

CONSERVATION COMMISSION OF WESTERN AUSTRALIA - REPORT ON THE OLD-GROWTH NOMINATION WITHIN MERIBUP FOREST BLOCK - COMPARTMENT 03

Executive Summary

In September 2011 the Conservation Commission received a public nomination for a review of old-growth forest status within Meribup forest block compartment 03.

The Department of Environment and Conservation (DEC) dieback interpretation mapping designated the nomination area as 'dieback free'.

An area of approximately 125 hectares has been identified by the Conservation Commission as meeting the criteria of old-growth forest. ***This area has been determined as unavailable for timber harvesting.***

Background

This report summarises the Conservation Commission's findings based on its consideration of available records, inputs and field sampling undertaken by the Conservation Commission audit staff. The following old-growth forest definition applies to the assessment area:

- Jarrah and jarrah/tingle forest: "uncut forest or forest subject to minimal disturbance which is not known to be affected by *Phytophthora cinnamomi*".

In accordance with the Conservation Commission's paper *Assessment criteria and process for the Conservation Commission review of old-growth amendments* the effects of disturbance are considered more than minimal where changes to the structure of the overstorey caused by these disturbances are still evident.

Public nomination of old-growth

As required in the *Forest Management Plan 2004-2013* (FMP) and further detailed in the Conservation Commission's paper *Assessment criteria and process for the Conservation Commission review of old-growth amendments*, there is a process for persons to request the Conservation Commission to assess whether areas on an indicative timber harvest plan should

be classified as old-growth forest in DEC's corporate database. Such a request was received and was accepted for assessment in relation to Meribup forest block compartment 03.

Nomination areas

The nominee provided a map of 8 separate specific areas within the coupe. Due to the presence of existing mapped old-growth forest adjacent to the coupe the Conservation Commission assessed an area totalling 720 hectares. This area is shown in Map 1. An area within the coupe was not assessed as logging in wet weather approved locations had commenced.

Site Description

Meribup forest block compartment 03 is located 36km south east of the town of Manjimup. The area within the coupe is gently sloping and varies between 200m and 250m above sea level. Rainfall varies between 600mm and 900mm per annum. Parts of the coupe have been heavily impacted by historical fire events.

Forest types

The broad description of forest type for the coupe is jarrah forest, there are three vegetation complexes occurring within the coupe. These are Bevan 2, Corbalup 2 and Catterick with some intermediate vegetation types occurring along these margins. There are variations in the size and structure of the forest (perhaps due to shallow soil profiles) that may have influenced the nature of past harvesting. There are also areas of non-forest vegetation around upland depressions and streams. These non-forest areas are normally identified by DEC as informal reserve type; diverse ecotype zones (DEZ). Both old-growth forest reserves and DEZ reserves are unavailable for harvesting. These areas are shown in Map 2.

Sampling Process

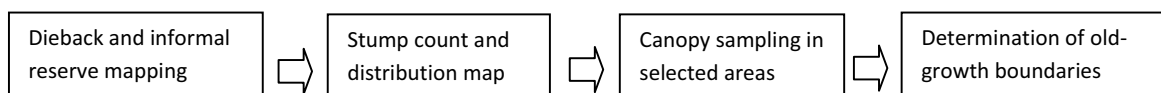
Sampling incorporated the process outlined in the document *Assessment criteria and process for the Conservation Commission review of old-growth amendments*.

Remote Analysis

The nomination area was reviewed and sample areas were defined using the following background information:-

- Digitised aerial photos and data layers were used to confirm forest and non-forest structural boundaries and general observations in relation to forest structure;
- The latest available harvesting records, dieback sampling and forest types, vegetation complex and informal reserves as provided by DEC; and
- Stump distribution data for the portion of the area surveyed by DEC.

Stratification process



Field Checks

DEC harvesting records indicate the majority of Meribup 03 was harvested in the 1960's. Conservation Commission audit staff initially verified a portion of stump survey work completed by DEC. A comprehensive stump survey was then undertaken by Commission staff throughout the remaining nomination area not initially sampled by DEC to determine old-growth forest boundaries. The stratification of field sampling was undertaken using stump distribution mapping and the specifically nominated areas identified as likely old-growth forest from the public nomination. The majority of these areas were located in the Bevan 2 vegetation complex.

Results and Findings

Dieback

The most recent DEC dieback samples taken within Meribup 03 indicate the area to be free of dieback.

Stump data analysis

A broad evaluation of stump distribution within the coupe shows a greater intensity of harvesting in the laterite uplands of the Bevan 2 vegetation complex as shown in Map 2. Visual inspection revealed most of this area to be jarrah dominant and have a high number of stumps per hectare. There was also evidence of numerous forest tracks and snig tracks. A gradual reduction in stump intensity was observed on the margins of vegetation complexes into the Catterick vegetation complex. These areas were characterised by a thin strip of woodland surrounding non-forest stream zones. The reduction of stumps is most likely a reflection of the lower quantity and poorer quality of timber in these areas and hence limited historical timber harvesting. Large stumps were still observed very close to the stream zones suggesting the bigger, better quality jarrah trees had been picked out of the woodland areas surrounding the stream zones.

