

AUDIT REPORT - VICKERY STATE FOREST, COMPARTMENTS 161-166

Auditee:	FORESTRY CORPORATION OF NSW (FCNSW)
Audited State Forest & Cpts:	VICKERY STATE FOREST, COMPARTMENTS 161, 162, 163, 164, 165 AND 166
Region:	Brigalow – Nandewar Integrated Forestry Operations Approval (IFOA)
Date/Audit timing:	Field audit inspection 16 September 2014. Audit debrief with FCNSW staff held on 18 September 2014.
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"> • White cypress trees retention and selection • Threatened species exclusion zones • Compartment mark up • Koala protections <p>Physical scope: This audit was limited to the physical boundaries of compartments 161, 162, 163, 164, 165, 166.</p> <p>Temporal scope: The audit period adopted for assessment of compliance with operational conditions was on the days of the audit inspections (16 September 2014).</p>
Audit criteria:	<p>198 (1) (2) White cypress trees retention and selection</p> <p>107 Drainage Feature Protection</p> <p>184 Compartment mark-up survey</p> <p>186 Search for koala and koala high use areas</p>
Summary of Operations	<p>Silvicultural practice: Commercial thinning (vertical cut silviculture) and release harvest.</p> <p>Stand age: Mature white cypress stands within the operational area were established during regeneration events in the 1890's and 1950's. These stands have been thinned on several occasions, with the last non-commercial thinning occurring in 1973, and the last commercial harvesting event occurring in 2004.</p>

1. Audit Findings – Overview

The EPA identified 5 non-compliances and 4 compliances with the IFOA.

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 2014/15	Audit Scope	Non-complaint	Compliant	Not Determined	Not Applicable
Forest Structure	Retention of white cypress trees	0	0	0	1
	Selection of white cypress trees	2	1	0	0
Koalas	Search for koalas and high-use areas	0	0	1	0
	Compartment mark-up survey	0	0	1	0
Exclusion Zones	Exclusion zone mark-up and protection	1*	3	0	0
Threatened Ecological Communities	Further observation	1	0	0	0
N/A	Further observation	1	0	0	0
TOTAL		5	4	2	1

* Note: subject to a separate investigation process

2. Audit Recommendations

Condition No.	Number of non-compliances	Action Details	Non-compliance Code	Target/Action Date
198(2)	2	White Cypress Selection – Forest structure An action plan must be developed and implemented to ensure white cypress trees to be retained for the purposes of condition 198 are selected from the cohort of healthy, mature trees with the next largest diameters at breast height over bark	Orange	Immediately
107	1	Stream protection – Mark-up & protection The EPA is investigating this matter through a separate process to this audit.	Red	N/A
327	1	Snig track drainage* An action plan must be developed and implemented to ensure the appropriate design and construction of cross banks.	Yellow	End of March 2015
260(4)	1	Inland Box Gum Woodland EEC identification* An action plan must be developed and implemented to ensure the all EEC identified are recorded on the harvest plan and operation plan.	Orange	Immediately
Total	5			

* Further observation of audit

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 and FCNSW submitted actions to mitigate the non-compliances (Attachment 3). 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

Attachment 3) FCNSW Submission on draft audit findings

ATTACHMENT 1: AUDIT FINDINGS TABLE – VICKERY STATE FOREST, COMPARTMENTS 161, 162, 163, 164, 165, 166.

