EPA AUDIT REPORT – EPA AUDIT FINDINGS TABLE – STYX RIVER STATE FOREST COMPARTMENT 523

Auditee:	FORESTRY CORPORATION OF NSW (FCNSW)
Audited State Forest & Cpts:	STYX RIVER STATE FOREST, COMPARTMENTS 523
Region:	Lower North-east Integrated Forestry Operations Approval (IFOA)
Date/Audit timing:	25 June 2015. Audit debrief with FCNSW staff held on 10 July 2015 at Brassey State Forest – audits issues discussed.
Type of audit:	Compliance
Purpose of audit:	Report on the level of compliance with conditions and environmental performance in line EPA compliance priorities.
Audit objectives:	1. Assess compliance against audit criteria that reflect EPA compliance priorities. 2. Assess and categorise risk of identified non-compliance or appropriate further observations. 3. Request action plans against key audit findings so that auditee can use risk categorisation to inform timeliness and level of risk reduction control 4. Promote continuous improvement of the environmental performance of forestry operations.
Audit scope:	• Hollow bearing and recruitment trees • Threatened species and landscape exclusion zones **Physical scope**: This audit was limited to the physical boundaries of compartments 523. **Temporal scope**: The audit period adopted for assessment of compliance with operational conditions was on the days of the audit inspections (25 June 2015).
Audit criteria:	5.6 (b)(c)(h) Hollow bearing and recruitment tree retention, selection and protection 6.9 (d) Hollow bearing tree retention – Powerful Owl 5.1 (a) (f) Marking and protection of exclusion and buffer zones 5.3(a) High conservation value old growth protection 6.13 (a)(b) Hasting River Mouse protection and marking
Summary of Operations	Operation commencement date: 13 March 2015: Silvicultural practice: Single tree selection (STS) - Forest comprising of *E. Obliqua* (Messmate Stringybark), *E. viminalis* (Manna Gum), *E. andrewsii* (New England Blackbutt), *E. cameronii* (Diehard Stringybark) and *E. fastigata* (Brown Barrel).– Stand age: *Non*-Regrowth Zone

1. Audit Findings – Overview

The EPA identified 2 non-compliances and 86 compliances with the LNETSL and IFOA, including determinations of further observations.

A summary of EPAs findings are in the table below. Full details and evidence of audit findings can be found in the **Audit Findings Table** in **Attachment 1** including further observations made from the audit.

EPA Compliance Priority 14/15	Audit Scope	Compliant	Non-compliant	Not Determined	Not Applicable
Exclusion Zones	**Hastings River Mouse protection**	4	0	0	0
	Hastings River Mouse mark-up	2	0	0	0
	Ridge and Headwater protection	1	0	0	0
	Ridge and Headwater mark up	1	1	0	0
	High Conservation Value Old Growth protection	1	0	0	0
	High Conservation Value Old Growth mark up	1	0	0	0
	Riparian Zones protection	1	0	0	0
Hollow bearing and recruitment trees	**H Retention**	2	0	0	0
	H Selection	10	0	0	0
	R Retention	1	0	0	0
	R Selection	9	1	0	0
	H&R Protection	52	0	0	0
	H&R Mark-up	1	0	0	0
	TOTAL	86	2	**0**	0

2. Audit Recommendations

Condition No.	Number of non-compliances (and sample)	Action Details	Non-compliance Code*	Target/Action Date
5.6c (i and ii).	1/10	**R tree selection** An action plan must be developed and implemented to ensure that recruitment trees are retained across the compartment having as many of the characteristics listed in TSL condition 5.6c ii and consistent the requirements of the R tree definition.		By 1 January 2016
5.1F	1/2	**Exclusion zone mark-up. Ridge & Headwater habitat.** An action plan must be developed and implemented to ensure that exclusion zone mark-up occurs where harvesting operations come within 50m of an exclusion zone.		By 1 January 2016
Total	**2**			

3. Audit Conclusions

This audit achieved its audit objective by determining compliance with the specified criteria of the audit. The EPA issued FCNSW with the draft audit findings. FCNSW did not submit any actions to mitigate the non-compliances. The EPA will follow up on the outcomes of these audits to ensure levels of compliance are enhanced for criteria that relate to this audit.

4. List of Attachments

Attachment 1) Audit Findings Table
Attachment 2) EPA Risk Matrix for Non-compliances

EPA AUDIT FINDINGS TABLE – STYX RIVER STATE FOREST
COMPARTMENT 523

Assessment of Compliance with Lower North East Integrated Forestry Operations Approval –

Threatened Species Licence

CONDITIONS RELATED TO HOLLOW BEARING TREES (NON-REGROWTH ZONE) – RETENTION				
Condition No. and Detail	**Compliant? Yes/No/Not determined/ Not applicable**	**Number of non-compliance and (sample size)**	**Why it is important & Risk Ranking Code Explanation**	**Action required by licensee**
5.6(b): Within the Non-regrowth Zone the following requirements for retention of Hollow bearing trees apply: i. A minimum of five hollow-bearing trees must be retained per hectare of net logging area. Where this density is not available, the existing hollow-bearing trees must be retained plus additional trees must be retained as hollow-bearing trees to meet the required rate.	YES	0/1		
6.9 (d) Where information indicates that Greater Gliders occur at densities of more than one per hectare within any individual compartment (that is, a compartment identified by a compartment number and not a group of compartments) being planned for harvesting, and the compartment is within two kilometres of a Powerful Owl record, eight hollow-bearing trees per hectare must be retained within the net logging area of that compartment.	YES	0/1		

Comment and Evidence

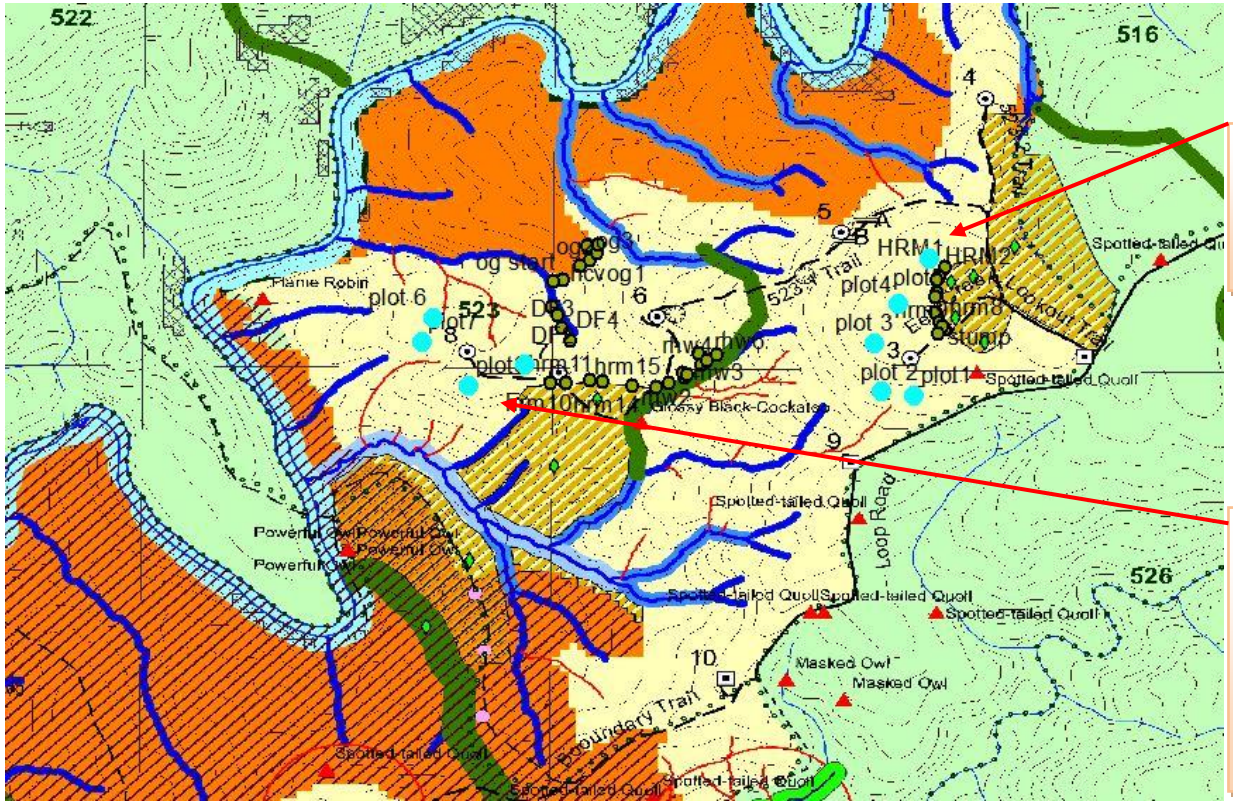
5.6(b): EPA found that FCNSW complied with this condition in the area assessed.
6.9(d): EPA found that FCNSW complied with this condition in the area assessed.