Stump analysis revealed a variable history of disturbance within the coupe. Some high cut stumps typical of pre 1960's harvesting were not common but were observed in parts of the coupe as well as pole cutting and firewood collection. Parts of the coupe appeared severely impacted by fire and many stumps had been burnt out. The intensity of harvesting is therefore potentially higher than that indicated by stump enumeration alone. As indicated however, canopy sampling in conjunction with stump analysis allows measurement of disturbance to the canopy where these harvesting disturbances may still be evident.

Canopy Sampling and boundary demarcation

Canopy sampling was undertaken in areas nominated with less than two stumps per hectare and an area with approximately 3 stumps per hectare. These areas were selected to provide benchmark canopy sampling data for minimally disturbed old-growth forest and in areas with greater disturbance to establish a lower threshold of what constituted minimally disturbed old-growth forest in the coupe. Benchmark canopy sampling from the Bevan 2 vegetation complex in adjacent Talling forest block has also been included in Table 1. Sample points were spaced at 10 metre intervals to increase the sample size. Two-hectares is the minimum size requirement for old-growth forest where the minimum width is 141 meters. A half hectare grid was used to determine this minimum size requirement, and to assist in defining the boundaries of old-growth forest.

Canopy sampling analysis

From stump intensity analysis three areas were selected for canopy sampling as shown in Map 3. These areas were located within the Bevan 2 vegetation complexes. Area 1 and area 3 were sampled in areas that were approximately 1 stump per hectare. Area 3 was sampled at approximately 4 stumps per hectare.

More detailed sampling within area 1 returned an average of 0 stumps per hectare and an estimated upper canopy proportion of mature or senescent trees of 52.1 percent. This figure falls within the benchmark figure of 55 percent gathered from the benchmarking site in Talling forest block. Sampling within area 2 returned an average of 3 stumps per hectare and an average estimated upper canopy proportion of mature or senescent trees of 42.6 percent which is below the minimum requirement. Area 3 returned an average of less than 1 stump per hectare and an estimated upper canopy proportion of mature or senescent trees of 53.7 percent. This figure also falls within the benchmark figure of 55 percent gathered from the benchmarking site in Talling forest block. Therefore all the areas of 2 or fewer stumps per hectare were mapped as old-growth forest where they met the minimum size requirements. Areas with greater than 2 stumps per hectare were determined to be non old-growth forest.

Table 1 Sample Results.

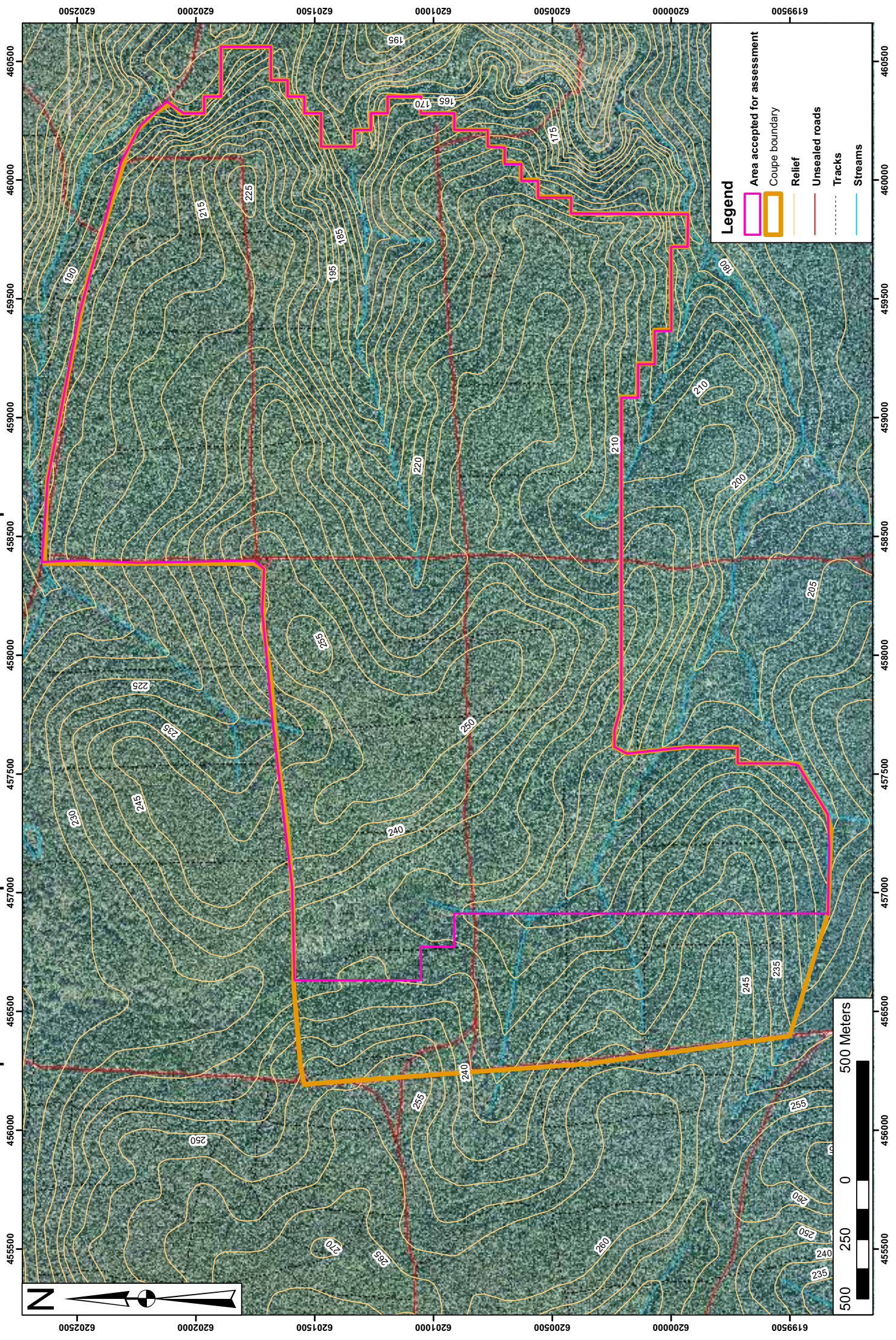
Sample areas & associated vegetation complex	Estimated number of stumps per hectare	Estimated total upper crown cover	Estimated upper crown proportion of mature or senescent trees	Estimated upper crown proportion of regrowth trees	Old Growth
Benchmarking site Bevan 2	0	61.1%	55%	45%	Yes
Area 1 Bevan 2	0	73.7%	52.1%	47.9%	Yes
Area 2 Bevan 2	3	57.4%	42.6%	64.7%	No
Area 3 Bevan 2	</1	66.7%	53.7%	46.3%	Yes