Assessment of Compliance with the <i>Brigalow-Nandewar Region Integrated Forestry Operations Approval</i>				
Condition No.	Compliant? (Yes/No/Not-determined)	Comment and Evidence	Number of non-compliance (sample)	Action required by licensee
CONDITIONS RELATED TO RETENTION OF LARGE WHITE CYPRESS TREES – FOREST STRUCTURE				
198. Retention of large white cypress trees <i>(1) Forests NSW must ensure that, at the completion of any logging operation in which white cypress trees are felled, at least six large white cypress trees remain, within the net mapped operation area, in each hectare of land surrounding a stump of any white cypress tree that is felled in the operation concerned.</i>	Not Applicable	<p>The EPA found that this condition was not applicable in any of the areas assessed.</p> <p>EPA officers assessed three one hectare plots (figure 1 Appendix) throughout the net harvest area. Officers measured all retained White Cypress Pine with a DBHOB (cm) greater than 10 cm, and all White Cypress pine stumps within each one hectare plot.</p> <p>There were no trees recorded (removed or retained) that had a DBHOB of greater than 550mm. Under subclause 198 (2) if possible retained trees of greater than 550 mm are to be selected for retention. As no trees greater than 550 mm recorded (removed or retained) this condition is not applicable. Therefore all retained trees were audited against subclause 2 below.</p>	0 (3)	No action
198. Retention of large white cypress trees <i>(2) Only living trees may be selected for the purpose of subclause (1). If possible, the trees selected for retention are each to have a dbhob of more than 550 mm. If there are not enough trees having such a dbhob, surrounding the tree that is or is proposed to be felled and within the net mapped operation area, then</i>	No Code: Orange	<p>The EPA found FCNSW not compliant with this condition in two of three of the areas assessed.</p> <p>EPA officers established three, randomly located (figure 1 in Appendix), one hectare plots to assess compliance with this criterion. The total area of assessment was three hectares. Within each plot the nearest stump to plot centre was located and a one hectare circular plot was established. All standing White Cypress Pine trees within the plot were assessed and all White Cypress Pine stumps were assessed.</p> <p>EPA officers recorded stump diameter and height at which the stump was removed. The DBHOB (cm) of the felled trees was estimated in accordance with Clause 232 of the Brigalow-Nandewar Region IFOA. EPA officers also assessed trees retained, including trees that were marked and unmarked. DBHOB (cm) data was recorded for comparison of retained versus removed logs. The mean DBHOB and one and two standard deviations about the mean were calculated. Trees</p>	2(3)	An action plan must be developed and implemented to ensure white cypress trees to be retained for the purposes of condition 198 are selected from the cohort of healthy, mature trees with the next largest

<p>trees are to be selected from the cohort of healthy, mature trees with the next largest diameters at breast height over bark to make up the shortfall.</p>		<p>with a DBHOB greater than one standard deviation from the mean, but less than two standard deviations, and those greater than two standard deviations about the mean were used to determine large tree cohorts. i.e. 1 stdev above mean was a larger cohort and 2stdev was the largest cohort.</p> <p>Location 1 (WP954) (see figure 1 in appendix)</p> <p>The EPA found the operation was not compliant with the condition at this location. At location one, 13 trees were retained and 38 were removed. Of the 13 retained trees 3 where in a larger size class being 1 stdev (27.0cm) outside the mean (21.5) at 28.5cm, 28cm & 27cm respectively. Of the removed trees 1 tree (42.8 dbhob) was two standard deviations outside the mean while a further two trees were one standard deviation outside the mean at 32.2 and 28.3. The EPA considers this to be a non-compliance as the largest tree recorded in the plot was removed and only three trees within the next cohort were retained of the five available see figure 1 below. Within this plot all of the removed trees and retained tree of the two largest size classes should have been retained to be consistent with the IFOA condition.</p> <div data-bbox="728 730 1713 1246"> </div> <p>Figure 1: Showing retained vs removed trees within a 1 ha plot around a stump at location 1. Green circle showing larger cohort of trees being one standard deviation outside the mean DBHOB of the plot. Note largest tree had been removed and only three trees within the next cohort had</p>	<p>diameters at breast height over bark</p>
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been retained of the possible five.



Photo 1 Showing EPA officer standing next to retained tree of 17.5 mm DBHOB.



Photo 2 Showing removed white Cypress Stump of 28.3 mm DBHOB. This tree should have been retained as it was one of the largest 6 trees within the plot.

Location 2 (WP957) (see figure 1 in appendix)

The EPA found the operation was not compliant with the condition at this location.

At location two, 20 trees were retained and 17 were removed. Of the 20 retained trees one tree was in a largest size class being 2 stdev (33.3cm) outside the mean (22.4cm) at 34cm (see figure 2). One tree was in a larger size class being 1 stdev (27.8) outside the mean at 28cm. Of the removed trees one tree (37.6 dbhob) was two standard deviations outside the mean, while a further five trees were one standard deviation outside the mean at 37.6, 30.6, 27.8, 27.8 & 27.8.

The EPA considers this to be a non-compliance as two of the largest 4 tree were removed. All four trees from the largest two size classes i.e. all trees above 27.8 (1 standard deviation above mean) should have been retained.