The total area assessed was 2 hectares in the net logging area.

EPA auditor assessed ten (10) 0.2ha circular plots over two transects across the net logging area. i.e. a total of 2 ha assessed see figure 1.
Within these plots all Hollow bearing, recruitment and any candidate unmarked trees were recorded. EPA auditor recorded 19 marked Hollow bearing trees in total across the assessed areas.
The retention rate achieved was 10 Hollow bearing trees/hectare. The required rate was 8 hollow bearing trees/hectare and therefore the rates was exceeded.

Refer to EPA Waypoints (plots) in attachment 1.

* Note EPA auditor considered trees retained to be candidate H trees only where they met the TSL criteria (despite not being marked).
FIGURE 1: Locations of H&R assessments 1 and 2



Assessment 1 around Log dump 3. H and R were assessed within the five 20m circular plots at location 1.

Assessment 2 H and R were assessed within the five 20m circular plots at location 2.

Note: no GPS waypoint was recorded for one of the plots at this location.

CONDITIONS RELATED TO HOLLOW BEARING TREES (NON-REGROWTH ZONE) – SELECTION

Condition No. and Detail	Compliant? Yes/No/Not determined/Not applicable	Number of non-compliance and (sample size)	Why it is important & Risk Ranking Code Explanation	Action required by licensee
5.6 b iii. The remaining hollow-bearing trees and any additional trees required to be retained to meet the retention rate under this condition must be selected with the objective of retaining trees having as many of the following characteristics as possible: - belonging to a cohort of trees with the largest dbhob, - good crown development, (Note: this does not restrict the selection of trees with broken limbs consistent with the hollow-bearing tree definition). - minimal butt damage, - represent the range of hollow-bearing species that occur in the area, - located such that they result in retained trees being evenly scattered throughout the net logging area.	**Yes**	0/10 (10 trees were assessed)		

Comment and Evidence

EPA found that FCNSW selected H trees in line this condition in the area assessed.

The EPA determined that in the assessed area (2 ha) a minimum of 16 compliant H trees were required to be retained (i.e. minimum rate of 8H/ha). The EPA determined that 19 H trees marked and retained were all compliant with selection conditions (see table 1 below).

Tree Characteristics Observations

Retained Tree Sizes: EPA auditor compared data of H tree DBHOB and stump sizes of trees removed to assess the size class of trees retained versus those removed. The EPA determined that all H trees marked and retained within the assessed area belonged to cohort of trees with the largest dbhob. Please refer to Table 2 below.

Crown Development Observations: EPA auditor observed that all marked H trees and candidate H trees displayed good crown developed and were not supressed (assessed area only).

Butt Damage Observations: EPA auditor observed one marked H tree that had minimal butt damage within the assessed area.

Range of Species Retained: EPA auditor observed that the marked H trees compromised of New England Blackbutt, Manna Gum, and various Stringy Bark species. Thus representing the range of species in the assessed area.

Location of H trees in NHA: EPA auditor observed that marked H trees and candidate trees were scattered across the NHA.

Table 1: Hollow bearing tree characteristics across assessed areas

Plot	H, R, K, E, Other or Cut	Species	DBHOB with 5cm taper for stumps only	Hollows	Crown Damage	Logging Debris	Bumper	Ground Disturbance	Tree Features Burls and/or Protuberance	Crown Development	Tree Growth Stage
1	H	Manna Gum	148	Yes limbs and trunk	Yes Natural	N	N	N	Y	Dominant	Mature
1	H	Unknown	56	N	N	N	N	N	Y	Co-Dominant	Late Mature
1	Stumps 59,75,65,61,85,50,83,42,30,47.										
2	H	New England Blackbutt	62	N	N	N	N	N	Y	Dominant	Mature
2	H	Diehard Stringybark	72	N	N	N	N	N	Y	Dominant	Mature
2	Stumps 55, 61, 80, 63, 28, 28, 52, 47.										
3	H	Stringybark	70	Y	Yes Natural	N	N	N	Y	Dominant	Mature
3	Stumps 55, 56, 55, 65, 47, 65, 70, 61.										
4	H	Manna Gum	80	N	N	N	N	N	Y	Dominant	Mature
4	H	Manna Gum	102	Y	N	N	N	N	Y	Dominant	Late Mature
4	Stumps 70, 85, 65, 55, 85.										
5	H	Stringybark	90	Y	N	N	N	N	Y	Dominant	Mature
5	H	New England Blackbutt	141	Y	Yes Natural	N	N	N	Y	Dominant	Late Mature
5	Stumps 70, 46, 60, 70, 50, 45, 60, 65.										
6	H	Manna	73	Y	N	N	N	N	Y	Dominant	Mature
6	H	New England Blackbutt	64	N	N	N	N	N	Y	Dominant	Mature
6	H	New England Blackbutt	57	N	N	N	N	N	Y	Dominant	Mature

6	H	New England Blackbutt	62	Y	Yes Natural	N	N	N	Y	Dominant	Late Mature
6	Stumps 50, 65, 65, 60, 53, 38, 40.										
7	H	New England Blackbutt	69	N	Yes Natural	N	N	N	Y	Co-Dominant	Mature
7	Stumps 42, 65, 35, 55, 80, 77, 57.										
8	H	New England Blackbutt	69	N	N	N	N	N	Y	Dominant	Mature
8	Stumps 33, 40, 35, 25, 41, 45.										
9	H	New England Blackbutt	145	Y	Yes Natural	N	N	N	Y	Dominant	Late Mature
9	H	New England Blackbutt	75	N	N	N	N	N	Y	Dominant	Mature
9	Stumps 63, 60, 53, 63, 55, 58, 57.										
10	H	Stringybark	98	N	N	N	N	N	Y	Dominant	Mature
10	H	Stringybark	73	N	N	N	N	N	Y	Dominant	Mature
10	Stumps 63, 50, 50, 57, 45, 61.										

CONDITIONS RELATED TO RECRUITMENT TREES (NON-REGROWTH ZONE) – RETENTION

Condition No. and Detail	Compliant? Yes/No/Not determined/ Not applicable	Number of non-compliance and (sample size)	Why it is important & Risk Ranking Code Explanation	Action required by licensee
5.6c) Within the Non-regrowth Zone the following requirements for retention of Recruitment trees apply: i. A minimum of five recruitment trees must be retained per hectare of net logging area.	YES	0/1 (2 ha area assessed)		

Comment and Evidence - R tree Retention

EPA found that FCNSW complied with this condition in the area assessed.
The EPA found that in the assessed area (2 ha) a minimum of 10 compliant R trees were required to be retained in this area. FCNSW retained 16 marked R trees, and 12 un-marked trees that met the definition of an R tree under the TSL licence. The selection of these resources is addressed in the below criteria.