Summary

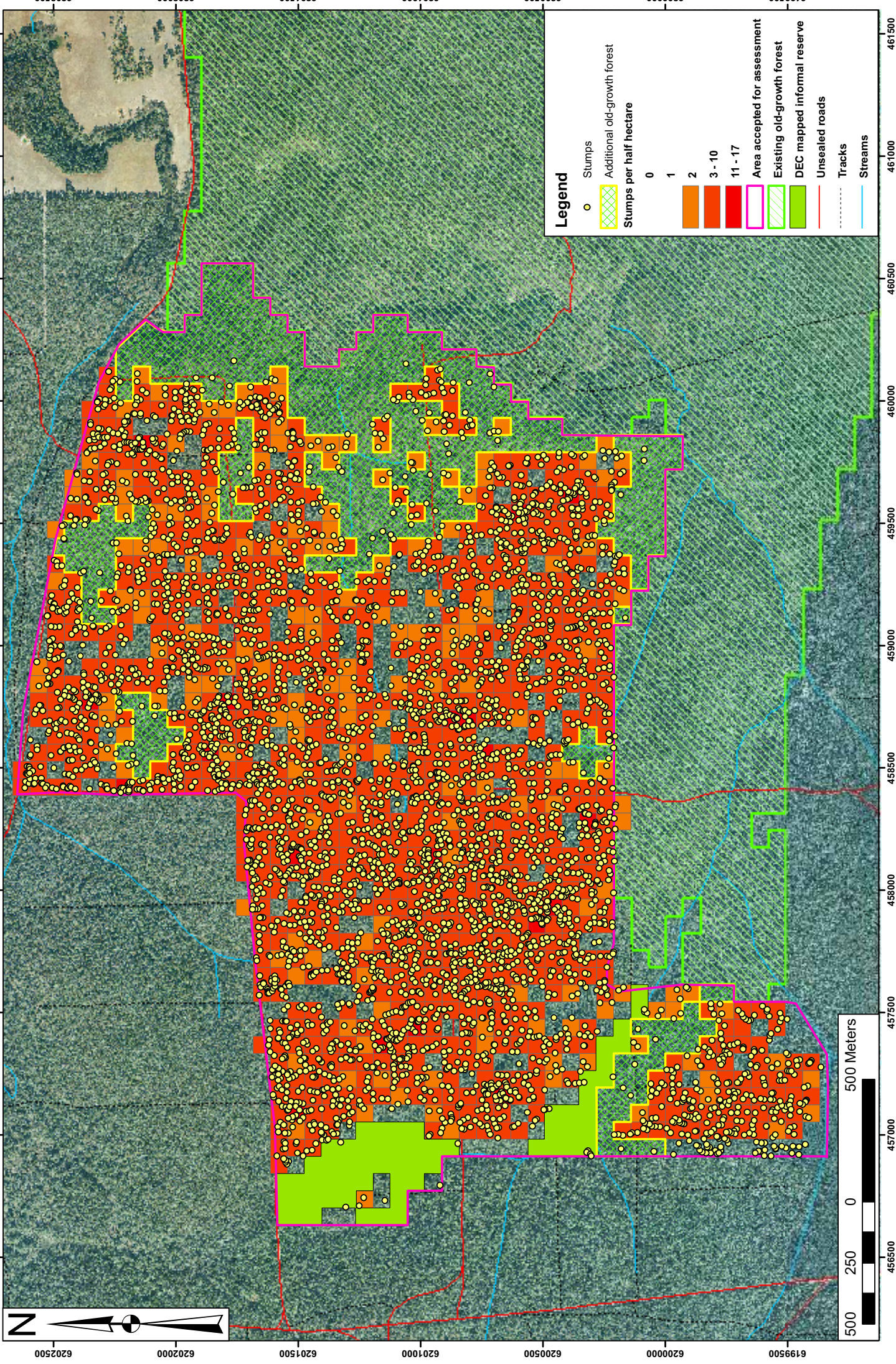
Therefore in summary:-

An area of approximately 125 hectares has been determined as old-growth forest and ***will be unavailable for timber harvesting***. Those areas not determined to be old-growth