

AUDIT REPORT – MOUNT BOSS STATE FOREST, COMPARTMENT(S) 184, 185, 186 & 193.

Auditee:	FORESTRY CORPORATION OF NSW (FCNSW)
Audited State Forest & Cpts:	Mount Boss State Forest, compartment(s) 184, 185, 186 & 193. (see figure 1, below). The field audit took 2 day(s) to complete.
Region:	Wauchope Management Area
Date/Audit timing:	2 nd December 2015 & 4 th December 2015
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:	<ol style="list-style-type: none"> 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:	<ul style="list-style-type: none"> • Hollow bearing & recruitment trees • Basal Area Retention • Streams – Mark-up & protection • Rainforest - Mark up & protection <p>Physical scope: This audit was limited to the physical boundaries of compartments 184, 185, 186 & 193.</p> <p>Temporal scope: The audit period adopted for assessment of compliance with operational conditions was on the days of the audit inspection 2nd December 2015, 4th December 2015.</p>
Audit criteria:	<p>5.6 (b)(e)(h) Hollow bearing and recruitment tree retention, selection and protection</p> <p>5.4 Rainforest protection</p> <p>5.7 Riparian habitat protection</p>
Summary of Operations	<p>From the harvesting plan:</p> <p>“These four compartments have only a short logging history -the first records of logging were in the mid 1970's. Logging operations continued up until the early 1980's in compartment 193, and late 1980's in compartment 186. The areas were road-line logged when the roading network in the area was developed during this time. A number of silvicultural burns occurred following harvesting, and various areas were planted with Silvertop Stringybark, and Blackbutt. A small area in compartment 184 was planted as a fertilising trial plot in 1977 consisting of small and large seedlings of Silvertop Stringybark. Current stand condition varies from mature regrowth of pre-merchantable and sawlog size, to overmature stems, of habitat tree quality.</p>

	Silvicultural Planning Due to the limited availability of salvage, pole and pulp markets, the silvicultural aim of this harvesting operation is to harvest mature areas of forest (dominant trees >50cm dbh), to reset the stand and open it up for regeneration of the harvested areas.”
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1. Audit Findings – Overview

The EPA identified

A summary of EPA's findings are in the table below. Full details and evidence of audit findings can be found in the **Audit Findings Table** in **Attachment 2** including further observations made from the audit.

EPA Compliance Priority 14/15	Audit Scope	Compliant	Non-compliant	Not Determined	Not Applicable
Exclusion zones	Riparian protection zone	2	0		
	Rainforest protection	1	1		
	Rainforest field mark up	0	2		
	Old growth protection	1	0		
	Old Growth mark up	0	1		
Species Specific Conditions Sphagnum Frog	Protection	1	0		
Hollow bearing and recruitment trees	H Retention	1	0		
	H Selection	16	0		
	R Retention	1	0		
	R Selection	5	5		
	H&R Protection	18	9		
	H&R Marking	3	0		
	TOTAL	49	18	0	0

ATTACHMENT 1: FINAL EPA AUDIT FINDINGS TABLE – Mt BOSS STATE FOREST COMPARTMENT 184, 185, 186 & 193.

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				
<p>5.6(b): EPA found that FCNSW complied with this condition in the area assessed.</p> <p>6.9(d): EPA found that FCNSW complied with this condition in the area assessed.</p> <p>EPA assess compliance with this condition in post harvest areas and at three separate locations. The total area assessed was 2 hectares in the net logging area.</p> <p>EPA auditor assessed ten (10) 0.2ha circular plots over three locations 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 auditors recorded 22 marked and candidate Hollow bearing trees in total across the assessed areas. Auditors' recorded 16 marked H trees and 6 unmarked candidate H trees (See table 1 below). The retention rate achieved was 11 Hollow bearing trees/hectare. The required rate was 8 hollow bearing trees/hectare and therefore the retention rate was exceeded. Refer to EPA Waypoints (plots) in attachment 3.</p> <p>* Note EPA auditors considered trees retained to be candidate H trees only where they met the TSL criteria (despite not being marked).</p> <p>FIGURE 1: Locations of H&R assessments.</p>				

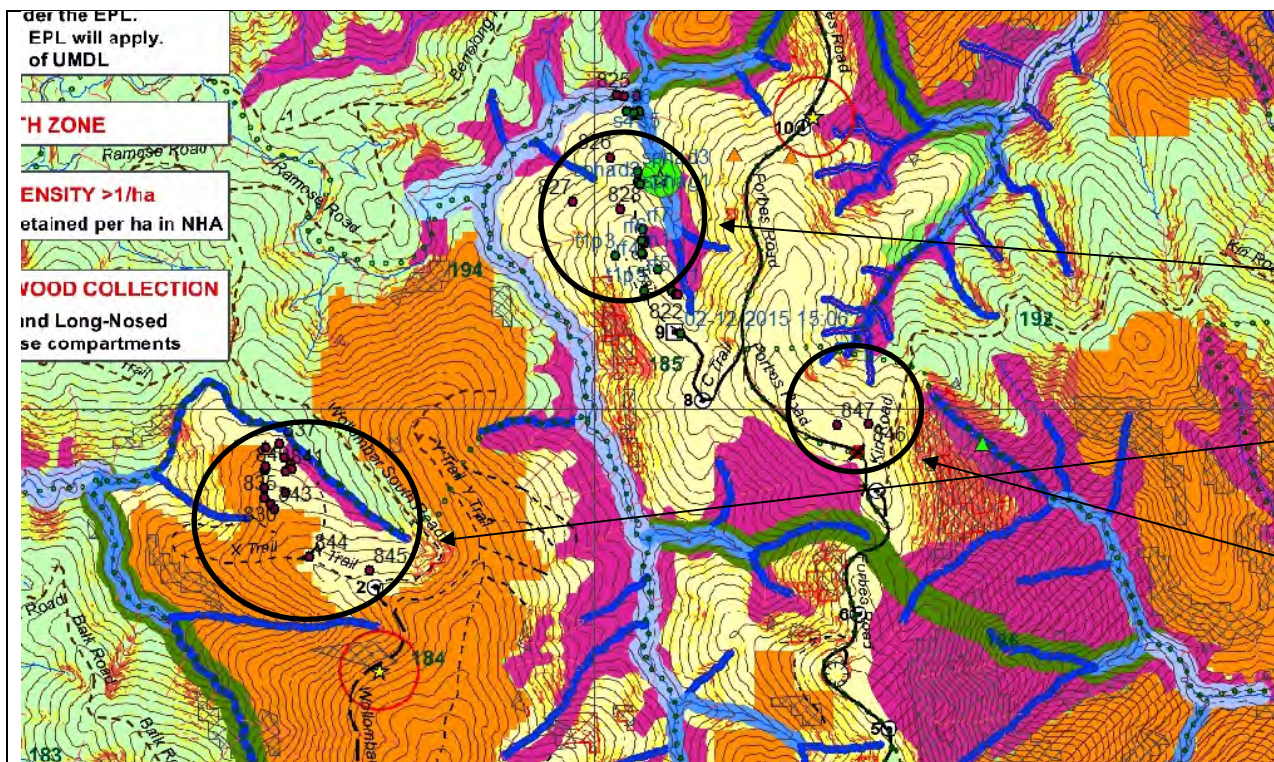


Figure 1:

Location 1. North of Log Dump 9. H and R were assessed within the five 25m circular plots at location 2.

Location 2. North West of Log Dump 2. H and R were assessed within the three 25m circular plots at location 1.

Location 3. North of Log Dump 7. H and R were assessed within the two 25m circular plots at location 3.

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: <ul style="list-style-type: none"> - belonging to a cohort of trees with the largest DBHOB, - good crown development, 	Yes	0 /16 (16 H trees were required to be selected)		

(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.

Comment and Evidence

EPA found that FCNSW complied with the selection requirement of this condition in the area assessed.

The assessed area (2 ha) required a minimum of 16 H trees to be marked and selected. EPA considers field marking of H trees as the sole indicator of whether a tree has been selected or not. The EPA auditors observed that 16 marked H trees and 6 candidate H across the assessed area (table 1 below). EPA auditors observed that the 16 marked and selected H trees were compliant with the selection conditions (see table 1).

Tree Characteristics Observations

Retained Tree Sizes: EPA auditors compared data of retained 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 or cohorts of trees with the largest DBHOB when compared to the trees removed as part of the harvest operation. Please refer to Table 1 below.

Crown Development Observations: EPA auditors observed that 15 of the marked H trees displayed good crown developed and were not suppressed (assessed area only). One H tree in plot 1, had part of its head missing due to operator damage (see photos 3 & 4), however this will be considered under section 5.6 (h) protection of retained trees later in this report.

Butt Damage Observations: EPA auditors observed that none of the 16 marked and unmarked trees had butt damage within the assessed area.

Range of Species Retained: EPA auditors observed that the marked H trees comprised of Blackbutt, Turpentine, Mahogany, and Blue Gum species. Thus representing the range of species in the assessed area.