CONDITIONS RELATED TO RECRUITMENT TREES (NON-REGROWTH ZONE) – SELECTION

Condition No. and Detail	Compliant? Yes/No/Not determined/Not applicable	Number of non-compliance and (sample size)	Why it is important & Risk Ranking Code Explanation	Action required by licensee
5.6c ii. Recruitment trees must be selected with the objective of retaining trees having as many of the following characteristics as possible: - belong to a cohort of trees with the largest dbhob, - located such that they result in retained trees being evenly scattered throughout the net logging area, - good crown development, - minimal butt damage, - represent the range of hollow-bearing species that occur in the area.	**YES**	1/10 (10 trees were assessed)	A detailed description of importance is contained at the bottom of this criterion. This non compliance has a yellow risk category. The likelihood of environment harm is likely. The scale of harm is low (considering rate of incidence) and sensitivity of environment receptor.	An action plan must be developed and implemented to ensure that marked and retained recruitment trees are selected in accordance with TSL condition 5.6c (i and ii).

Comment and Evidence – R tree Selection

EPA found that FCNSW selected trees that were not compliant with this condition in the area assessed.

EPA auditor observed 16 marked trees across the two assessed locations.
Location 1: Nine (9) R trees were marked for retention.
Location 2: Seven (7) R trees were selected.

The EPA only compared the largest 5 selected r trees at each location as only 5 r trees were required for retention. The EPA didn't consider the unmarked candidate r trees as they had not been selected for retention.

- ***Belong to a cohort of trees with the largest dbhob***: Across the two HA area assessed EPA officer found that the nine of the largest retained marked R trees were retained from the largest dbhob cohort of trees.

  Location 1
  Five (5) R **t**rees selected met the required characteristics under the LNE IFOA. The largest stump recorded was 80cm DBHOB, compared to a retained R tree of 67 cm DBHOB when compared across the 1 ha. This size tree is slightly below what the EPA considers to be within cohort requirements. However, given the overall quality of selection the

EPA considers R tree retention compliant in this instance.

Further observation at location 1: Within plot 2 at location one there was an instance of a cut stump at 80cm compared to a retained to two retained trees at 47 and 53 (see highlights in table 2). The EPA considers this not a compliant selection at the individual plot level. However the EPA notes that this discrepancy was made up when comparing across the 5polts (1ha) assessment area.

Location 2

Three of the five largest R **t**rees selected met the required characteristics under the LNE IFOA. The largest stump recorded was 80cm, compared to two marked R trees of 63 and 59. The tree at 63 is slightly below what EPA considers acceptable for cohort requirement. However the selection of a tree at 59 which is 21cm less than the largest cut stump is clearly not in the cohort of trees with the largest DBHOB thus attracts one non-compliance.

The EPA notes that there were a number of unmarked candidate retained trees that were larger than the selected R trees. However as these trees were not selected by FCNSW even though it is clear that they belong to the cohort of trees with the largest DBHOB. Even though these larger trees were retained, they were not selected thus presents the risk of how R tree are selected by FCNSW.

Table 2: Recruitment tree characteristics across location 1

Plot	Species	DBHOB or Stump height	Hollows or Stump Diameter	Crown Damage	Logging Debris	Bumper	Ground Disturbance	Tree Features Burls and/or Protuberance	Crown Development	Tree Growth Stage
Assessment Location 1										
Plot 1	Stringybark	85	N							
Plot 1	New England Blackbutt	71	N	N	N	N	N	Y	Co- Dominant	
Plot 1	Stumps	59,75,65,61,85,50,83,42,30,47								
Plot 2	Silver top Stringybark	55	N	Yes Natural	N	N	N	y	Co- Dominant	Mature
Plot 2	unknown	47	N	Yes Natural	N	N	N	y	Dominant	Mature
Plot 2	Manna Gum	53	N	N	N	N	N	y	Dominant	Mature
Plot 2	Stumps	55, 61, 80, 63, 28, 28, 52, 47.								
Plot 3	New England Blackbutt	62	N	N	N	N	N	Y	Dominant	Mature
Plot 3	New England Blackbutt	64	N	N	N	N	N	Y	Dominant	Mature

Plot 3	New England Blackbutt	70	N	N	N	N	N	Y	Dominant	Mature
Plot 3	Manna gum	56	N	N	N	N	N	Y	Dominant	Mature
Plot 3	New England Blackbutt	67	Y	N	N	N	N	Y	Dominant	Mature
Plot 3	New England Blackbutt	77	N	N	N	N	N	Y	Dominant	Mature
Plot 3	Stumps	55, 56, 55, 65, 47, 65, 70, 61.								
Plot 4	New England Blackbutt	76	N	N	N	N	N	Y	Dominant	Mature
Plot 4	Stringybark	59	N	N	N	N	N	Y	Co- Dominant	Mature
Plot 4	Stumps	70, 85, 65, 55, 85								
Plot 5	Stringybark	65	Y	N	N	N	N	Y	Dominant	Mature
Plot 5	Manna Gum	71	Y	N	N	N	N	Y	Dominant	Mature
Plot 5	New England Blackbutt	75	N	N	N	N	N	Y	Dominant	Mature
Plot 5	Stumps	70, 46, 60, 70, 50, 45, 60, 65.								

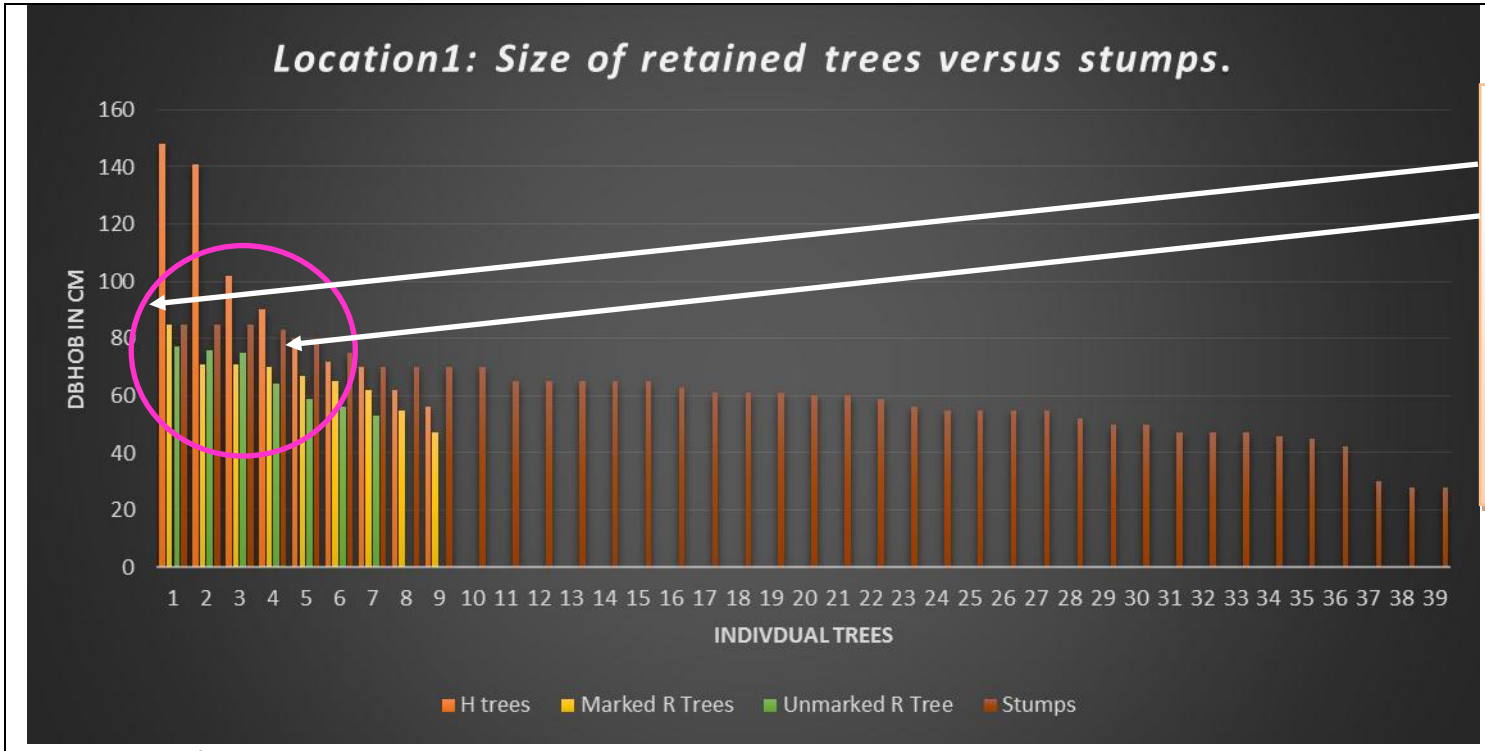
Table 4: Recruitment tree characteristics across location 2