forest ***will remain available for timber harvesting***.

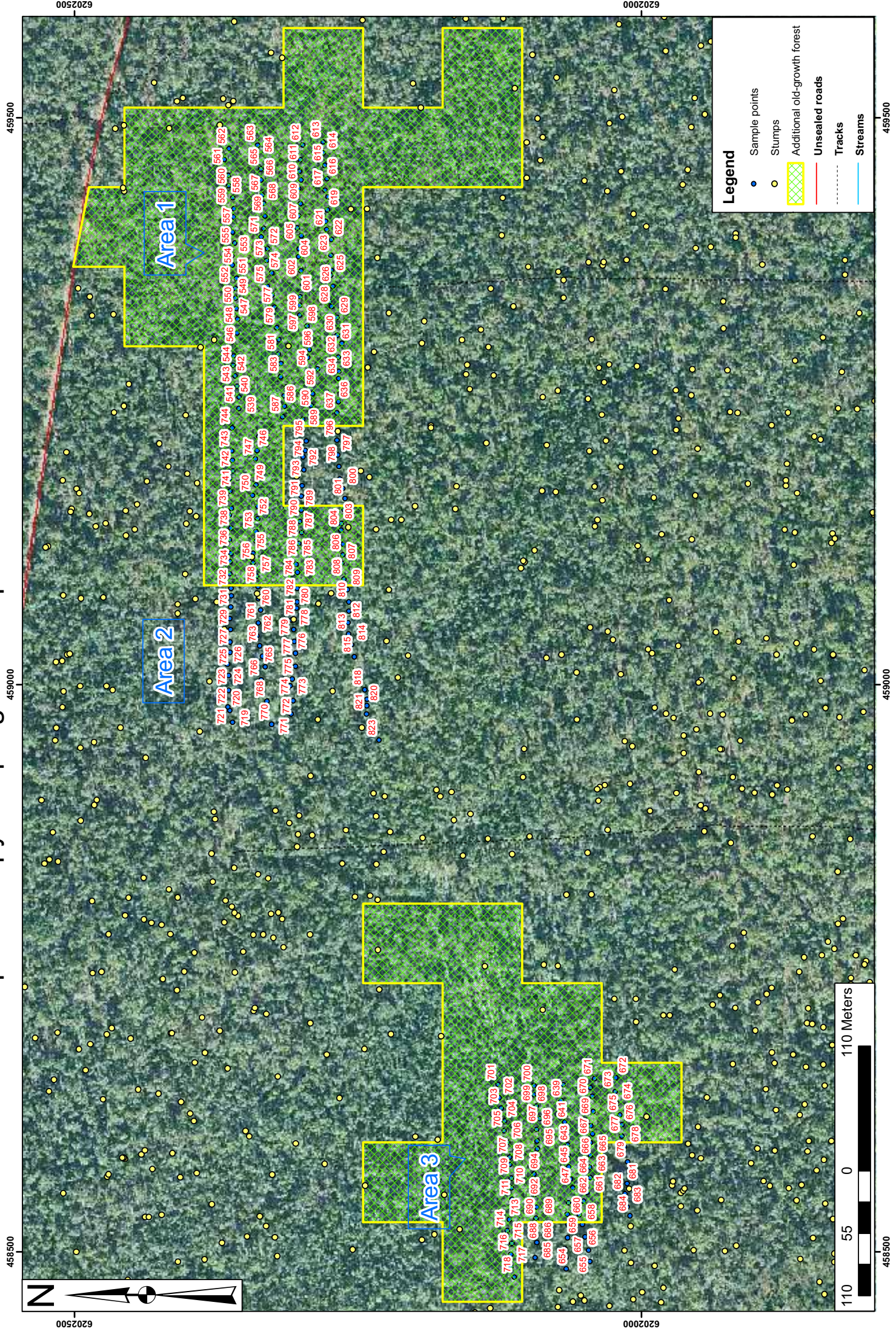
Map 1 Area accepted for assessment - Meribup forest block 03/11



Map 2 Stump distribution and additional old-growth forest - Meribup forest block 03/11