Location of H trees in NHA: EPA auditors 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	Blackbutt	59.5	Yes limbs and trunk	Yes	No	No	No	Yes	Co-Dominant	Mature
1	H Candidate	Unknown	69	Yes	Yes natural	No	No	No	Yes	Co-Dominant	Late Mature
1	Stump 54, 65, 45, 45, 40, 62, 52, 37, 45, 57.										
2	H Candidate	Turpentine	67.5	Yes	Yes natural	Yes	No	Minor, snag track	Yes	Co-Dominant	Mature

2	H Candidate	Turpentine	70.5	No	No	No	No	Minor, snig track	Yes	Co-Dominant	Mature
2	H	Unknown	79.5	No	Yes natural	Yes	No	Yes Minor Snig	Yes	Supressed	Over mature
2	Stumps 48,52,58,57.5,71,49,56,56,58,56										
3	H	Blue Gum	149	Yes	No	Yes	No	No	Yes	Dominant	Over - Mature
3	H	Blackbutt	143	Yes	Yes natural	No	No	Yes Minor snig	Yes	Dominate	Overma ture
3	Stumps 51, 54,65,63.5,51,74.5,70.5,71,61,69,85,58.										
4	H	Turpentine	85	No	No	No	No	Yes Minor Snig	Yes	Co-Dominant	Mature
4	H	Turpentine	77	No	No	Yes	No	No	No	Co-Dominant	Mature
4	Stumps 91, 55, 62, 47, 50, 52.										
5	H Candidate	Blue Gum	120.5	Yes	No	No	No	Yes Minor Snig	Yes	Dominant	Late Mature
5	H	Blackbutt	122	Yes	No	No	No	No	Yes	Co-Dominant	Late Mature
	H	Turpentine	85.5	No	No	No	No	No	No	Co-Dominant	Mature
5	Stumps 45, 55, 75, 65, 65, 70.										
6	H	White Mahogany	120	Yes	No	Yes	No	No	Yes	Co-Dominant	Mature
6	H	Tallowwood	82	No	No	Yes	No	No	Yes	Dominant	Mature
6	Stumps 47, 62.5, 46, 45, 65.5, 31, 27, 30, 35.5, 54.5, 58, 41.5, 38, 29.5.										
7	No H tree recorded in plot 7										
7	Stumps 50, 38, 50, 57, 49, 35, 62, 43, 81.5, 25, 42.5, 45, 64, 61, 72.5, 83, 25, 81, 77.5, 67, 66.										
8	H	Blue Gum	114.5	Yes	No	No	No	No	Yes	Dominant	Late Mature
8	H	Blackbutt	88	Yes	No	Yes	No	No	Yes	Co-Dominant	Late Mature
8	H	Blue Gum	117	Yes	Yes natural	No	No	No	Yes	Co-Dominant	Late Mature

8	Stumps 42.5, 43, 53, 40, 23, 41, 27.5, 49.										
9	H Candidate	White Mahogany	153	Yes	Yes Natural	No	No	No	Yes	Co-Dominant	Over Mature
9	H	Blue Gum	101	Yes	No	No	No	No	Yes	Co-Dominant	Mature
9	H	White Mahogany	165	Yes	Yes Natural	No	No	No	Yes	Co-Dominant	Over Mature
9	Stumps 96.5, 55, 99, 58, 66.5, 74.										
10	H	White Mahogany	205	Yes	No	No	No	No	Yes	Co-Dominant	Over Mature
10	H Candidate	Unknown	137	Yes	Yes natural	No	No	Yes minor snig.	Yes	Dominant	Over mature almost Senescent
10	Stumps 40, 37.5, 75, 72, 93, 50, 49, 56, 53, 45, 37, 51, 39, 19, 36, 50, 46, 38.5, 61, 89.										

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 R trees were required to be retained in this area. FCNSW retained 8 marked R trees and 5 candidate R trees across the 2ha assessed. The selection of these resources is addressed in the below criteria. EPA assess compliance with this condition in post harvest areas and at three separate location totalling 2 ha.

Further observation: At location one EPA auditors recorded one marked R trees, this is below the required 5 trees per hectare. Auditors also recorded 5 unmarked candidate R trees within location one. Across locations 2 and 3 (1ha in total) auditors recorded 7 marked R trees two more than the required. Hence the EPA has not considered this a non-compliance across the 2 ha assessed. However Forest Corporation needs to ensure that there are five (5) marked R trees **per hectare** of the net logging area to ensure compliance with this retention condition.

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: <ul style="list-style-type: none"> - 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. 	No	5 /10 (10 R trees were required to be selected across the three locations totalling 2ha)	A detailed description of importance is contained at the bottom of this criterion. This non compliance has an orange risk category. The likelihood of environment harm is likely. The scale of harm is moderate (considering 50% 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 did not comply with this condition in the area assessed. EPA assessed the selection of R trees in post-harvest areas only. Trees belonging to the cohort of trees with the **largest DBHOB** was the key element of the condition when determining compliance with this condition. EPA assessed the size of selected R trees against the size of stumps and unselected live standing trees at each location (relative to each location). EPA also considered that marking trees in the field (with paint) is the indicator of whether a tree was selected or not.

EPA auditors observed 8 marked R trees across the two assessed locations. Ten (10) R trees were required to be marked across these three locations. Five (5) marked and selected R trees were compliant across those three locations. Five non-compliances were found across the three (3) locations for either not selecting R trees that were required to be selected or selecting R trees that were not the most suitable R trees at a location.

Location 1 (five 0.2 ha plots)

Four (4) non-compliances – One R tree was selected and marked at this location. Six (6) R trees in total (marked and unmarked) were retained at this location. Five (5) R trees were required to be selected at this location. Stumps were also considered. The size of this marked R tree was assessed against the size of harvested trees (stumps) and other standing live retained at this location.

Four (4) unmarked candidate R trees were not selected for retention that should have been selected and marked for retention at this location. This equates to four (4) non-compliances.

Location 2 (three 0.2 ha plots)

Compliant. Five (5) marked R trees were observed at location 2. Three (3) R trees were required to be selected at this location. Five (5) R trees were selected at this location. Three (3) of the five (5) trees selected at this location were suitable, thus a compliance at this location. The size of these marked R trees was assessed against the size of harvested trees (stumps) and other standing live retained at this location.

Further observation - Two (2) of those five (5) selected trees were not suitable as they did not belong to the cohort of trees with the **largest DBHOB** at this location.

Location 3 (two 0.2 ha plots)

One (1) non-compliance

Two (2) marked R trees were observed at location 2. Two (2) R trees were required to be selected at this location. The EPA assessed the two (2) retained R trees at this location. The size of these marked R trees was assessed against the size of harvested trees (stumps) and other standing live retained at this location. One (1) of those two (2) selected R trees were not suitable as they did not belong to the cohort of trees with the **largest DBHOB** at this location.

- *Belong to a cohort of trees with the largest DBHOB:*

Location 1

The largest stumps were 91cm (conservative taper applied) DBHOB (in plot 4) and 85cm (conservative taper applied) in plot 3, compared to a retained R tree of 67cm DBHOB. This 24cm and 18cm difference is outside what the EPA considers trees of similar size within a cohort requirements. The only R tree selected by FCNSW for retention at this location was in the second size class of which three trees in that class need to be selected for retention. The stumps of 91 cm and 85cms represents trees that should have been retained as a tree belonging to a cohort of trees with the largest DBHOB.

The EPA considers that an additional four marked and therefore selected R trees should have been observed across the five 0.2 ha plots at location one. As this wasn't the case the EPA considers this a non-compliance (4 non-compliance's) as an additional four R tree should have been selected for retention in the field.

Auditors did record five retained and unmarked, potential candidate R trees ranging from 71cm-63cm DBHOB. These trees were all considered to be outside what the EPA considers trees of similar size when compared to the two largest cut stumps. However they were within the cohort requirement when compared to the next 14 stumps that ranged from 61cm to 75 cm DBHOB.

In Summary: The largest 5 cut stumps were all larger than the largest retained tree (Marked or unmarked) across the 5 plots at location one. In particular the two largest stumps were harvested from what the EPA considers the largest size class of trees at location one. The only marked and therefore selected R tree recorded at location one

was significantly smaller than the two largest stumps. It was however within a cohort of a similar size class when compared to the next fourteen largest stumps (i.e. stumps above 60cm DBHOB). There were five retained trees (unmarked and therefore unselected) that were within the size class as well which reduce the environmental impact of only selecting one R tree within the 1ha assessed area at location one. However the selection of these candidate R trees is not best practice and more a case of good fortune than good management.

Location 2. At location 2 EPA auditors observed that there were five marked R trees. At this location, three (3) R trees were required to meet the necessary retention rate. The EPA auditors therefore considered the largest three R trees in relation to this condition. EPA auditors found that the three largest R trees (98, 78, 70.5 cm DBHOB), were all within a cohort that represented the largest DBHOB when compared to three largest stumps harvested of 83, 81.5 & 81cm DBHOB respectively (see figure 3). Therefore the EPA considers the R trees retained at this location compliant with this condition.