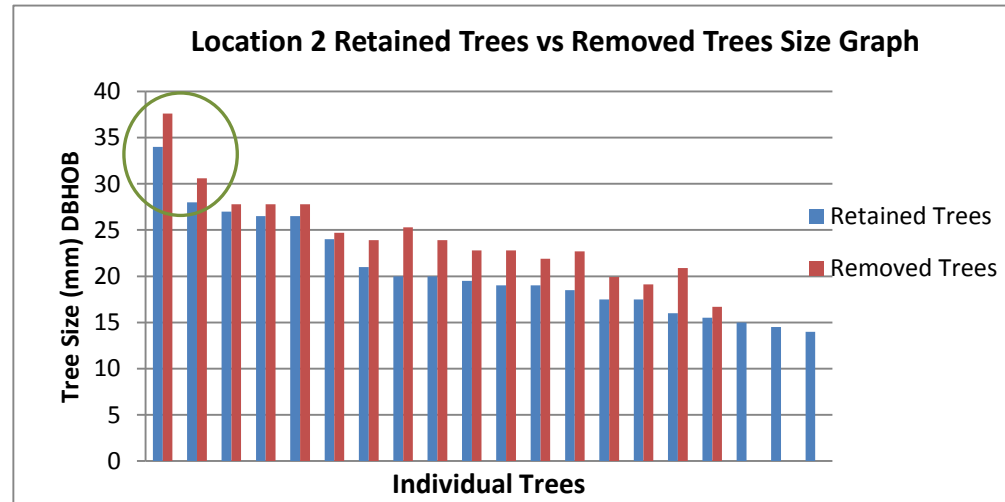


Figure 2: Showing retained vs removed tree within a 1 ha plot around a stump at location 2. Note 2 of the largest tree removed. All of the four largest trees (in green circle) should have been retained.

Location 3 (WP958) (see figure 1 in appendix)

The EPA found the operation was compliant with the condition at this location.

At location three, 26 trees were retained and 18 were removed (figure 3). Of the 20 retained trees one tree was in a larger size class being 2 stdev (29.0cm) outside the mean (22.8cm) at 30cm. Four trees were in a larger size class being 1 stdev (27.8) outside the mean at 28, 28, 27.5 & 26.

Of the removed trees three trees were one stdev outside the mean. 27.8, 27.1 & 27. The EPA found this to be compliant. Although only five of the largest 8 tree were retained as there were a number of retained trees that were close to one standard deviation of the mean. i.e. a number of tree retained were between 25.0 and 25.9cm (the stdev).

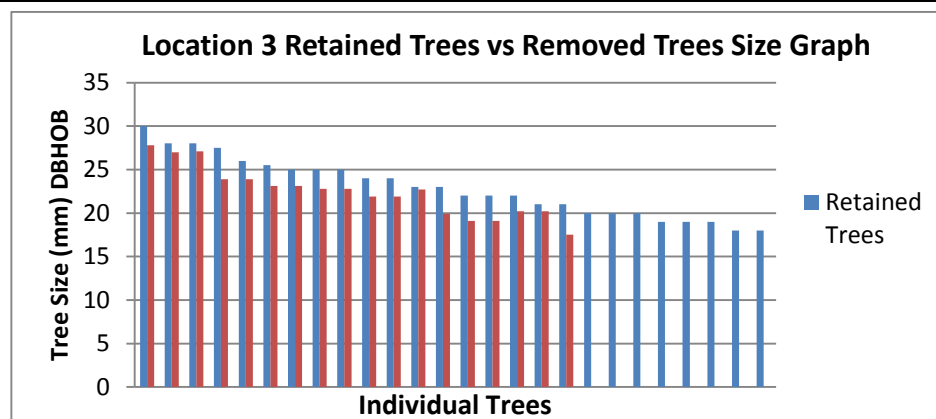


Figure 3: Showing retained vs removed tree within a 1 ha plot around a stump at location 3.

Risk code: These non-compliances are a moderate risk as the likelihood of harm to forest structure in the future by not retaining trees of the next largest cohort is likely and the scale and significance of harm is moderate. Therefore the overall risk is moderate – orange code.

WHY IS IT IMPORTANT?