Plot	Species	DBHOB or Stump height	Hollows or Stump Diameter	Crown Damage	Logging Debris	Bumper	Ground Disturbance	Tree Features Burls and/or Protuberance	Crown Development	Tree Growth Stage
Plot 6	New England Blackbutt	63	N	N	N	N	N	Y	Dominant	Mature
Plot 6	New England Blackbutt	61	N	Yes Nat	N	N	N	Y	Dominant	Mature
Plot 6	Stumps	50, 65, 65, 60, 53, 38, 40.								
Plot 7	New England Blackbutt	66	N	Yes Nat	N	N	N	Y	Dominant	Mature
Plot 7	New England Blackbutt	52	N	N	N	N	N	Y	Dominant	Mature

Plot 7	Stringybark	59	N	N	N	N	N	Y	Dominant	Mature
Plot 7	Stringybark	53	N	N	N	N	N	Y		Mature
Plot 7	Stumps	42, 65, 35, 55, 80, 77, 57								
Plot 8	New England Blackbutt	69	N	N	N	N	N	Y	Dominant	Mature
Plot 8	Stringybark	58	N	N	N	N	N	Y	Co- Dominant	Mature
Plot 8	New England Blackbutt	47	N	N	N	N	N	Y	Co- Dominant	Mature
Plot 8	New England Blackbutt	55	N	N	N	N	N	N	Dominant	Mature
Plot 8	New England Blackbutt	65	N	N	N	N	N	Y	Dominant	Mature
Plot 8	Stumps	33, 40, 35, 25, 41, 45								
Plot 9	New England Blackbutt	66	N	N	N	N	N	Y	Dominant	Mature
Plot 9	Stumps	63, 60, 53, 63, 55, 58, 57								
Plot 10	Manna Gum	69	N	N	N	N	N	N	Dominant	Mature
Plot 10	Stumps	63, 50, 50, 57, 45, 61								

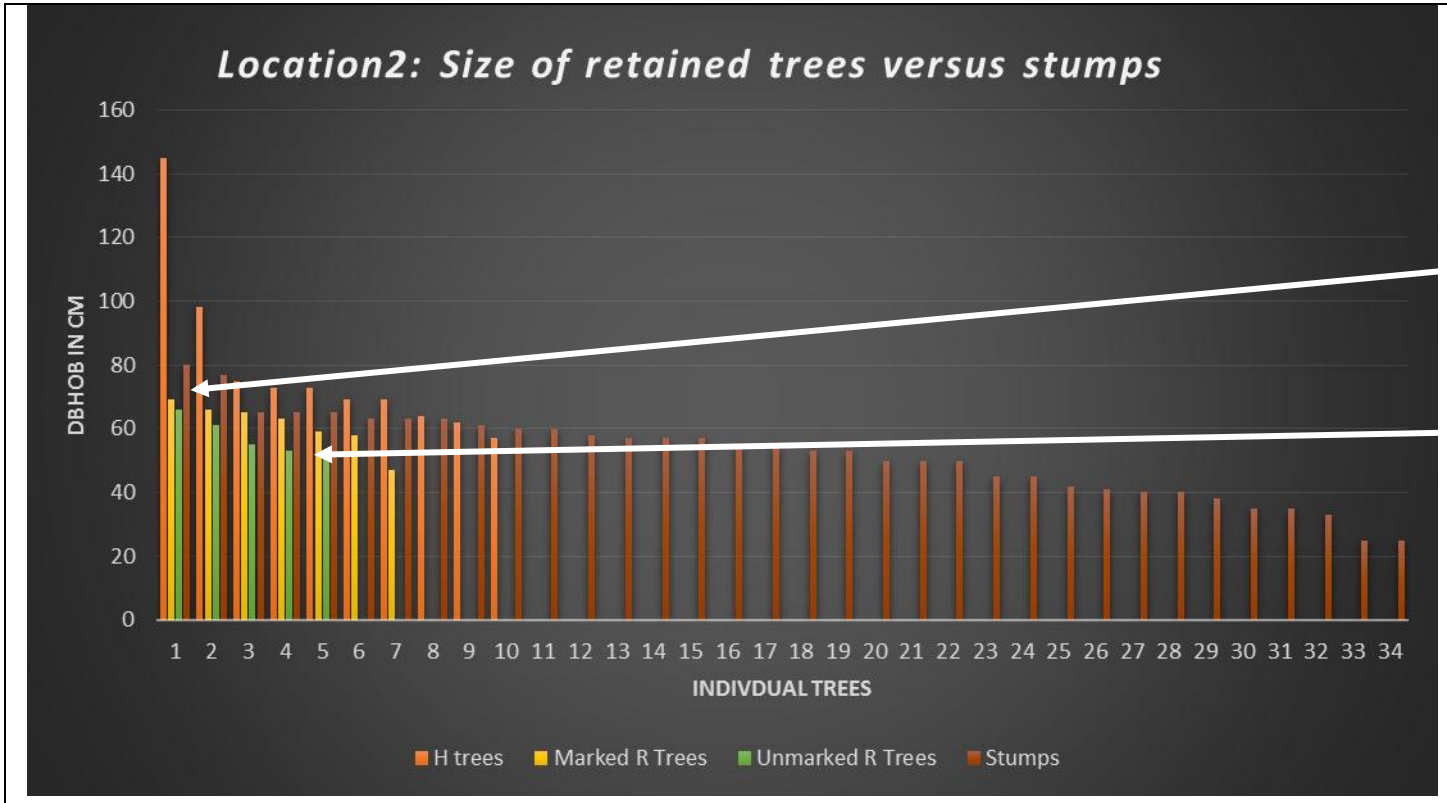
Hollow bearing and Recruitment Tree Size class Comparison

FIGURE 2: Size of retained trees versus stumps



Location 1: The five largest R **t**rees selected complied with the TSL in this instance. The largest stump was 85cm DBHOB, compared to a retained marked R tree at 67 cm DBHOB. This size tree is borderline within the size cohort and compliant for selection in this instance.

FIGURE 3: Size of retained trees versus stumps



Location 2: Four of five largest R trees selected met the required characteristics under the LNE IFOA. Specifically the largest stump recorded was 80cm, compared to a retained r tree of 63cm and 59cm DBHOB. The tree at 63cm DBHOB is slightly below what EPA considers acceptable for cohort requirement.
However the selection of a tree at 59 cm DBHOB which is 21cm less than the largest cut stump is a clear non-compliance.

WHY IS COMPLIANCE WITH THIS TSL CONDITION IMPORTANT?