Map 3 Canopy sampling - Meribup forest block 03/11



Area 1 canopy sampling results

FID	CANOPY	SPECIES	DBH	DEVELOPMENT	DISTURBANCE	QUALITATIVE
539	YES	JARRAH	30	REGROWTH	OLD FOREST TRACK	MIXED
540	YES	JARRAH	30	REGROWTH		MIXED
541	NO	GAP	0	GAP		MIXED
542	NO	GAP	0	GAP		GAP
543	YES	JARRAH	40	REGROWTH		MIXED
544	YES	JARRAH	40	REGROWTH		MIXED
545	NO	GAP	0	GAP		MIXED
546	YES	JARRAH	50	MATURE/SEN		MOSTLY UPPER
547	NO	GAP	0	GAP		GAP
548	YES	JARRAH	40	REGROWTH		MIXED
549	YES	JARRAH	70	MATURE/SEN		MOSTLY UPPER
550	YES	JARRAH	50	MATURE/SEN		MOSTLY UPPER
551	YES	JARRAH	50	MATURE/SEN		MOSTLY UPPER
552	YES	MARRI	15	REGROWTH		MIXED
553	YES	JARRAH	30	REGROWTH		MIXED
554	YES	JARRAH	40	REGROWTH		MIXED
555	YES	JARRAH	30	REGROWTH		MIXED
556	NO	GAP	0	GAP		GAP
557	YES	JARRAH	50	MATURE/SEN		MIXED
558	YES	JARRAH	40	REGROWTH		MOSTLY LOWER
559	YES	JARRAH	50	MATURE/SEN		MIXED
560	YES	JARRAH	60	MATURE/SEN		MOSTLY UPPER
561	YES	JARRAH	50	MATURE/SEN		MOSTLY UPPER
562	NO	GAP	0	GAP		MOSTLY UPPER
563	YES	JARRAH	60	MATURE/SEN		MOSTLY UPPER
564	YES	JARRAH	30	REGROWTH		MOSTLY LOWER
565	YES	JARRAH	20	REGROWTH		MOSTLY LOWER
566	YES	MARRI	60	MATURE/SEN		MOSTLY UPPER
567	NO	GAP	0	GAP		MIXED
568	YES	JARRAH	40	REGROWTH		MIXED
569	YES	JARRAH	30	REGROWTH		MOSTLY LOWER
570	YES	JARRAH	60	MATURE/SEN		MIXED
571	YES	JARRAH	30	REGROWTH		MIXED
572	YES	JARRAH	30	REGROWTH		MIXED
573	YES	JARRAH	60	MATURE/SEN		MOSTLY UPPER
574	YES	JARRAH	20	REGROWTH		MIXED
575	YES	JARRAH	50	MATURE/SEN		MOSTLY UPPER
576	YES	JARRAH	60	MATURE/SEN		MOSTLY UPPER
577	YES	JARRAH	60	MATURE/SEN		MOSTLY UPPER
578	YES	MARRI	60	MATURE/SEN		MIXED
579	YES	JARRAH	60	MATURE/SEN		MIXED
580	NO	GAP	0	GAP		MOSTLY LOWER
581	NO	GAP	0	GAP		MIXED
582	YES	JARRAH	50	MATURE/SEN		MOSTLY UPPER
583	YES	JARRAH	30	REGROWTH		MIXED
584	YES	JARRAH	40	REGROWTH		MIXED
585	YES	JARRAH	60	MATURE/SEN		MOSTLY UPPER
586	NO	GAP	0	GAP		GAP
587	YES	JARRAH	60	MATURE/SEN		MIXED
588	YES	JARRAH	30	REGROWTH		MOSTLY LOWER
589	YES	JARRAH	50	MATURE/SEN		MIXED
590	YES	JARRAH	60	MATURE/SEN		MOSTLY UPPER
591	NO	GAP	0	GAP		GAP
592	YES	JARRAH	40	REGROWTH		MIXED
593	YES	JARRAH	30	REGROWTH		MOSTLY LOWER
594	NO	GAP	0	GAP		MOSTLY LOWER
595	NO	GAP	0	GAP		GAP
596	NO	GAP	0	GAP		MIXED
597	YES	JARRAH	70	MATURE/SEN		MOSTLY UPPER
598	YES	JARRAH	100	MATURE/SEN		MOSTLY UPPER
599	NO	GAP	0	GAP		GAP
600	YES	JARRAH	30	REGROWTH		MOSTLY LOWER
601	YES	JARRAH	40	REGROWTH		MIXED
602	YES	JARRAH	40	REGROWTH		MIXED
603	NO	GAP	0	GAP		MOSTLY LOWER
604	NO	GAP	0	GAP		GAP
605	NO	GAP	0	GAP		MIXED
606	YES	JARRAH	70	MATURE/SEN		MOSTLY UPPER
607	YES	JARRAH	30	REGROWTH		MOSTLY LOWER
608	YES	JARRAH	50	MATURE/SEN		MOSTLY UPPER
609	YES	JARRAH	40	REGROWTH		MIXED
610	YES	JARRAH	40	REGROWTH		MIXED
611	YES	JARRAH	30	REGROWTH		MOSTLY LOWER
612	YES	JARRAH	30	REGROWTH		MOSTLY LOWER
613	NO	GAP	0	GAP		GAP
614	NO	GAP	0	GAP		MOSTLY LOWER
615	NO	GAP	0	GAP		GAP