A further observation was made that the two remaining marked R trees that were observed at this location were 62cm and 58cm DBHOB. These trees were not sufficient size to be representative trees belonging to a cohort of trees with the largest DBHOB.

Location 3 At location 2 EPA auditors observed that there were two marked R trees. At this location two (2) R trees were required to meet the necessary retention rate. One tree (161cm DBHOB) was compliant with this condition. However the tree of 71cm DBHOB was considered not to be within the cohort that represented the largest DBHOB when compared to three largest stumps harvested of 99, 96.5 & 93cm DBHOB respectively (see table 3 and figure 4). Therefore the EPA considers this tree selection one non-compliance with this condition.

Further Observation: At this location there were significant sections of forest that was potentially unmapped old growth. The forest was characterised by significant stands of old very large, mature and senescent trees with very little regrowth or trees of a smaller cohort. The largest 5 stumps recorded across all locations were recorded in plots 9 and 10 (location three), and similarly the largest retained R tree was in plot 9 (161cm DBHOB).

- **located such that they result in retained trees being evenly scattered throughout the net logging area:** eight of the ten plots assessed contained compliant retained R trees with additional compliant trees recorded above the required 10.
- **good crown development:** all trees were considered to have good crown development i.e. not suppressed and mature/late mature in development, with one tree in plot 7 having minor crown damage due to the logging operation.
- **minimal butt damage:** Auditor didn't find any instances of butt damage to retained trees.
- **represent the range of hollow-bearing species that occur in the area:** species represented the range of hollow bearing trees within the area.

Table 2: Recruitment tree characteristics across location 1

Plot	Species	DBHOB or	Hollows Visible	Tree Features Burls and/or Protuberance	Crown Development	Crown Damage	Tree Growth Stage	Logging Debris	Bumper	Ground Disturbance
Assessment Location 1										
Plot 1	Blackbutt (Candidate)	65	No	No	Co-dominant	No	Mature	Yes 1.3m	No	No
Plot 1	Stumps	54, 65, 45, 45, 40, 62, 52, 37, 45, 57.								
No marked or Candidate R trees recorded in plot 2.										
Plot 2	Stumps	48,52,58,57.5,71,49,56,56,58,56								
Plot 3	Turpentine (Candidate)	68	No	Yes	Co-Dominate	No	Mature	No	No	No
Plot 3	Stumps	51, 54,65,63.5,51,74.5,70.5,71,61,69,85,58.								
Plot 4	Forest Oak (Candidate)	71	Yes	Yes	Co-Dominate	No	Mature	No	No	No
Plot 4	Tallowwood	67	No	No	Co-Dominate	No	Mature	No	No	No
Plot 4	Turpentine (Candidate)	64								
Plot 4	Stumps	91, 55, 62, 47, 50, 52.								
Plot 5	Tallowwood (Candidate)	62	No	No	Co-Dominate	No	Mature	Yes 2m	No	No
Plot 5	Stumps	45, 55, 75, 65, 65, 70								

Table 3: Recruitment tree characteristics across location 2 and 3

Plot	Species	DBHOB or	Hollows Visible	Tree Features Burls and/or Protuberance	Crown Development	Crown Damage	Tree Growth Stage	Logging Debris	Bumper	Ground Disturbance
Plot 6	No marked or Candidate R trees recorded in plot 6.									
Plot 6	Stumps	47, 62.5, 46, 45, 65.5, 31, 27, 30, 35.5, 54.5, 58, 41.5, 38, 29.5.								
Plot 7	White Mahogany	58	No	Yes	Co-Dominate	Yes minor (operator) pics292	Mature	No	No	Yes minor snig
Plot 7	Tallowwood	98	No	Yes	Dominate	No	No	No	No	Yes minor snig
Plot 7	Stumps	50, 38, 50, 57, 49, 35, 62, 43, 81.5, 25, 42.5, 45, 64, 61, 72.5, 83, 25, 81, 77.5, 67, 66.								
Plot 8	Unknown	70.5	No	Yes	Sub-dominate	No	Early mature	No	No minor butt damage 293	Yes Minor Snig Track
Plot 8	Black Butt	62	No	Yes	Co-dominate	No	Early mature	No	No	No
Plot 8	Tallowwood	78	No	Yes	Co-dominate	No	Mature	No	No minor butt damage 294	No
Plot 8	Stumps	42.5, 43, 53, 40, 23, 41, 27.5, 49.								
Plot 9	Red Mahogany	71	Yes	Yes	Sub-dominate	No	Over mature	No	No	No
Plot 9	Unknown	161	Yes	Yes	Dominate	Yes natural	Over Mature	Yes 1.8m	No	Yes minor snig track
Plot 9	Stumps	96.5, 55, 99, 58, 66.5, 74.								
Plot 10	No marked or Candidate R trees recorded in plot 10.									
Plot 10	Stumps	40, 37.5, 75, 72, 93, 50, 49, 56, 53, 45, 37, 51, 39, 19, 36, 50, 46, 38.5, 61, 89.								

Photo 1: Cut stump of 91 cm (DBHOB taper) in plot 4 (96cm at stump height of 100cm). This tree was the largest tree across the five plots at location 1. This harvested tree as well as another harvested tree (now stump) of 85cm (in plot 3) were trees belonging to cohort with the largest DBHOB and should have been retained.

Photo 2: Marked R tree of 67cm in plot 4. This tree was 24cm smaller than the harvested tree (91cm) in photo 1. This marked R tree also had excessive logging debris around its base, thus prone to harm from fire.



Location1: Size of retained trees versus stumps

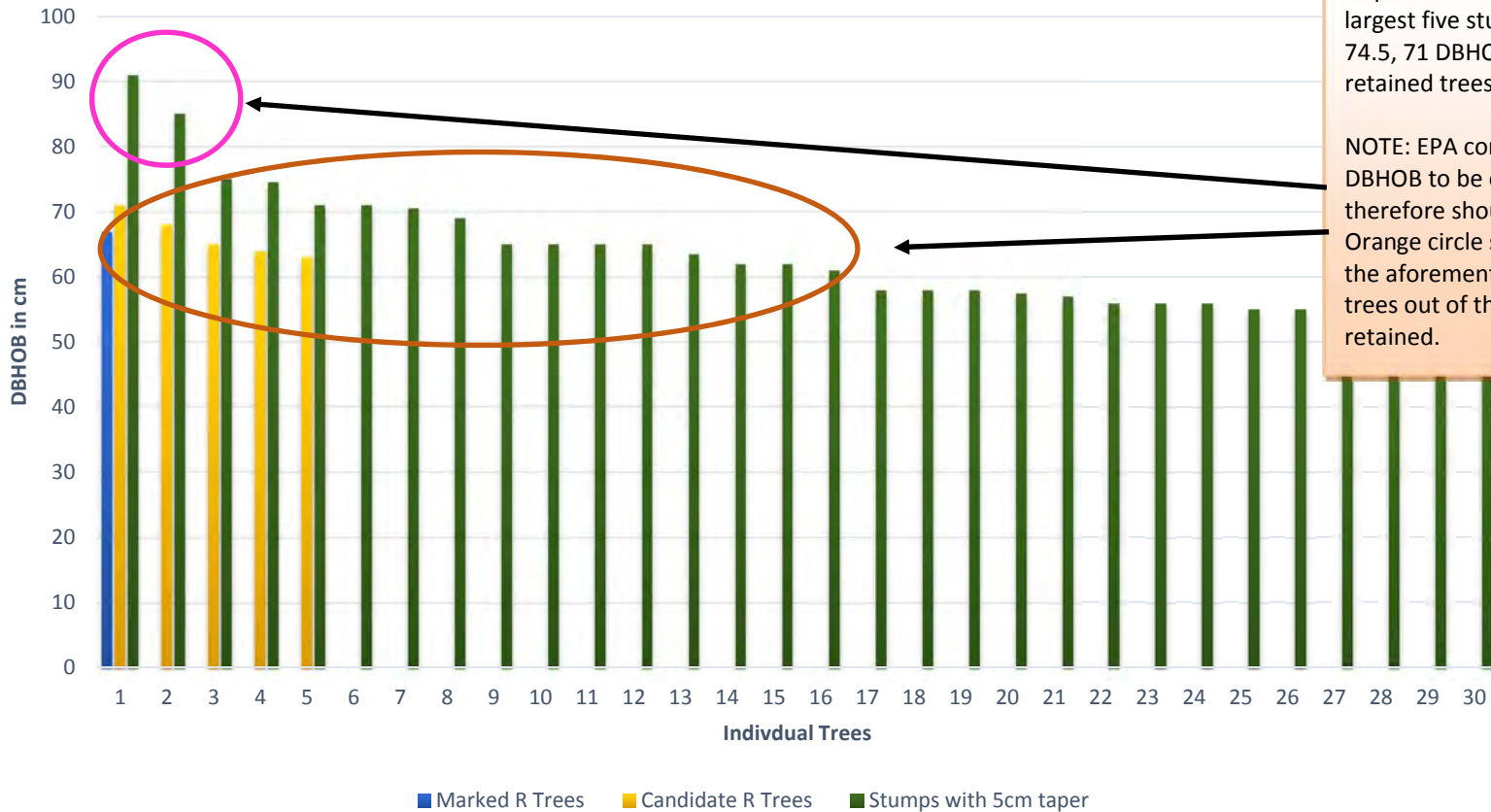


Figure 2: One selected R tree didn't met the required characteristics under the LNE IFOA. The largest five stumps recorded were 91cm, 85, 75, 74.5, 71 DBHOB, compared to the marked retained trees of 67 DBHOB.