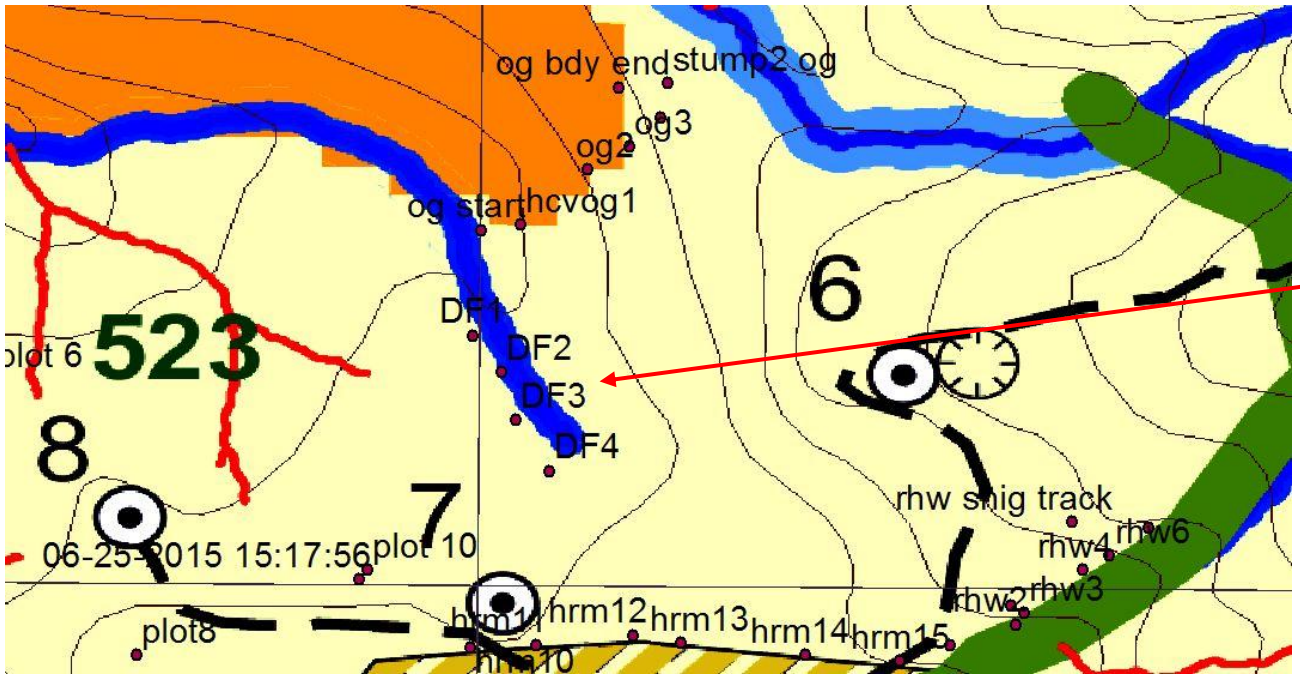
Largest Size Cohort:

The presence, abundance and size of hollows are positively correlated with tree basal diameter, which is an index of age (Lindenmayer *et al.* 1991a, Bennett *et al.* 1994, Ross 1999, Soderquist 1999, Gibbons *et al.* 2000, Shelly 2005). Tree diameter at breast height (DBH) is, in turn, a strong predictor of occupancy by vertebrate fauna (Mackowski 1984, Saunders *et al.* 1982, Smith and Lindenmayer 1988, Gibbons *et al.* 2002, Kalcounis-Rüppell *et al.* 2006). The minimum size-class at which trees consistently (>50% of trees) contain hollows varies depending on the species and environmental conditions, yet is always skewed toward the larger, more mature trees. (Reference: *Loss of Hollow-bearing Trees - key threatening process determination - NSW Scientific Committee - final determination (2007))*

CONDITIONS RELATED TO HOLLOW BEARING & RECRUITMENT TREES (REGROWTH ZONE) – PROTECTION				
Condition No. and Detail	**Compliant? Yes/No/Not determined/Not applicable**	**Number of non-compliance and (sample size)**	**Why it is important & Risk Ranking Code Explanation**	**Action required by licensee**
5.6h) Protection of retained trees i. When conducting specified forestry activities and post-logging burning, damage to trees retained under conditions 5.6 (a), 5.6 (b), 5.6 (c), 5.6 (d), 5.6 (e) and 5.6 (f) of this licence must be minimised to the greatest extent practicable. During harvesting operations, the potential for damage to these trees must be minimised by utilising techniques of directional felling. ii. In the course of conducting specified forestry activities, logging debris must not, to the greatest extent practicable, be allowed to accumulate within five metres of a retained hollow bearing tree, recruitment tree, stag, Allocasuarina with more than 30 crushed cones beneath, eucalypt feed tree, or Yellow-bellied Glider or Squirrel Glider sap feed tree. Logging debris within a five metres radius of retained trees must be removed or flattened to a height of less than one metre. Disturbance to ground and understorey must be minimised to the greatest extent practicable within this five metres radius. Habitat and recruitment trees must not be used as bumper trees during harvesting operations.	**Yes** **YES**	0/26 TSL 5.6h(i) (35 trees were assessed) 0/26 TSL 5.6h(ii) (35 trees were assessed)		
Comment and Evidence				
EPA found that FCNSW protected of H & R retained trees in line with this condition in the two areas assessed. EPA offices observed no instances of damage to the crowns of retained trees across location one and two. EPA auditor observed no instances of logging debris being accumulated around retained trees in the area assessed. EPA auditor observed no instances of ground disturbance around any retained trees.				

CONDITIONS RELATED TO HOLLOW BEARING & RECRUITMENT TREES (NON-REGROWTH ZONE) – MARKING				
Condition No. and Detail	**Compliant? Yes/No/Not determined/Not applicable**	**Number of non-compliance and (sample size)**	**Why it is important & Risk Ranking Code Explanation**	**Action required by licensee**
5.6 h) Protection of retained trees iii. Retained trees referred to in conditions 5.6 (a) i., 5.6 (b) i., 5.6 (c) i., 5.6 (d) i., 5.6 (e) i., 5.6 (f) i., 5.6 (f) iii. and 5.6 (f) iv. of this licence must be marked for retention. The only exception to the marking of the retained trees can occur where the understorey consists of thick impenetrable lantana greater than one metre high or other impenetrable understorey. SFNSW must clearly document and justify such situations in harvest planning documentation either during pre-planning or as it becomes apparent during compartment mark-up.	**YES**	0/1 (35 trees were assessed)		
Comment and Evidence				
EPA found that FCNSW complied with this condition in the area assessed. EPA auditor recorded 35 hollow bearing and recruitment trees that had been marked for retention within the assessed area. EPA auditor also made a further observation that other tree marking had occurred within other areas of the compartment.				

CONDITIONS RELATED TO RIPARIAN ZONE PROTECTION				
Condition No. and Detail	**Compliant? Yes/No/Not determined/Not applicable**	**Number of non-compliance and (sample size)**	**Why it is important & Risk Ranking Code Explanation**	**Action required by licensee**
5.7 Riparian Habitat Protection b) Protection zones (soft) must be retained along the entire length of all protection zones (hard) and must have a minimum width either side of the protection zone (hard) in accordance with Table 1. The width of a protection zone (soft) must be measured from the edge of the protection zone (hard) furthest from the stream.	**Yes**	0/1 (100m length of boundary assessed)		
Comment and Evidence				
EPA found that FCNSW complied with this condition in the area assessed. EPA auditorauditors inspected an exclusion zone on a first order stream, north of log dump seven (7) (see figure 4 below). Approximately 100 metre boundary was assessed. No specified forestry activities were observed within the exclusion zone. EPA officer noted that the drainage feature was marked in the field with a two bar mark-up (see figure 5 below). FIGURE 4:Riparin Zone Protection				



First order exclusion zone protection. Auditors observed no specified forestry activities within the exclusion zone (waypoints DF 1-4). Making was observed along the area inspected.

Figure 5: Two bar mark-up of first order drainage exclusion zone ad way point DF1. EPA auditor standing on the edge of the channel. No incursion observed along the assessed length (100m) of the exclusion zone.