The EPA considers that the retention of the *cohort of healthy, mature trees with the next largest diameter* to be important because of the crucial role larger size class trees play for the maintenance of biodiversity, health and the productive capacity of these forest ecosystems. The EPA notes that forests of mixed age classes provide the greatest structural and habitat diversity for maintenance of biodiversity values. Further, given that White cypress does not coppice and is an obligate seeder, the maintenance of a viable seed source is crucial for regeneration purposes and the long term sustainability. Crucially, healthy larger size trees are considered suitable founder trees which supply seed for regeneration. Failing to ensure that the next largest size trees are retained threaten the capacity of this forest ecosystem to function normally and long term sustainability, including regenerating successfully following a harvest events. Further, given that White cypress does not coppice and is an obligate seeder the maintenance of a viable seed source is crucial for regeneration purposes and the long term sustainability. Crucially, healthy larger size

		trees are considered suitable founder trees which supply seed for regeneration. Failing to ensure that the next largest size trees are retained impair the capacity of this forest ecosystem to function normally and long term sustainability, including regenerating successful following a harvest event.		
CONDITIONS RELATED TO FIELD MARKUP & PROTECTION OF DRAINAGE FEATURES				

107 Drainage Feature Protection. <i>Any area of land within the distance specified in column 2 of the table below ("table 1") from a drainage feature specified next to it in column 1 is a drainage feature protection zone for the purposes of this approval. The distance specified:</i> <i>(a) in the case of a drainage line, is the distance from the top of the bank of the incised channel, or where there is no defined bank, from the edge of the channel, and</i> <i>(b) in the case of a drainage depression, is the</i>	No Code: Red	<p>The EPA found the FCNSW was not compliant with the condition in one of the four locations assessed.</p> <p>EPA officers assessed four drainage features. Protection zones were marked up without any incursions in three of the four areas assessed. In location 2 a number of incursions into the protection zone were recorded. See figure 2 in appendix showing the each location and associated waypoints.</p> <p>Location 1 (WP 945-953) (see figure 2 in appendix)</p> <p>The EPA found the operation was compliant with the condition at this location.</p> <p>At location 1 EPA officers inspected a 60 metre length of a first order drainage line. Officers found that there were no incursions into the protection zone and no mark-up evident on the Western side of the drainage line. On the eastern side of the drainage line officers also found no incursion into the protection zone, however there was clear mark-up of the protection zone in the form of a three bar making using spray paint. Location 1 was compliant with this condition.</p>	1 (4)	The EPA is investigating this matter through a separate process to this audit.
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distance from the centre of the drainage depression, as measured along the ground surface.

113. Logging operations prohibited in drainage protection areas

(1) A logging operation must not be carried out in a drainage protection area.



Photo 3 Showing no incursions into 1st order drainage line at location 1.

Location 2 (WP 958-984) see figure 2 in appendix)

The EPA found the operation was **not compliant** with the condition at this location.

At location 2 EPA officers inspected a 195 m length of a second order drainage line. Officers observed no mark-up along the entire section inspected. A number of specified forestry activity incursions into the 20m protection zone including:

- Three cut stumps at WP's 961, 962 and 963 that were within 20m of the drainage feature top of bank at WP 964.
- One cut stump at WP 966 that was approximately 12 meters from the top of bank at WP 965
- One cut stump at WP 971 that was approximately 12 meters from the top of bank at WP

972


- Two cut stumps at WP's 973 and 975 that were within 17m from the top of bank at WP's 974 and 976 respectively. (See pictures 4 and 5 below showing distance between cut stump and top of bank of 2nd order drainage feature).
- Two cut stumps at WP's 978 and 981 that were within 15m from the top of bank at WP's 977 and 979 respectively.
- One cut stump at WP 984 that was 13m from top of bank at WP 982.
- Heads of fallen trees within the 20m protection zones.
- A machinery track that extended into the protection zone and stopped at WP 984 approximately 9 meters from the top of bank at WP 982.

The EPA found this to be a non-compliance as 10 trees were removed from within the 20m protection zone and a machinery track had extend 10+ meters into the protection zone. Officers also observed no evidence of mark-up of the protection zone in this area



Photo 4: taken at WP 973. Picture of Cypress stump within the 20m protection zone. Stump was 14m from top of bank shown in picture 2.

Photo 5: Photo showing EPA officer standing 14 meters away at top of bank of 2nd order drainage feature. Photo taken from location of stump shown in picture 1 (WP 973).