NOTE: EPA considers the stumps of 91 and 85cm DBHOB to be of the largest size class and therefore should have been retained. Orange circle show the next size class along with the aforementioned two largest trees; three trees out of this size class needed to be retained.

Location 2: Size of retained trees versus stumps

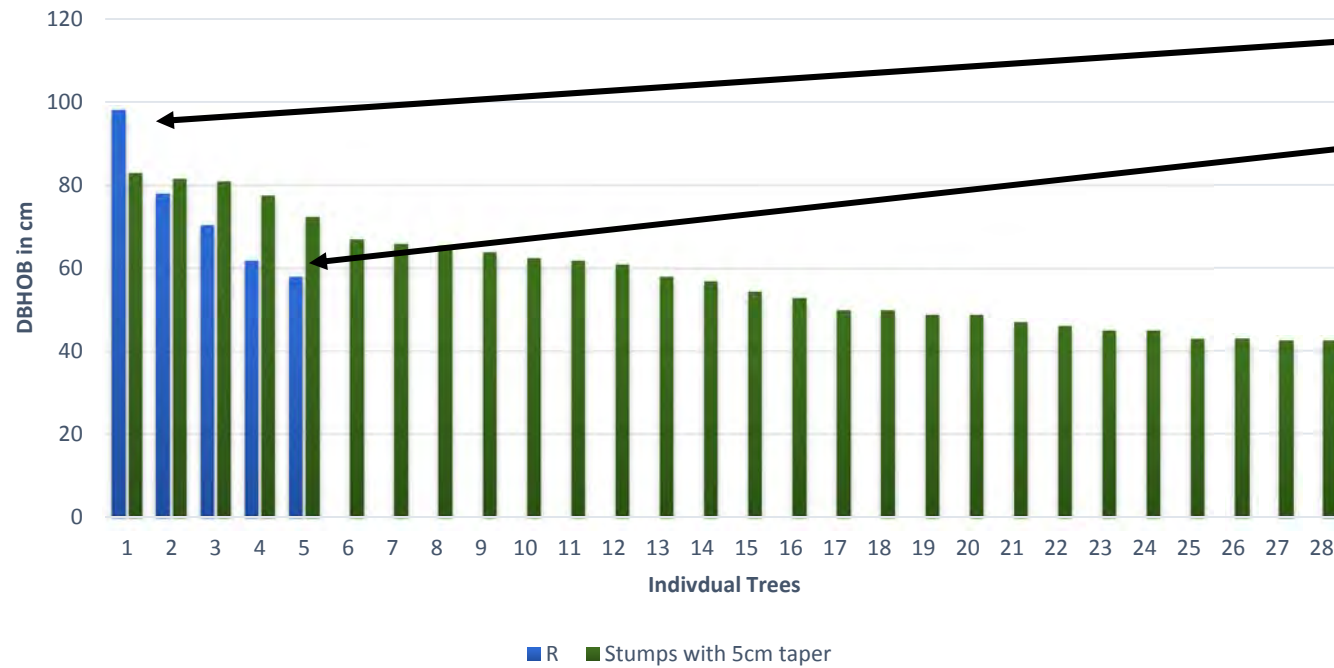


Figure 3: The three largest R trees selected at location two, met the required characteristics under the LNE IFOA.

The two remaining marked R trees of 62cm and 58cm didn't meet the requirement of belonging to a cohort of trees with the largest DBHOB, when compared to the three largest stumps 83, 81.5, & 81 cm respectively. However as these trees were no required to meet the necessary retention rate, these trees were not considered a non-compliance.

Location 3: Size of retained trees versus stumps

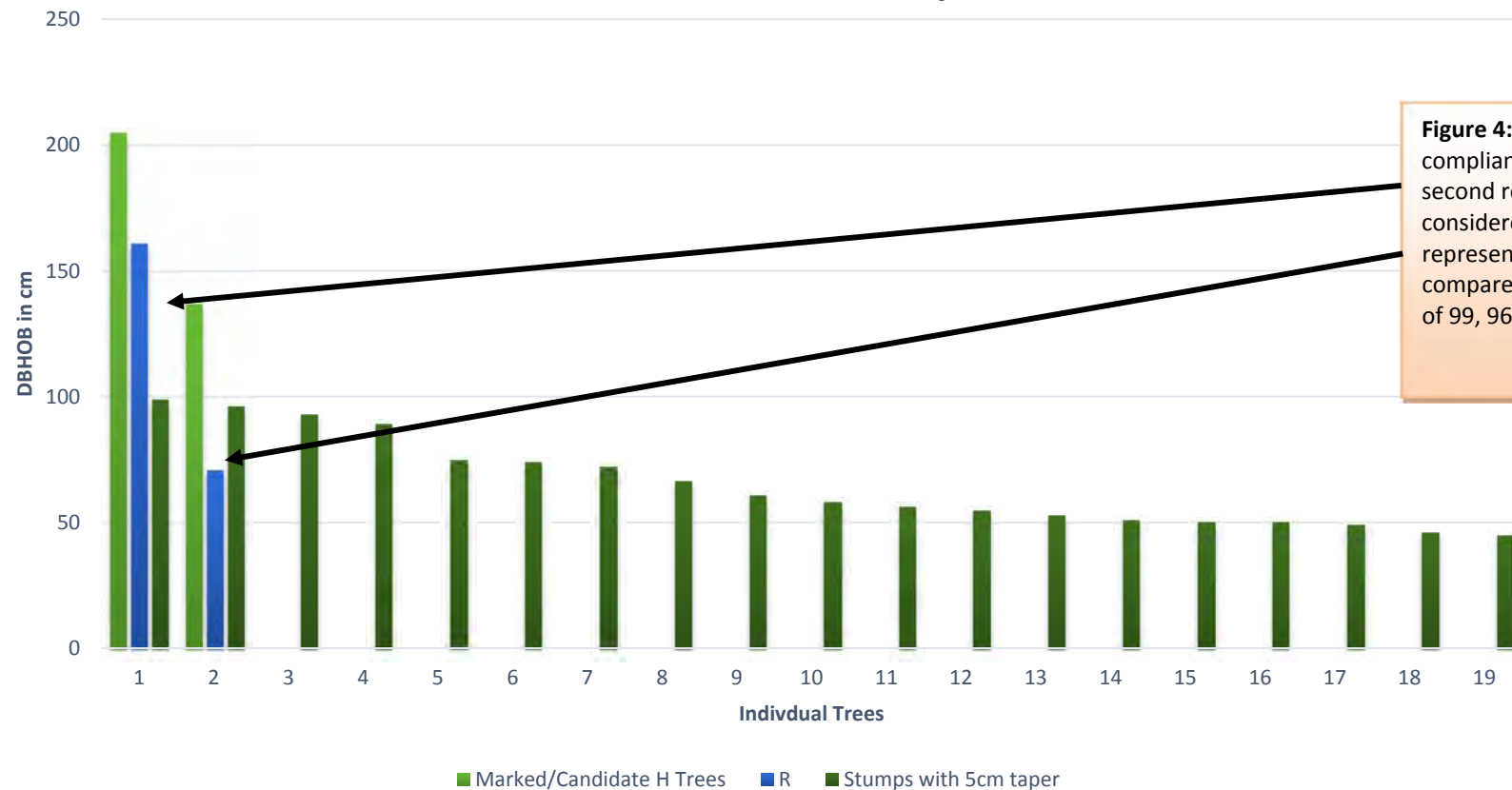


Figure 4: One tree (161cm DBHOB) was compliant with this condition. However the second retained R tree of 71cm DBHOB was considered not to be within the cohort that represented the largest DBHOB when compared to three largest stumps harvested of 99, 96.5 & 93cm DBHOB respectively.

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.	No	2/26 TSL 5.6h(i)		An action plan must be developed and implemented to ensure that retained trees are protected from fire (debris and damage) in accordance with TSL condition 5.6h .
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.	No Code: Orange	7/26 TSL 5.6h(ii) 26 trees were assessed. 15 marked H trees, 1 candidate H tree, and 10 marked R trees.		

Comment and Evidence

EPA found that the protection of H & R retained trees was not complaint with condition in the two areas assessed. EPA assessed 26 H and R trees against this condition. EPA offices observed two instance of damage to the crowns of retained trees across location one and two. With on being minor in nature and not considered a non-compliance (see details below).