CONDITIONS RELATED TO HIGH CONSERVATION VALUE OLD GROWTH – PROTECTION				
Condition No. and Detail	**Compliant? Yes/No/Not determined/Not applicable**	**Number of non-compliance and (sample size)**	**Why it is important & Risk Ranking Code Explanation**	**Action required by licensee**
5.3 a)Specified forestry activities, except tree felling in accordance with condition 5.3 (b), road and snig track construction in accordance with condition 5.3 (i), and road re-opening, are prohibited within all areas of High Conservation Value Old Growth Forest.	**Yes**	0/1 (180m length of boundary assessed)		
Comment and Evidence				
EPA found that FCNSW complied with this condition in the area assessed.. EPA auditors inspected an area west of log dump six (6). A 180 metre boundary was assessed. No specified forestry activities were observed within the mapped high conservation old growth area see (figure 7below). EPA auditor noted that the exclusion zone was marked in the field with three bar mark-up (figure 6). Waypoints (og start) to (og end) show the extent of the old growth mark-up, with no harvesting around that area. Officer noted that harvesting operations ended (way point stump og and stump og2) approximately 20m from the HCOG mark-up.				

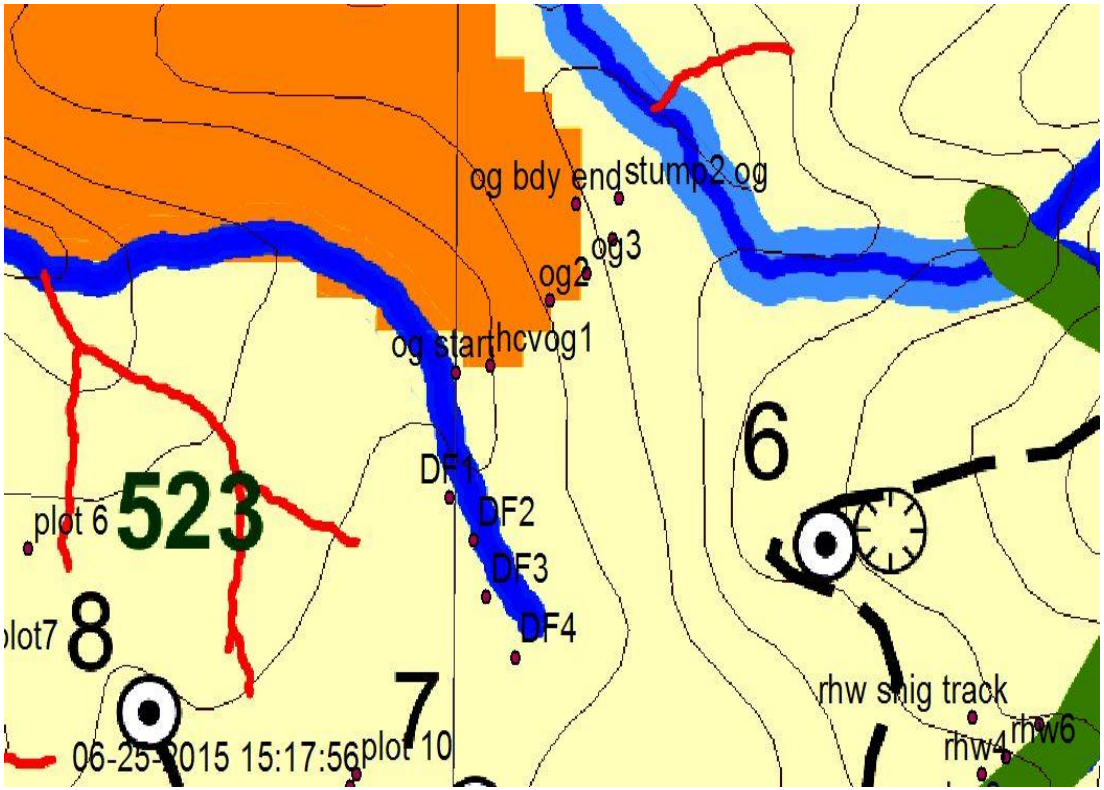


Figure 6: Three bar mark-up for High Value Conservation Old Growth at waypoint "og start".

Figure 7: HCVOG: Waypoints showing mark-up location of HCVOG west of log dump six. EPA officers found no incursions into the HCVOG.

CONDITIONS RELATED TO HIGH CONSERVATION VALUE OLD GROWTH – MARKING				
Condition No. and Detail	**Compliant? Yes/No/Not determined/Not applicable**	**Number of non-compliance and (sample size)**	**Why it is important & Risk Ranking Code Explanation**	**Action required by licensee**
5.1F All exclusion zone and buffer zone boundaries must be marked in the field, except where specified forestry activities will not come within 50 metres of such boundaries. The outer edge of lines shown on the map is considered to represent the boundary of the mapped feature when marking the feature in the field.	**Yes**	0/1 (180m length of boundary assessed)		
Comment and Evidence				
EPA found that FCNSW complied with this condition in the area assessed. EPA auditor inspected an area west of log dump six (6). 180 metre boundary was assessed. No specified forestry activities were observed within the mapped high conservation old growth area. EPA auditor noted that the exclusion zone was marked in the field with three bar mark up. Waypoints OG start to OG end show the extent of the old growth mark-up, with no harvesting around that area. The nearest harvesting operations (way point stump og and stump og2) was approximately 20m away the HCVOG mark-up in the net logging area.				

CONDITIONS RELATED TO RIDGE AND HEADWATER EXCLUSION ZONES – PROTECTION				
Condition No. and Detail	**Compliant? Yes/No/Not determined/Not applicable**	**Number of non-compliance and (sample size)**	**Why it is important & Risk Ranking Code Explanation**	**Action required by licensee**
5.1a (i) All specified forestry activities are prohibited in exclusion zones.	**Yes**	0/2 (2 locations totalling 150m length of boundary assessed)		
Comment and Evidence				

EPA found that FCNSW complied with this condition in the area assessed.
EPA auditor assessed one area of Ridge & Headwater Habitat exclusion zone. Location was east of log dump 7 (see figure 7 below). A 150 metre length of the boundary of the R&HW was assessed. No specified forestry activities were observed within the exclusion zone.