Area 1 canopy sampling results

FID	CANOPY	SPECIES	DBH	DEVELOPMENT	DISTURBANCE	QUALITATIVE
616	YES	JARRAH	30	REGROWTH		MOSTLY LOWER
617	YES	JARRAH	20	REGROWTH		MOSTLY LOWER
618	YES	JARRAH	60	MATURE/SEN		MOSTLY UPPER
619	YES	JARRAH	30	REGROWTH		MOSTLY LOWER
620	YES	JARRAH	60	MATURE/SEN		MOSTLY UPPER
621	NO	GAP	0	GAP		MIXED
622	YES	JARRAH	70	MATURE/SEN		MOSTLY UPPER
623	YES	JARRAH	30	REGROWTH		MOSTLY UPPER
624	YES	JARRAH	50	MATURE/SEN		MOSTLY UPPER
625	YES	JARRAH	60	MATURE/SEN		MOSTLY UPPER
626	NO	GAP	0	GAP		MIXED
627	NO	GAP	0	GAP		GAP
628	YES	JARRAH	60	MATURE/SEN		MOSTLY UPPER
629	NO	GAP	0	GAP		MOSTLYUPPER
630	YES	JARRAH	50	MATURE/SEN	OLD FOREST TRACK	MOSTLY UPPER
631	YES	JARRAH	40	REGROWTH		MIXED
632	YES	JARRAH	60	MATURE/SEN		MIXED
633	YES	JARRAH	60	MATURE/SEN		MOSTLY UPPER
634	NO	GAP	0	GAP		GAP
635	YES	JARRAH	60	MATURE/SEN		MIXED
636	YES	MARRI	50	MATURE/SEN		MIXED
637	YES	MARRI	50	MATURE/SEN		MOSTLY UPPER

Area 2 canopy sampling results

FID	CANOPY	SPECIES	DBH	DEVELOPMENT	DISTURBANCE	QUALITATIVE
719	YES	JARRAH	50	REGROWTH		MOSTLY UPPER
720	YES	JARRAH	30	REGROWTH		MOSTLY UPPER
721	YES	JARRAH	60	MATURE/SEN		MOSTLY UPPER
722	YES	JARRAH	40	REGROWTH		MOSTLY UPPER
723	NO	GAP	0	GAP		MOSTLY UPPER
724	YES	JARRAH	60	MATURE/SEN		MOSTLY UPPER
725	YES	JARRAH	50	REGROWTH		MIXED
726	NO	GAP	0	GAP		MIXED
727	YES	JARRAH	40	REGROWTH		MIXED
728	NO	GAP	0	GAP		MOSTLY LOWER
729	YES	MARRI	60	MATURE/SEN		MOSTLY UPPER
730	YES	MARRI	60	MATURE/SEN		MOSTLY UPPER
731	YES	JARRAH	60	MATURE/SEN		MIXED
732	YES	JARRAH	40	REGROWTH		MOSTLY UPPER
733	NO	GAP	0	GAP		MOSTLY LOWER
734	NO	GAP	0	GAP		GAP
735	YES	JARRAH	50	MATURE/SEN		MIXED
736	NO	GAP	0	GAP		MIXED
737	YES	JARRAH	40	REGROWTH		MIXED
738	YES	JARRAH	30	REGROWTH		MIXED
739	YES	JARRAH	60	MATURE/SEN		MIXED
740	NO	GAP	0	GAP		MOSTLY LOWER
741	NO	GAP	0	GAP		GAP
742	NO	GAP	0	GAP		MIXED
743	YES	MARRI	60	MATURE/SEN		MOSTLY UPPER
744	YES	MARRI	60	MATURE/SEN		MIXED
745	YES	JARRAH	40	REGROWTH		MIXED
746	YES	JARRAH	30	REGROWTH		MIXED
747	NO	GAP	0	GAP		GAP
748	NO	GAP	0	GAP		GAP
749	YES	JARRAH	60	MATURE/SEN		MOSTLY UPPER
750	YES	JARRAH	40	REGROWTH		MIXED
751	YES	JARRAH	40	REGROWTH		MIXED
752	NO	GAP	0	GAP		MOSTLY LOWER
753	YES	JARRAH	50	MATURE/SEN		MIXED
754	NO	GAP	0	GAP		GAP
755	NO	GAP	0	GAP		GAP
756	YES	JARRAH	40	REGROWTH		MOSTLY LOWER
757	NO	GAP	0	GAP		GAP
758	NO	GAP	0	GAP		GAP
759	YES	MARRI	30	REGROWTH		MIXED
760	NO	GAP	0	GAP		MIXED
761	NO	GAP	0	GAP		MOSTLY LOWER
762	YES	JARRAH	60	MATURE/SEN		MOSTLY UPPER
763	NO	GAP	0	GAP		MOSTLY LOWER
764	NO	GAP	0	GAP		GAP
765	NO	GAP	0	GAP		MIXED
766	YES	JARRAH	40	REGROWTH		MIXED
767	YES	JARRAH	50	REGROWTH		MOSTLY UPPER
768	YES	JARRAH	40	REGROWTH		MOSTLY UPPER
769	YES	JARRAH	60	MATURE/SEN		MOSTLY UPPER
770	YES	JARRAH	30	REGROWTH		MIXED
771	YES	JARRAH	60	MATURE/SEN		MOSTLY UPPER
772	NO	GAP	0	GAP		MIXED
773	NO	GAP	0	GAP		GAP
774	YES	JARRAH	50	MATURE/SEN		MOSTLY UPPER
775	NO	GAP	0	GAP		MIXED
776	YES	JARRAH	30	REGROWTH		MOSTLY UPPER
777	YES	JARRAH	60	MATURE/SEN		MOSTLY UPPER
778	YES	JARRAH	60	MATURE/SEN		MIXED
779	NO	GAP	0	GAP		GAP
780	YES	JARRAH	60	MATURE/SEN		MIXED
781	YES	JARRAH	30	REGROWTH		MIXED
782	YES	JARRAH	60	MATURE/SEN		MOSTLY UPPER
783	YES	JARRAH	40	REGROWTH		MIXED
784	YES	JARRAH	30	REGROWTH		MIXED
785	YES	JARRAH	40	REGROWTH		MIXED
786	NO	GAP	0	GAP		GAP
787	NO	GAP	0	GAP		MOSTLY LOWER
788	YES	MARRI	20	REGROWTH		MOSTLY LOWER
789	NO	GAP	0	GAP		MOSTLY LOWER
790	YES	JARRAH	80	MATURE/SEN		MIXED
791	YES	JARRAH	60	MATURE/SEN		MOSTLY UPPER
792	YES	JARRAH	70	MATURE/SEN		MOSTLY UPPER
793	NO	GAP	0	GAP		MIXED
794	NO	GAP	0	GAP		MOSTLY LOWER
795	YES	JARRAH	30	REGROWTH		MIXED