Logging Debris:

- **H Trees:** EPA Auditors observed logging debris of greater than 1 meter within 5 meters at six (6) of the sixteen (16) marked H trees (photo 4). Therefore the EPA auditor's recorded six non-compliances for logging debris with all clearly marked H trees. i.e. 10 of the 16 required H trees were compliant for this condition. **Note:** Of the 6 unmarked candidate H trees only one tree in plot 2 was observed to have logging debris of greater than a meter within 5 meters.
- **R Trees:** EPA Auditors observed logging debris of greater than 1 meter within 5 meters at one of the ten marked R trees. This tree in plot 9 was observed to have debris reaching 1.8 meters accumulated around its base.

Damage to Crowns: The EPA auditors observed two instances of damage to the crowns of retained trees within the assessed area. One H tree in plot 1 (see table 1) was missing a significant part of its crown as a result of the logging operation (see photos 5 & 6 below). The EPA considers this a non-compliance against this condition. Auditors also observed a retained R tree (plot 3 in table 3) that was missing part of its crown. However this damage was only minor (see photo 3) and therefore not considered a non-compliance against this condition. **Ground Disturbance:** EPA auditor observed no instances of ground disturbance around any retained trees.

Risk coding: This is a moderate risk (orange) as environmental harm to these trees was likely to certain and the consequence moderate as the scale of debris and damage is moderate to high and the rate of non compliance is also moderate being over 1/3 of the trees assessed did not comply.



Photo 3: Marked R tree in plot 7. This tree is missing a small part of its crown, but not considered to be a non-compliance under this condition.



Photo 4: Marked H tree in plot 2. This tree had debris accumulated around it greater than 1m in height within 5m of its base.



Photo 5: Marked H tree in plot 1. This tree is missing part of its crown as shown in photo 2, due to forestry operations.



Photo 6: Same tree as in photo 3 marked H tree in plot 1, missing part of its crown due to forestry operations.

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	0/3 (3 separate locations assessed totally 2ha)		
Comment and Evidence				
EPA found that FCNSW complied with this condition in the area assessed. EPA auditors observed 16 hollow bearing trees and 8 recruitment trees that had been marked for retention at the three separate area assessed. Each area had one or more trees marked and selected for retention. See photo 4 above.				

CONDITIONS RELATED TO RAINFOREST AND RAINFOREST EXCLUSION ZONES – PROTECTION

Condition No. and Detail	Compliant? Yes/No/Not determined/Not applicable	Number of non- compliance and (sample size)	Action required by licensee
5.4 - Rainforest a) Specified forestry activities, except road and snig track construction in accordance with condition 5.4 (e), and road re-opening, are prohibited within all areas of Rainforest and exclusion zones around warm temperate Rainforest.	No Code: Orange	1/2	
Comment and Evidence			
EPA found that this condition was not complied with in the assessed area.			

EPA officers audited 2 sections of rainforest exclusion zones. Location 1 was north of log dump nine (9). A total length of approximately 240m of rainforest exclusion zone was assessed. Location 2 was north west of log dump 2.

Location 1

EPA auditors assessed one area north of log dump nine and found where specified forestry activities occurred within the mapped rainforest. Officers observed two instances of trees (photo's 7 & 8) that had fallen into the mapped Rainforest area. These trees appeared to be pushed/knocked over into the rainforest exclusion zone as part of the construction of an adjacent snig track. Both of these trees were within a 40m section of the rainforest exclusion zone. See Figure below.

Two trees had fallen into the rainforest exclusion

- WP rf4 taken at the end of the tree laying approximately 10m into the rainforest exclusion zone.
- WP rf7 taken at edge of exclusion zone where a blue gum had fallen approximately 20m into the rainforest exclusion zone

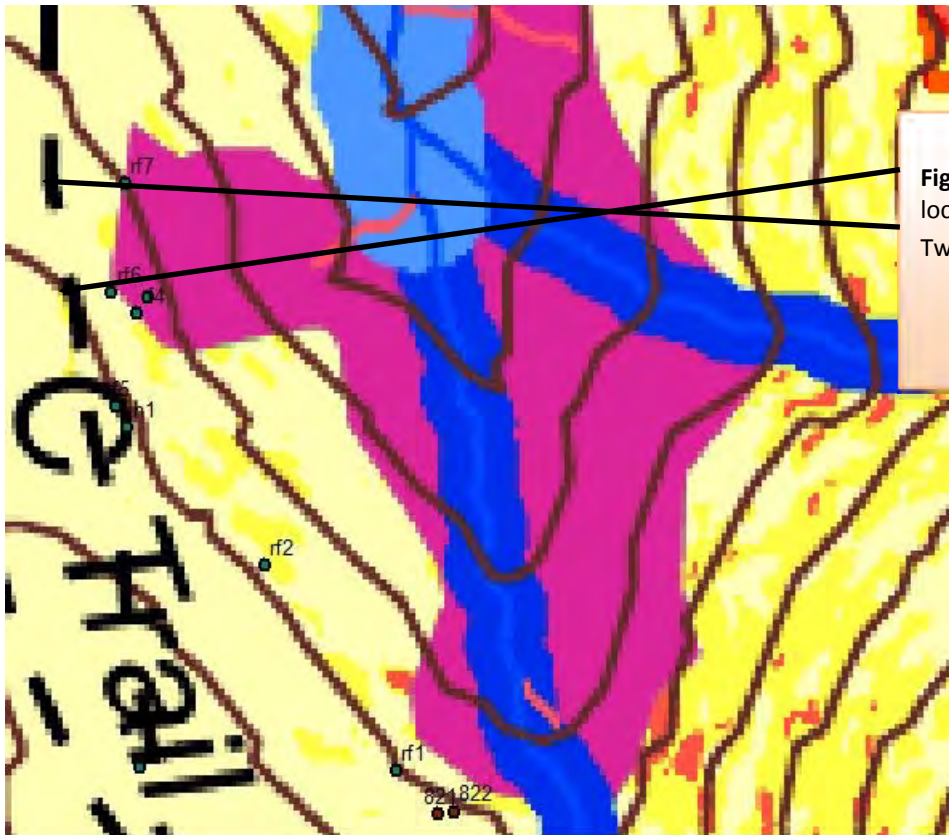


Figure 5 Waypoints showing the length of the the RF boundary assesement and locations of trees lying in the exclusion zone at **location 1**.

Two trees had fallen into the Rainforest Exclusion Zone .

- One tree at WP rf 4 laying approximatley **10m** into the exlusion zone
- One tree at WP rf7 laying approximatley **20m** into the exlusion zone.



Photo 7



Photo 8

Photos above show the tree fallen into the exclusion zone from the edge (photo 5) of the exclusion zone at waypoint RF5 and from the end of the fallen tree waypoint rf4 looking back to the edge of the exclusion zone (photo 6)

Location 2

EPA auditors assessed approximately 60m (WP 837-839) of rainforest exclusion zone north west of log dump two and found that no specified forestry activities had occurred within the mapped rainforest.

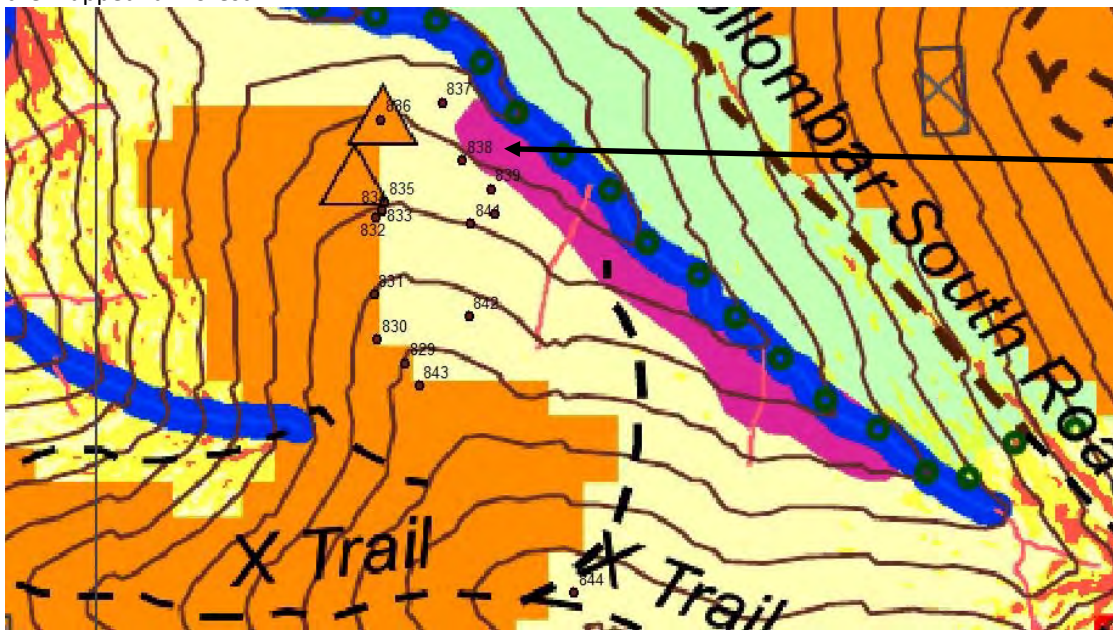


Figure 6

At location 2, EPA Auditors assess approximately 60m of rainforest exclusion zone, North east of logdump 2. No Specified forestry activities had occurred within the assess

CONDITIONS RELATED TO RAINFOREST AND RAINFOREST EXCLUSION ZONES – MARKING

Condition No. and Detail	Compliant? Yes/No/Not determined/Not applicable	Number of non- compliance and (sample size)	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.	No Code: Orange	2/2	
Comment and Evidence			
EPA found that this condition was not complied with in the assessed area.			
EPA officers audited two sections of rainforest exclusion zone, approximately 300 in total was assessed.			