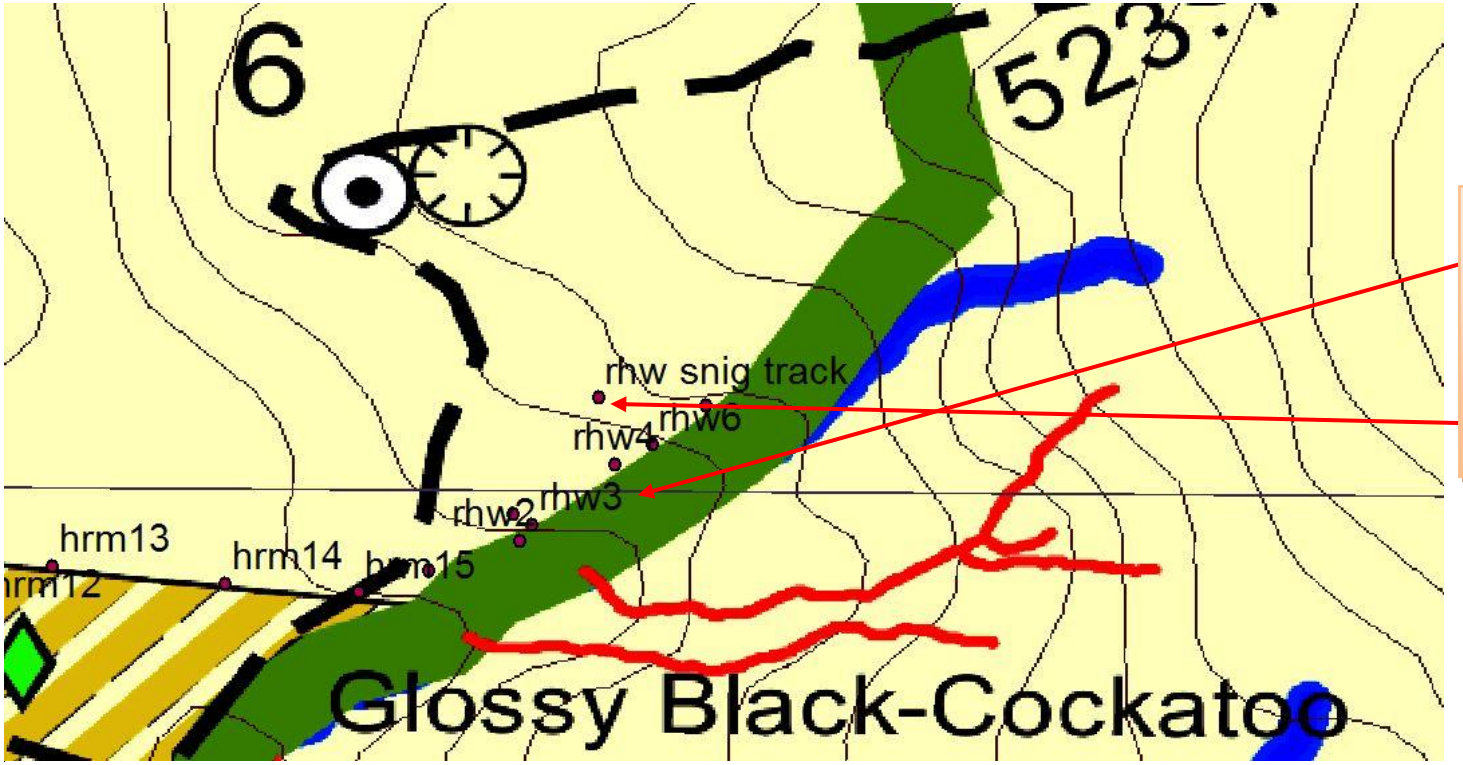
CONDITIONS RELATED TO RIDGE AND HEADWATER EXCLUSION ZONES – MARKING				
Condition No. and Detail	**Compliant? Yes/No/Not determined/Not applicable**	**Number of non-compliance and (sample size)**	**Why it is important & Risk Ranking Code Explanation**	**Action required by licensee**
5.1F All exclusion zone and buffer zone boundaries must be marked in the field, except where specified forestry activities will not come within 50 metres of such boundaries. The outer edge of lines shown on the map is considered to represent the boundary of the mapped feature when marking the feature in the field.	**Not compliant**	1/2 (2 sections totalling 150m length of boundary assessed)	A detailed description of importance is contained at the bottom of this criterion. This non compliance has a yellow risk category. The likelihood of environment harm is likely. The scale of harm is low (considering rate of incidence) and sensitivity of environment receptor.	An action plan must be developed and implemented to ensure that exclusion zones are marked within the field in accordance with 5.1F.

Comment and Evidence

EPA found that FCNSW did not comply with this condition in the area assessed.

The area assessed was east of log dump 7. The Ridge and Headwater habitat (R&HW) was marked using a three bar mark-up at waypoints rhw1, rhw2 and rhw 3. At way point's rhw4, rhw6 and rhw7 EPA auditors didn't observed any marking up of the exclusion zone. There were no incursions into the exclusion zone and the closest logging operation was a snig track at "wp rhwsnig" that was approximately 40m away from the mapped exclusion zone (see figure 8 below). The EPA considers that this exclusion zone should have been marked up in the field as there was a snig track within 50m of the unmarked exclusion zone. Therefore a non-compliance.

FIGURE 8: Mark-up of Ridge and Headwater Habitat.



Ridge & Headwater Habitat exclusion zone. Making was observed up to waypoint rhw3. No exclusion zone mark up at rhw 4,6 & 7.

Officers observed a snig track that was approximately 40m from edge of mapped exclusion zone.

CONDITIONS RELATED TO HASTINGS RIVER MOUSE EXCLSUION ZONE – PROTECTION				
Condition No. and Detail	**Compliant? Yes/No/Not determined/Not applicable**	**Number of non-compliance and (sample size)**	**Why it is important & Risk Ranking Code Explanation**	**Action required by licensee**

***6.13 Hastings River Mouse* Pseudomys oralis** Where there is a record of a Hastings River Mouse in the compartment or within 200 metres outside the boundary of the compartment, the following must apply: a) A 12 ha exclusion zone that takes in as much Suitable Habitat for Hastings River Mouse as practical, must be established around the record. The exclusion zone need not be symmetrical and should, where possible, link to other areas excluded from harvesting activities. b) The felling of trees across the boundary of a Hastings River Mouse exclusion zones (established under condition 6.13 (a) above) is prohibited except where no more than six (6) trees containing timber logs are felled across the boundary in any 200 metre length of the boundary of the Hastings River Mouse habitat or exclusion zone, whatever 200 metre length of boundary is considered.	**6.13 (a) Yes** **6.13 (b)Yes**	0/2 (2 locations totalling 455m length of boundary assessed) 0/2 (455m length of boundary assessed)		

Comment and Evidence

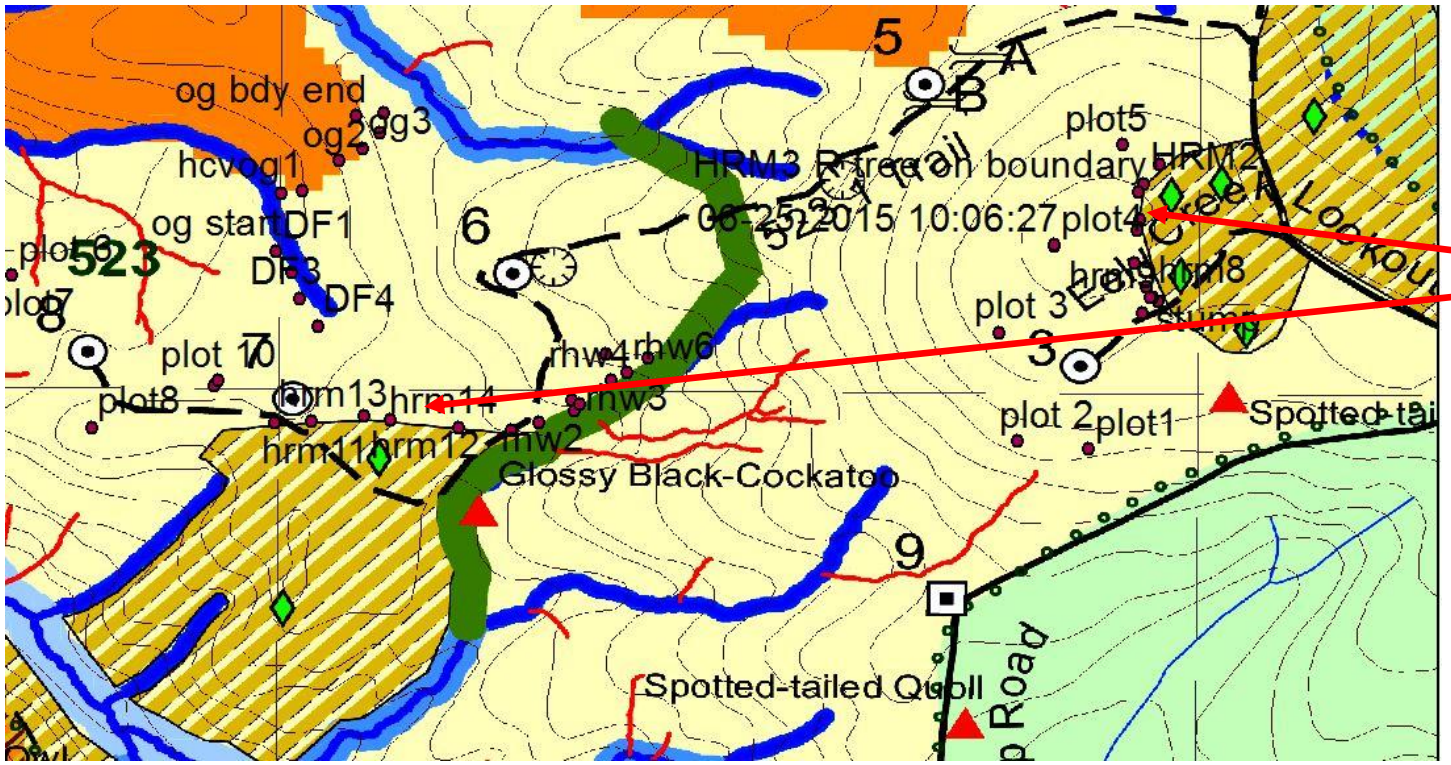
EPA found that complied with this condition in the areas assessed.