Area 2 canopy sampling results

FID	CANOPY	SPECIES	DBH	DEVELOPMENT	DISTURBANCE	QUALITATIVE
796	NO	GAP	0	GAP		MOSTLY LOWER
797	NO	GAP	0	GAP		GAP
798	YES	JARRAH	30	REGROWTH		MIXED
799	YES	JARRAH	40	REGROWTH		MOSTLY UPPER
800	NO	GAP	0	GAP		MOSTLY UPPER
801	YES	JARRAH	60	MATURE/SEN		MOSTLY UPPER
802	YES	MARRI	60	MATURE/SEN		MOSTLY UPPER
803	YES	JARRAH	60	MATURE/SEN		MIXED
804	YES	JARRAH	40	REGROWTH		MIXED
805	YES	JARRAH	40	REGROWTH		MOSTLY UPPER
806	YES	JARRAH	50	MATURE/SEN		MOSTLY UPPER
807	YES	JARRAH	50	REGROWTH		MOSTLY UPPER
808	NO	GAP	0	GAP		GAP
809	YES	JARRAH	40	REGROWTH		MIXED
810	YES	JARRAH	30	REGROWTH		MOSTLY LOWER
811	YES	JARRAH	40	REGROWTH		MOSTLY UPPER
812	YES	JARRAH	30	REGROWTH		MIXED
813	YES	JARRAH	50	MATURE/SEN		MIXED
814	YES	JARRAH	30	REGROWTH		MIXED
815	YES	JARRAH	40	REGROWTH		MIXED
816	NO	GAP	0	GAP		MIXED
817	YES	MARRI	70	MATURE/SEN		MIXED
818	NO	GAP	0	GAP		MOSTLY LOWER
819	YES	JARRAH	20	REGROWTH		MOSTLY LOWER
820	YES	JARRAH	40	REGROWTH		MIXED
821	YES	JARRAH	40	REGROWTH		MIXED
822	YES	MARRI	60	MATURE/SEN		MIXED
823	NO	GAP	0	GAP		MIXED