At location one a 240m section of rainforest exclusion zone was assessed. Rainforest exclusion zone boundaries field marking was not observed along the audited section of rainforest exclusion zone. Incursions of fallen trees occurred at Location 1 with no field boundary marking in the vicinity.

At location two a 60m section rainforest exclusion zone was assessed.

Further Rainforest exclusion zone boundaries field marking was observed at one point along the audited section of rainforest exclusion zone.

WHY IS COMPLIANCE WITH THIS TSL CONDITION IMPORTANT?

It is important to mark exclusion zones boundaries to ensure that these forest features are protected during the harvesting operations. The EPA considers that the marking up of exclusion zones in the field is important for ensuring the integrity and protection of the feature. The marking provides clear obvious boundaries for the operator to ensure the logging operation stays outside of the exclusion zone. It also demonstrates to the EPA and to the public that the feature had been appropriately identified and steps had been taken to ensure they are protected.

Risk Coding: Orange These non compliances have a moderate environmental risk as boundary marking is important to communicating to operators of where their boundaries are, as well as at location one there was no boundary marking and actual incursion in to areas at location 1. At this location a snig track was placed on the boundary of a mapped rainforest. Placing a snig track on the boundary of a rainforest increases the likelihood of incursions as there is continuous clear on that snig track and continuous clearly on that boundary.

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	0/2 (79m length of boundary assessed)		
Comment and Evidence				
EPA found that FCNSW complied with this condition in the area assessed.				
EPA auditor auditors inspected a riparian exclusion zone on a second order stream, north of log dump nine (9) (see figure 7 below). Approximately 19 metres of boundary was assessed. Specified forestry activities were observed within the exclusion zone. Auditors also observed a tree (WP S3) that had been snapped off and knocked into the riparian protection zone see photo 9 below. This tree was lying approximately 10meters into the mapped exclusion zone.				
EPA Auditors assessed a fifty (50) meter section of a third order stream north of log dump nine (9). No specified forestry activities were recorded along the 50m section assessed.				

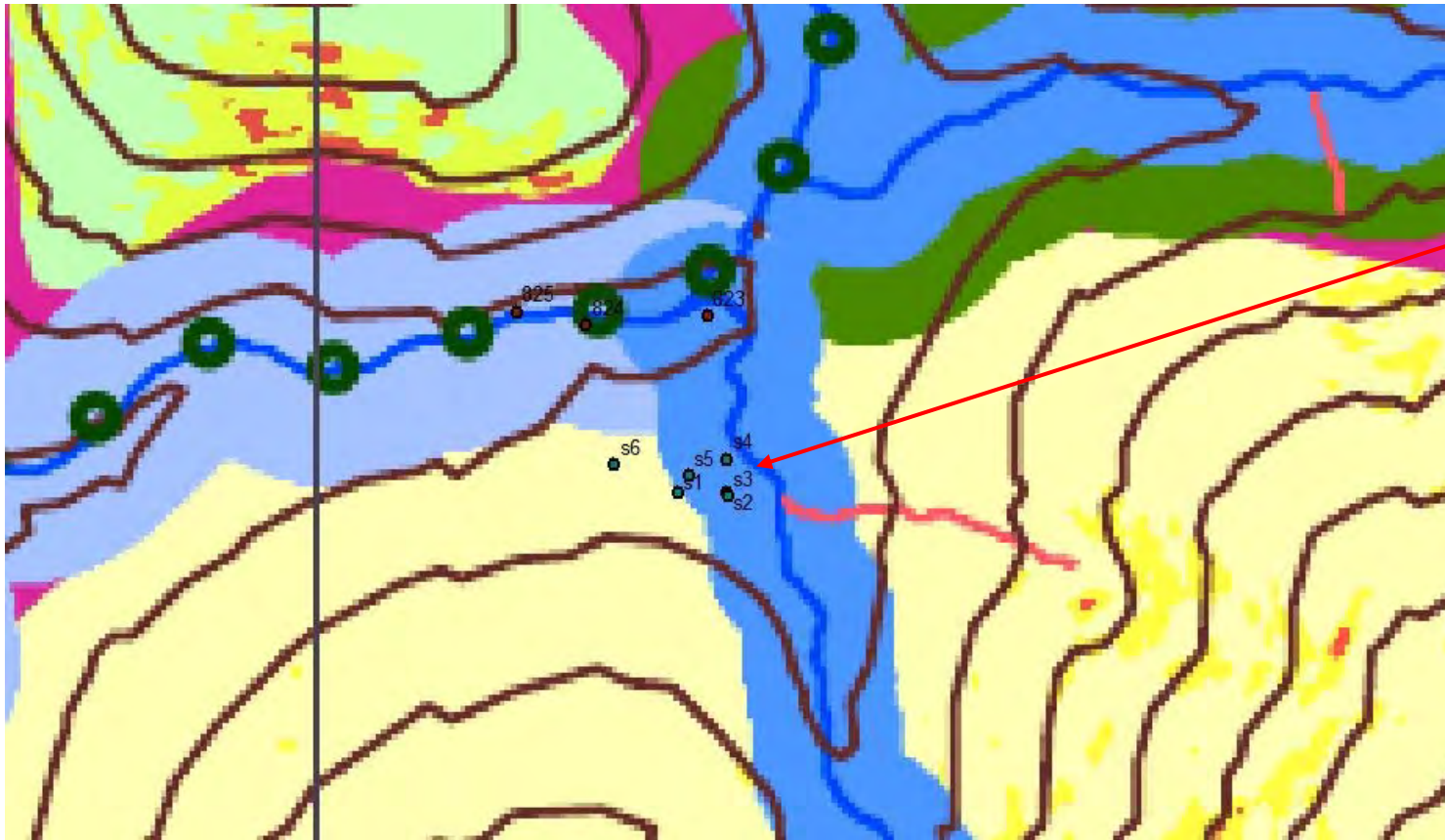


Figure 7: Second order exclusion zone protection. Auditors observed one instance of specified forestry activities within the exclusion zone. One tree had been knocked over into the exclusion at WP S3 zone.

Auditors assessed a 50m section of a third order stream. No forestry activities were observed within this assessed area.



Photo 9: Showing a tree (WP S3) that had been snapped off and knocked into the riparian protection zone. This tree was lying approximately 10 meters into the mapped second order 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				
<p>EPA found that FCNSW complied with this condition in the area assessed..</p> <p>EPA auditors inspected an area north west of log dump two (2). An approximate 180 metre boundary was assessed. No specified forestry activities were observed within the mapped high conservation old growth area see (figure 8 below). EPA auditors noted that the exclusion zone was not marked in the field. Waypoints (829, 831, 832 and 836 show the extent of the OG boundary assessed, with no incursions recorded along the section assessed. Auditors noted that harvesting operations came up to the OG boundary, particularly at waypoints 832 & 834 where logs were removed and directional felling techniques were used to ensure the OG boundary wasn't incurred within.</p>				