EPA auditor assessed two locations of Hasting River Mouse exclusion zone. Location one was north east of log dump 3 while location two was south of log dump 7 (see figure 10 below). At location one (wp HRM 1) a 195 metre length of the boundary was assessed. No specified forestry activities were observed within the exclusion zone. One R tree (figure 9 below) was marked on the boundary of the HRM exclusion zone (way point HRM 3) see photo below. At location two (HRM 12) a 260 metre length of boundary was assessed. No specified forestry activities were observed within the exclusion zone.

FIGURE 9: Hastings River Mouse Exclusion Zone.

Hastings River Mouse exclusion zone. R Tree retained marked on the boundary of north east of long dump three.

FIGURE 10: Hastings River Mouse Exclusion Zone.



Hastings River Mouse exclusion zone: EPA auditors inspected two areas, with no incursions found into the exclusion zone.

CONDITIONS RELATED TO HASTINGS RIVER MOUSE EXCLUSION ZONE – MARKING				
Condition No. and Detail	**Compliant? Yes/No/Not determined/Not applicable**	**Number of non-compliance and (sample size)**	**Why it is important & Risk Ranking Code Explanation**	**Action required by licensee**
5.1 F All exclusion zone and buffer zone boundaries must be marked in the field, except where specified forestry activities will not come within 50 metres of such boundaries. The outer edge of lines shown on the map is considered to represent the boundary of the mapped feature when marking the feature in the field.	**Yes**	0/2 (2 locations totalling 455m length of boundary assessed)		

Comment and Evidence

EPA found that FCNSW complied with this condition in the two areas assessed.

EPA auditor assessed two locations of Hasting River Mouse exclusion zones. At both locations auditor observed three bar mark-up of the exclusion zone (see figure 11 below). 455m length of exclusion zone was assessed. No specified forestry activities were observed within the exclusion zone noting the high rate of fallen trees across the boundary length.

FIGURE 11: Hastings River Mouse Exclusion Zone

Hastings River Mouse exclusion zone Mark-up: EPA auditors inspected two areas. Officer observed three bar mark-up of the exclusion zone across the two areas assessed.

ACTION PLAN – STYX STATE FOREST, COMPARTMENT 16-21

Condition No.	Number of non-compliances (and sample)	Action Details	Non-compliance Code*	Target/Action Date
5.6c (i and ii).	1/10	**R tree selection** An action plan must be developed and implemented to ensure that recruitment trees are retained across the compartment having as many of the characteristics listed in TSL condition 5.6c ii and consistent the requirements of the R tree definition.		By 1 January 2016
5.1F	1/2	**Exclusion zone mark-up. Ridge & Headwater habitat.** An action plan must be developed and implemented to ensure that exclusion zone mark-up occurs where harvesting operations come within 50m of an exclusion zone.		By 1 January 2016
Total	**2**			

Risk Assessment of Non-compliance

The significance of any non-compliances identified during the audit process are categorised. Following risk assessment of non-compliances, an escalating response relative to the seriousness of the non-compliance is determined to ensure the non-compliance is addressed by the enterprise.

The risk assessment of non-compliances involves assessment of the non-compliance against two criteria; the likelihood of environmental harm occurring and the level of environmental impact as a result of the non-compliance. After these assessments have been made, information is transferred into the risk analysis matrix below.

	Likelihood of Environmental Harm Occurring			
		Certain	**Likely**	**Less Likely**
Level of Environmental Impact	**High**	**Code Red**	**Code Red**	**Code Orange**
	Moderate	**Code Red**	**Code Orange**	**Code Yellow**
	Low	**Code Orange**	**Code Yellow**	**Code Yellow**

The assessment of the likelihood of environmental harm occurring and the level of environmental impact allows for the risk assessment of the non-compliance via a colour coding system. A red risk assessment for non-compliance denotes that the non-compliance is of considerable environmental significance and therefore must be dealt with as a matter of priority. An orange risk assessment for non-compliance is still a significant risk of harm to the environment however can be given a lower priority than a red risk assessment. A yellow risk assessment for non-compliance indicates that the non-compliance could receive a lower priority but must be addressed.

There are also a number of licence conditions that do not have a direct environmental significance, but are still important to the integrity of the regulatory system. These conditions relate to administrative, monitoring and reporting requirements. Non-compliance of these conditions is given a blue colour code.

The colour code is used as the basis for deciding on the priority of remedial action required by the licensee and the timeframe within which the non-compliance needs to be addressed. This information is presented in the action program alongside the target/action date for the noncompliance to be addressed.

While the risk assessment of non-compliances is used to prioritise actions to be taken, the EPA considers all non-compliances are important and licensees must ensure that all non-compliances are addressed as soon as possible.
s

Attachment One: EPA Audit Locations

ident	y_proj	x_proj
plot1	-30.5778	152.227
plot 2	-30.5777	152.2262
plot 3	-30.5765	152.226
06-25-2015 10:06:27	-30.5755	152.2266
plot4	-30.5755	152.2266
plot5	-30.5743	152.2274
HRM1	-30.5746	152.2278
HRM2	-30.5748	152.2277
HRM3 R tree on boundary	-30.5749	152.2276
HRM4 H tree on boundary	-30.5752	152.2276
HRM5 R tree on boundary	-30.5753	152.2276
HRM6	-30.5757	152.2276
hrm7 r on bdy	-30.5759	152.2277
hrm9	-30.5761	152.2278
hrm8	-30.5761	152.2277
stump	-30.5761	152.2277
rubbish	-30.5762	152.2276
hrm10	-30.5775	152.2178
hrm11	-30.5775	152.2182
hrm12	-30.5774	152.2188
hrm13	-30.5775	152.2191
hrm14	-30.5775	152.2199
hrm15	-30.5776	152.2205
rhw1 and h tree on boun	-30.5775	152.2208
rhw2	-30.5773	152.2212
rhw stump	-30.5772	152.2212
rhw3	-30.5773	152.2212
rhw4	-30.577	152.2216
rhw snig track	-30.5767	152.2215
rhw6	-30.5769	152.2218
rhw7 un marked	-30.5767	152.222
hcvog1	-30.5749	152.2181
og start	-30.5749	152.2179
og2	-30.5745	152.2185
og3	-30.5744	152.2188
stump og	-30.5742	152.219
stump2 og	-30.574	152.219
og bdy end	-30.574	152.2187
DF1	-30.5755	152.2178
DF2	-30.5758	152.218
DF3	-30.5761	152.2181
DF4	-30.5764	152.2183
plot 6	-30.5758	152.2148
plot7	-30.5764	152.2145
plot8	-30.5775	152.2157
06-25-2015 15:17:56	-30.5771	152.2171
plot 10	-30.577	152.2171