visit to Warra 5D which was regarded by all as a unsuccessful attempt at single stem or small group selection logging in an old growth forest. But it does provide many lessons that have been incorporated in later trials. Without burning, there is too much slash to handle; little room for re-growth and the areas that had exposed soil were subject to severe browsing - possibly by Lyre birds. The narrow tracks were mostly too narrow for effective re-growth of all species but wider than necessary for access to cells of mature timber trees. Blasting of unsafe tall eucalyptus did a lot of damage and was cause for the argument that this particular patch of forest was unsuitable for this type of harvesting.
- Warra 17B was the next visit. This site was a more successful attempt at low impact harvesting in a similar forest type to Warra 5D. There were two attempts to burn some areas before was successful because the first attempt was done in damp conditions. The final burn attempt was successful with about 50% of the area scorched and about 30% which has had a hot burn over it. Some areas were too big (similar to an unpopular aggregated retention coupe) and there is a sense that some of it is poorly planned and laid out.
- The permanent cording is an effective strategy for future harvesting access in this forest. Of note: I visited a small area of eucalypt re-growth next to the road opposite the entrance to 17B that was subject to the classic clear fell burn and sow regime. It was about 20 years old, very dense with eucalypt (needs thinning) but surprisingly contained a lot of special species growing in good health in the area. Perhaps it had only a warm rather than the classic very hot burn. If we could wait for 400 years the species mix would probably be similar to the original forest but the age structure would be different. (It would be good to know why this area of regrowth is so rich in SST.) Can anyone tell, I have seen much eucalyptus regrowth of similar age devoid if SST?
- The final site was Warra 8G. The contractor for this site, Vince and Lane Watson, were skilled, conscientious forest workers (a rare commodity and a better use for CFA money would be to skill up other contractors.) who makes Warra 8G an excellent example of what can be done in our forest with intelligence and care by the contractors.
- Half the area of Warra 8G was burnt, about a quarter had a very hot burn over it and most agreed that there was no need for any extra area to be burnt. I would suggest a need to lightly sprinkle slash over the exposed soil to reduced browsing damage without inhibiting regrowth. The tracks were varied from very narrow (excavator width wide) to gain access to other areas to 1 ½ to two tree widths wide which is ideal for harvesting and encouraging regrowth. The orientation of these open areas is north/south to focus on eucalypt regeneration and east/west for SST regeneration. Some slash can be piled on the northern side of the tracks and clearings where it remains damp and will rot down without creating a significant fire hazard. On the very narrow tracks using all of the slash as cording works well for permanent roads into the area. Rat holes are, ideally, 1 ½ to 2 tree heights in diameter – here the excess slash can be piled into a single central mound and burnt.
- Leaving single, safe, seed and habitat trees in harvested areas along with uneven edges aids aesthetics and natural regeneration.
- Possibly the Labour party's 20/20/20 promise will allow for that relatively small amount of slash that needs to be burnt to be used for electricity generation.
- I would strongly advocate the quality of harvesting in Warra 8G should be a **MINIMUM standard** set for mature and old growth forest harvesting in production forests in Tasmania immediately. Those areas of high conservation old growth in timber production areas and some of the best of STMU should only be harvested using very low impact harvesting methods e.g. helicopter logging because of their very high intrinsic values as, essentially, virgin mixed age and species forest and nobody yet knows how much damage they can sustain before we may change a yet unknown asset these forests may be able to contribute to the wealth of the people of Tasmania.

Ian Johnston