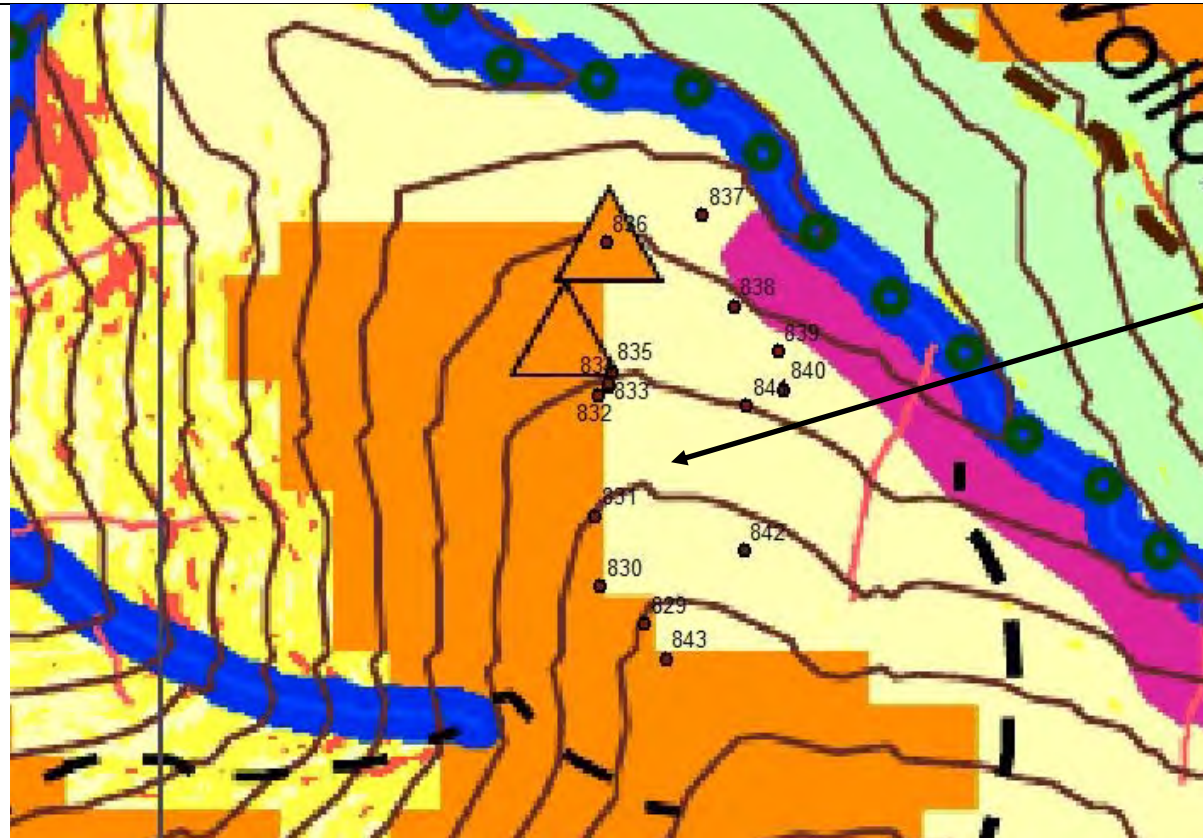


Figure 8: HCVOG: Waypoints showing mark-up location of HCVOG northwest of log dump two. EPA officers found no incursions into the HCVOG.

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.	No Code: Yellow	1/1 (180m length of boundary assessed)		

Comment and Evidence

EPA found that FCNSW didn't comply with this condition in the area assessed.

EPA auditors inspected an area north west of log dump two (2). An approximate 180 metre boundary was assessed. No specified forestry activities were observed within the mapped high conservation old growth area see (figure 8 above). EPA auditors found no evidence of marking up of the old growth exclusion zone in the field. Waypoints (829, 831, 832 and 836 show the extent of the OG boundary assessed. Auditors observed that harvesting activities had occurred right up to the old growth boundary.

Risk Coding: Yellow This is a low risk code as no incursions resulted from this non compliance but the risk of incursions is present as observed in unmarked rainforest boundary in this state forest and a risk to future similar operations.

CONDITIONS RELATED TO SPECIES SPECIFIC CONDITIONS (Phylorhiza spp) SPHAGNUM FROG – 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
6.4 Phylorhiza spp. Where there is a record of Phylorhiza spp. within a compartment, or within 50 metres outside the boundary of the compartment, the following must apply: a) An exclusion zone of at least 50 metres radius must be implemented around the record.	Yes	0/1 (50m length of boundary assessed)		

Comment and Evidence

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

EPA auditors inspected an area north of log dump nine (9). An approximate 40 metre boundary was assessed. No specified forestry activities were observed within the mapped exclusion zone see (figure 9 below). EPA auditors observed marking up of the 50m exclusion zone in the field. Waypoints Sphag 1-Sphag3, were recorded at locations where EPA Auditors observed field mark-up (three bars and two dots) of the exclusion zone, see photo 8 below.

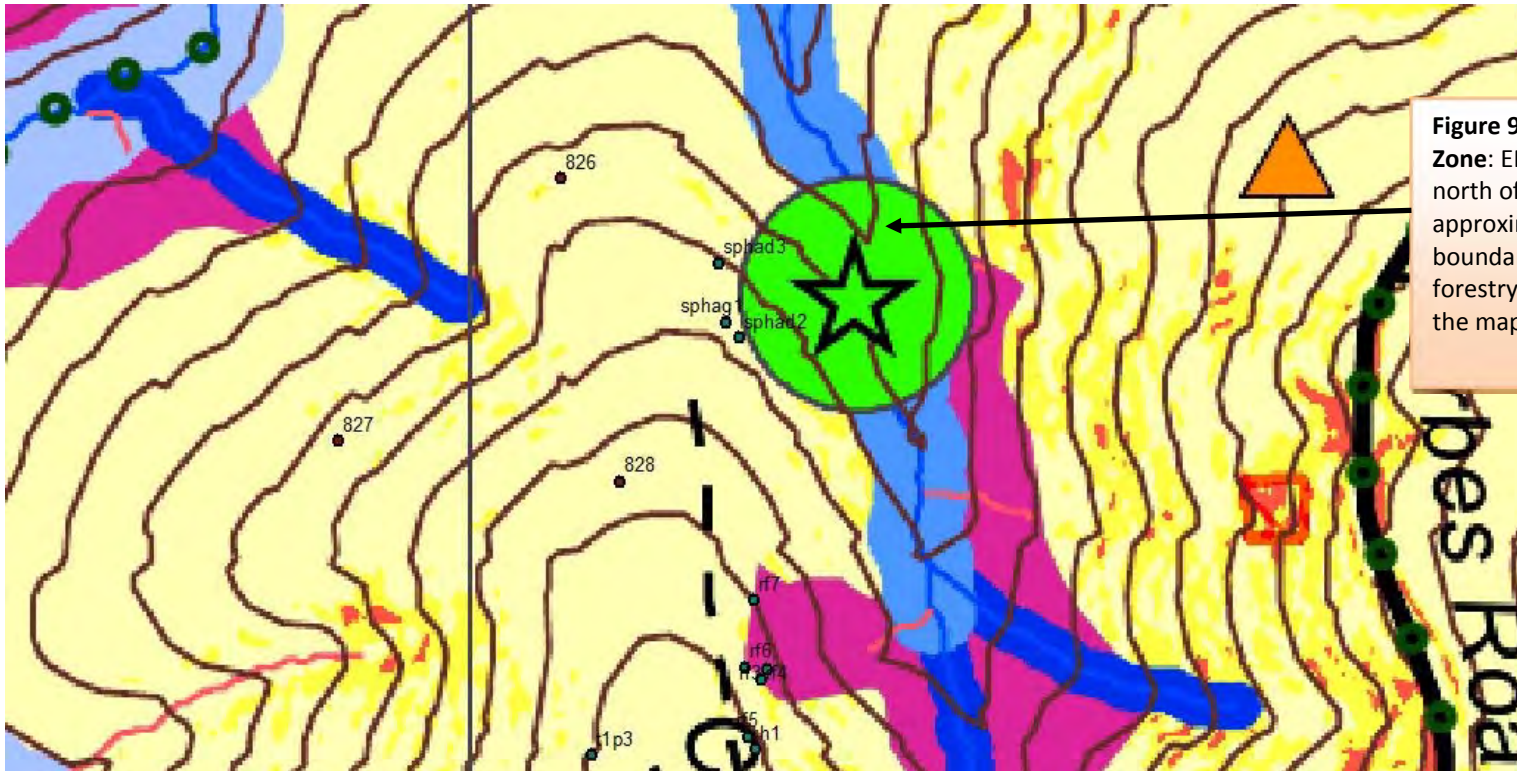


Figure 9: Sphagnum Frog Exclusion Zone: EPA auditors inspected an area north of log dump nine (9). An approximate 40 metre exclusion boundary was assessed. No specified forestry activities were observed within the mapped exclusion zone.

Photo 10: Three bar mark-up with 2 dots observed on the boundary of the Sphagnum Frog Exclusion Zone: No specified forestry activities were observed within the mapped exclusion zone and marking I the field was consistent with the mapped exclusion zone.



ACTION PLAN – Mt BOSS STATE FOREST, COMPARTMENT 184, 185, 186 & 193.

Condition No.	Number of non-compliances (and sample)	Action Details	Non-compliance Code*	Target/Action Date
5.6c (i and ii).	5/10	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.		Immediately
5.6h (i) 5.6h (i)	2/26 7/26	Hollow Bearing and Recruitment trees – Protection Damage to trees (2) and debris (7). An action plan must be developed and implemented to ensure that damage to trees during the logging operation is minimised and debris is not piled around the base of retained trees.		By End of July 2016
5.4 (a)	1/2	Exclusion zone. Rainforest protection. An action plan must be developed and implemented to ensure that exclusion zones are protected and the specified forestry activities don't occur within the exclusion zone.		Immediately
5.1F	2/2	Exclusion zone. Rainforest mark-up. An action plan must be developed and implemented		Immediately
5.1F	1/1	Exclusion zone. Old growth mark-up. 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 End of July 2016
Total	18			

Attachment 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.

Level of Environmental Impact	Likelihood of Environmental Harm Occurring			
		Certain	Likely	Less Likely
	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.