Area 3 - canopy sampling results

FID	CANOPY	SPECIES	DBH	DEVELOPMENT	DISTURBANCE	QUALITATIVE
638	YES	JARRAH	50	MATURE/SEN		MOSTLY UPPER
639	YES	JARRAH	50	MATURE/SEN		MOSTLY UPPER
640	NO	GAP	0	GAP		MOSTLY LOWER
641	NO	GAP	0	GAP		MOSTLY UPPER
642	YES	MARRI	120	MATURE/SEN		MOSTLY UPPER
643	NO	JARRAH	50	MATURE/SEN		MOSTLY UPPER
644	NO	GAP	0	GAP		MOSTLY LOWER
645	YES	JARRAH	50	MATURE/SEN		MOSTLY UPPER
646	NO	GAP	0	GAP		GAP
647	YES	JARRAH	50	MATURE/SEN		MIXED
648	YES	JARRAH	50	REGROWTH		MIXED
649	NO	GAP	0	GAP		GAP
650	YES	MARRI	60	MATURE/SEN		MIXED
651	YES	JARRAH	60	MATURE/SEN		MOSTLY UPPER
652	NO	GAP	0	GAP		MOSTLY LOWER
653	YES	MARRI	20	REGROWTH		MIXED
654	YES	JARRAH	60	MATURE/SEN		MOSTLY UPPER
655	YES	JARRAH	70	MATURE/SEN		MOSTLY UPPER
656	YES	JARRAH	30	REGROWTH		MIXED
657	YES	GAP	0	GAP		MOSTLY UPPER
658	NO	GAP	0	GAP		MOSTLY UPPER
659	NO	GAP	0	GAP		GAP
660	YES	JARRAH	70	MATURE/SEN		MOSTLY UPPER
661	YES	JARRAH	70	MATURE/SEN		MOSTLY UPPER
662	YES	MARRI	40	REGROWTH		MIXED
663	YES	JARRAH	70	MATURE/SEN		MIXED
664	NO	GAP	0	GAP		MIXED
665	YES	MARRI	40	REGROWTH		MIXED
666	YES	JARRAH	50	REGROWTH		MIXED
667	YES	JARRAH	50	REGROWTH		MOSTLY UPPER
668	YES	JARRAH	60	MATURE/SEN		MOSTLY UPPER
669	YES	JARRAH	70	MATURE/SEN		MOSTLY UPPER
670	YES	JARRAH	70	MATURE/SEN		MOSTLY UPPER
671	YES	MARRI	20	REGROWTH		MOSTLY LOWER
672	YES	JARRAH	80	MATURE/SEN		MOSTLY UPPER
673	YES	JARRAH	60	MATURE/SEN		MOSTLY UPPER
674	YES	MARRI	110	MATURE/SEN		MOSTLY UPPER
675	YES	JARRAH	30	REGROWTH		MIXED
676	YES	JARRAH	50	MATURE/SEN		MOSTLY UPPER
677	YES	MARRI	50	REGROWTH		MIXED
678	NO	GAP	0	GAP		MIXED
679	YES	JARRAH	60	MATURE/SEN		MOSTLY UPPER
680	NO	GAP	0	GAP		MOSTLY LOWER
681	NO	GAP	0	GAP		MOSTLY LOWER
682	YES	MARRI	30	REGROWTH		MIXED
683	YES	JARRAH	50	REGROWTH		MIXED
684	YES	JARRAH	50	REGROWTH		MIXED
685	YES	JARRAH	30	REGROWTH		MIXED
686	YES	JARRAH	90	MATURE/SEN		MOSTLY UPPER
687	NO	GAP	0	GAP		MOSTLY LOWER
688	YES	JARRAH	40	REGROWTH		MIXED
689	YES	JARRAH	60	MATURE/SEN		MOSTLY UPPER
690	YES	JARRAH	70	MATURE/SEN		MOSTLY UPPER
691	YES	MARRI	40	REGROWTH		MIXED
692	NO	GAP	0	GAP		MOSTLY LOWER
693	YES	JARRAH	50	MATURE/SEN		MIXED
694	NO	GAP	0	GAP		MIXED
695	NO	GAP	0	GAP		GAP
696	YES	JARRAH	30	REGROWTH		MOSTLY UPPER
697	YES	JARRAH	50	REGROWTH		MOSTLY UPPER
698	YES	JARRAH	50	REGROWTH		MIXED
699	NO	GAP	0	GAP		MOSTLY LOWER
700	NO	GAP	0	GAP		MOSTLY LOWER
701	NO	GAP	0	GAP	FIRE IMPACTED AREA	GAP
702	NO	GAP	0	GAP	FIRE IMPACTED AREA	GAP
703	NO	GAP	0	GAP		MOSTLY LOWER
704	YES	JARRAH	50	REGROWTH		MIXED
705	YES	JARRAH	50	REGROWTH		MOSTLY UPPER
706	YES	JARRAH	20	REGROWTH		MOSTLY LOWER
707	NO	GAP	0	GAP		MIXED
708	YES	MARRI	80	MATURE/SEN		MOSTLY UPPER
709	NO	GAP	0	GAP		MOSTLY LOWER
710	YES	JARRAH	60	MATURE/SEN		MIXED
711	NO	GAP	0	GAP		MIXED
712	YES	JARRAH	40	REGROWTH		MIXED
713	NO	GAP	0	GAP		MIXED
714	YES	JARRAH	40	REGROWTH		MIXED

Area 3 - canopy sampling results

FID	CANOPY	SPECIES	DBH	DEVELOPMENT	DISTURBANCE	QUALITATIVE
715	YES	JARRAH	60	MATURE/SEN		MOSTLY UPPER
716	NO	GAP	0	GAP		MOSTLY LOWER
717	YES	JARRAH	50	REGROWTH		MOSTLY UPPER
718	YES	MARRI	70	MATURE/SEN		MOSTLY UPPER