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Attachment 3: EPA Audit Locations

ident	Easting	Northing
829	440180	6541759
830	440164	6541773
831	440162	6541799
832	440163	6541844
833	440167	6541847
834	440167	6541848
835	440168	6541853
836	440166	6541901
837	440202	6541911
838	440213	6541877
839	440230	6541860
840	440232	6541846
841	440218	6541840
842	440217	6541786
843	440188	6541746
844	440279	6541625

845	440430	6541590
846	441692	6541961
847	441613	6541957
821	441205	6542287
822	441210	6542288
823	441107	6542791
824	441074	6542789
825	441055	6542792
826	441040	6542635
827	440944	6542522
828	441065	6542504
rf1	6542299	441194
rf2	6542353	441160
h1	6542389	441123
rf3	6542423	441129
rf4	6542419	441126
rf5	6542395	441120

rf6	6542424	441119
rf7	6542453	441123
sphag1	6542573	441111
sphad2	6542566	441117
sphad3	6542598	441108
s1	6542744	441099
s2	6542744	441112
s3	6542742	441112
s4	6542752	441112
s5	6542748	441101
s6	6542751	441081
t1p3	6542386	441053
t1p5	6542299	441127

ATTACHMENT 4: AUDITEE SUBMISSIONS & EPA RESPONSE

Condition / Audit finding reference / page No.	EPA draft finding / risk categorisation	Location – description, GPS	FCNSW evidence submission	EPA final finding / risk categorisation	EPA response to FCNSW submission
5.6 c) (i, ii,) (TSL)	Not Compliant / Code Yellow	Various	<p>The EPA’s report records a non-compliance on place 3 of the report against condition 5.6 b iii. This appears to be inconsistent with the findings, and is thought to be an error.</p> <p>With regard to the alleged non-compliance with condition 5.6 c, it is noted that EPA found compliance with the selection of recruitment trees in all attributes, with the exclusion of the trees belonging to a cohort of trees with the largest DBHOB. When marking trees for recruitment tree retention, FCNSW must consider retaining trees with as many of the characteristics as possible. Selecting trees from a cohort with the largest DBHOB is only one of these characteristics, and cannot be treated in isolation to other characteristics.</p> <p>The data collected by EPA is a relatively small sample size, does not adequately consider the spacial arrangement of tree selection, and is limited by assessing stumps rather than standing trees. FCNSW’s view is that assessing the adequacy of stumps as potential recruitment trees, cannot take into account the range of selection characteristics. As such the comparison of stump diameter to retained tree diameter in isolation is not an</p>	<p>The EPA found that 5.6 b iii was compliant and fixed the textual error in the table to reflect this.</p> <p>The TSL condition refers to a number of elements that a tree must have to be considered a recruitment Tree. The EPA considers that the key and dominant element is size, i.e. “belonging to the cohort of trees with the largest DBHOB”. This is not considered in isolation. If a tree is not a tree that belongs to the cohort trees with the largest DBHOB then it doesn’t comply with the selection criteria. This element is important. We consider it as a key element as this element represents the best chance of getting habitat continuity over space and time once existing hollow bearing tree resources cease. Size is measureable and easily assessed. It is not used in isolation. EPA uses it as a first screen to determine whether selection criteria is compliant or not. If a tree is selected and belongs to the cohort of trees with the largest DBHOB, then other elements of the condition are assessed in conjunction with size.</p> <p>EPA will continue to use size as a key element and not complying with the size element of</p>	Not Compliant / Code Yellow

			<p>accurate measure of compliance with the condition.</p> <p>The data presented in Table 1, 2, and 3 and associated graphs suggests that the trees marked and retained as recruitment trees are large mature dominant and codominant trees that fulfil the characteristics of the intention of condition 5.6. In FCNSW view, the marked retained trees meet the requirement of recruitment trees.</p> <p>Like EPA, FCNSW consider the selection and retention of retained trees as a very important component of maintaining essential habitat within the net harvest area. As such, a training package is being prepared to be delivered to all the Harvesting Coordinators and Forest Technicians across the north Coast. The aim of this training is to ensure that FCNSW has a consistent approach to the selection of retained trees to ensure compliance with the TSL. The training will focus on appropriate habitat and recruitments tree selection, and undertaking pre harvest mark. The training will be conducted over a two week period in late April and early May.</p>	<p>the condition will represent a non compliance with the TSL condition.</p> <p>EPA retained its draft finding</p>	
5.6 h i, ii	Not Compliant / Code yellow		<p>5.6 h i)</p> <p>FCNSW believes the EPA have not collected sufficient data to make a definitive decision on compliance with TSCL condition 5.6h)i.</p> <p>FCNSW considers this sampling intensity inadequate given the large number of</p>	<p>EPA assesses individual trees against this criteria. EPA considers rates of any non compliance when considering the risk ranking. EPA does not consider rate of non compliance to determine compliance. For protection that involves logging debris, the EPA assesses the element “to the greatest extent practicable” on an individual tree basis and whether it was</p>	Not Compliant / Code Yellow

			<p>retained trees and variation in factors contributing to minimising damage to retained trees to the greatest extent practicable.</p> <p>FCNSW audits of harvesting operations in this area were conducted in accord with FCNSW' Forest Management System and Auditing & Compliance policies. FCNSW audit records for this area indicate that damage to retained trees has been kept within an acceptable standard throughout this operation so far.</p> <p>As such, FCNSW considers that damage to retained trees has been minimised to the greatest extent practicable.</p> <p>5.6 h ii)</p> <p>FCNSW believes the EPA have not collected sufficient data to make a definitive decision on compliance with TSCL condition 5.6h)ii</p> <p>FCNSW considers this sampling intensity inadequate given the large number of retained trees and variation in factors contributing to minimising debris accumulating within 5m from retained trees to the greatest extent practicable.</p> <p>FCNSW audits of harvesting operations in this area were conducted in accord with FCNSW' Forest Management System and Auditing & Compliance policies. FCNSW audit records for this area indicate that accumulation of debris within 5m from retained trees has</p>	<p>practicable to minimise debris by removing it or flattening it at that tree. EPA acknowledges FCNSW action but also considers focussing effort on supervising harvest contractors as an important preventative measure.</p> <p>EPA retained its draft audit finding.</p>	
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			<p>been kept within an acceptable standard throughout this operation so far.</p> <p>As such, FCNSW considers that debris accumulation in association with retained stems has been minimised to the greatest extent practicable.</p>		
5.4 (a)	Not Compliant / Code yellow		<p>From the photo evidence supplied it looks like the debris into the rainforest has resulted from trees being felled near the rainforest boundary and the debris pictured has been knocked into the rainforest accidentally. Accidental incursions are noted in routine FCNSW daily diary records, and repeated occurrences are followed up with the contractor.</p>	<p>EPA retained its draft audit finding. As outlined in the draft report the EPA believes these trees were knocked over during the construction of a snig track directly adjacent to the rainforest boundary. The EPA considers this not best practise with a high level of risk for incursions into the exclusion zone. With consideration to operational constraints Forest Corporation needs to ensure that construction of snig tracks near exclusion zones are constructed without impacting on the exclusion zone.</p>	Not Compliant / Code Yellow
5.1 f	Not Compliant / Code yellow		<p>FCNSW have conducted a root-cause analysis on boundary management and identified that boundary identification in the field using GPS is an accurate approach to delivering compliance. FCNSW is happy to formally discuss the results of the root cause analysis and procedure development regarding boundary identification with the EPA to avoid administrative non-compliance findings in future audits.</p> <p>FCNSW has assessed this alleged non-conformance as having no risk and requests this is reflected in the EPA's final audit report.</p>	<p>EPA retained its draft audit finding.</p> <p>This non compliance is not administrative and really should not be taken as administrative. This TSL condition is designed to operate alongside other TSL conditions to minimise the risk of logging in protected areas. Not complying with it increases the risk, so it a risk reduction condition, not administrative. The TSL clearly requires exclusion zone boundaries to be marked in the field. This is marking the boundary in the field. There are a number of exclusion zone boundaries that are marked in the field (paint on trees) and a number of exclusion zone boundaries that are frequently not marked in the field (no paint on trees). All</p>	Not Compliant / Code Yellow

			FCNSW acknowledges the boundary was not marked in the field with paint, however, the boundary was clearly visible to the harvesting machine operator in the field on an Apple iPad screen running FCNSW's 'FC Map App' software. The application of this procedure did not result in a breach of the boundary and is considered best practice.	exclusion zone boundaries should be treated as equally important to protect. Field marking and record keeping are needed for the benefit of harvest contractors so they know their boundaries and what to protect. Having a visual on the ground (in the field) combined with proper record keeping is legally required by the TSL. In these instances, EPA auditors found no field marking on boundaries and incursions into mapped rainforest exclusion zones.	

Note : Action Plan Summary notes Condition 5.1 F in relation to Mark Up of Retained Trees – sufficient numbers of R trees to be marked for retention – FCNSW notes no mention of this in body of audit report.

EPA Note. Action Plan summary table has been update to remove the reference to 5.1F Mark Up of Retained Trees.