		<p>Location 3 (WP 988-1001) see figure 2 in appendix 1)</p> <p>The EPA found that the condition was compliant at this location. EPA officers inspected a 158 m length of a third order drainage line. Officers found that there were no incursions at this location. Three bar mark-up was evident along the length of the drainage feature inspected. The distance between the drainage feature and the three bar mark-up varied along the length. At WP 999 the three bar mark-up was approximately 20 meters from the feature (WP1000). As the feature is a third order stream, this mark-up needed to be at 30 meters from the feature. The closest stump to WP 999 was 12m from the mark-up of the feature so no incursion was recorded. However this result is more likely down to chance rather than good management. At a number of other points along this section of mark-up the EPA observed mark-up that was less than the 30m required to meet this condition. EPA officers observed that no evidence of logging operations within 30m the drainage feature.</p>		
			<p>Marked in the field & protected</p>	

		<p>Photo 6: Showing cut stump and three bar mark up in background of a third order drainage line. Stump was measured at 31 meters from top of bank, while three bar mark up was 26 meters from the top of bakstump.</p> <p>Location 4 (WP 1002-1004) see figure 2 in appendix)</p> <p>The EPA found the operation was compliant with the condition at this location.</p> <p>At location 4EPA officers inspected a 34 m length of a first order drainage line. Officers observed that there were no incursions into the protection zone at this location. Three bar mark-up was evident along the length of the drainage feature inspected.</p>		
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		<div data-bbox="898 228 1541 1086" data-label="Image"> </div> <div data-bbox="1462 327 1883 400" data-label="Caption"> <p>Three bar field marking</p> </div> <div data-bbox="685 1090 1563 1117" data-label="Caption"> <p>Photo 7: Photo showing three bar mark up of 1st order drainage line at location 4.</p> </div> <div data-bbox="685 1153 947 1181" data-label="Section-Header"> <p>WHY IS IT IMPORTANT?</p> </div> <div data-bbox="685 1187 1727 1343" data-label="Text"> <p>The protection of drainage features is important for a number of environmental reasons. These include reducing the potential for water pollution, protection of threatened species and their habitat, benefits overall biodiversity, used as riparian corridors for all species and protects the terrestrial ecosystem that supports the aquatic, benefiting native fish populations. Specifically protected drainage features in the western regions provide pathways and linkages for fauna and</p> </div>		
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		<p>flora to move across the landscape. It has high significance in regards to biodiversity such as providing habitat for a range of fauna. Marking boundaries in the field is important to inform operators on the ground of the areas they need to protect and prevent actual harm.</p> <p>Risk code: This non-compliance is high risk as the likelihood of harm is actual and the scale and significance of harm is moderate. Therefore the overall risk is high – red code.</p>		
CONDITIONS RELATED TO COMPARTMENT MARK-UP SURVEY				
<p>184 “Compartment mark-up survey”</p> <p>(2) A forestry operation to which this clause applies must not be undertaken on any part of the compartment or other tract of land unless:83 (a) that part, and any area within about 200 metres of that part (including land outside the compartment or other tract of land, if accessible), have first been surveyed in accordance with the requirements of this clause and clauses 185 to 187 (inclusive), and(b) any necessary notations (as a result of the survey) have been made on a copy of the site specific operational plan</p>	Not determined	<p>The EPA were did not determined compliance with this condition.</p> <p>The EPA did not determined compliance with this condition as there were no forestry operations on the day of the audit inspection.</p> <p>EPA noted that forestry operations occurred in the preceding working days of the audit inspection. EPA also noted that FCNSW were aware that the EPA was planning to audit the operation prior to the EPA audit inspection.</p> <p>EPA officers also noted that four FCNSW staff on site at the time of the audit inspection doing compartment mark-up during the audit inspection.</p>	Not determined	No action

in accordance with clauses 185 (3) and (4), 186 (6) and 187 (2). (3) The survey must be carried out in a part of the compartment or tract as close as practicable to the commencement of the operation concerned in the compartment or other tract				
CONDITIONS RELATED TO KOALA IDENTIFICATION AND PROTECTION OF HIGH USE AREAS				
<i>186 Search for koala and koala high use areas</i> (2) Koalas are to be looked for in white cypress trees and Eucalypt trees within the net mapped operation area. The ground under the canopy of such trees must be searched for koala scats. (3) If a koala is found in a tree, or koala scats are found under a tree, then the ground under the canopy of that tree, and under the canopies of 10 other trees in the vicinity of that first tree must be thoroughly searched for koala scats. The 10 other trees may be of any species, but each must have a dbhob of 200 mm or more. They must be the 10 trees with such a dbhob that are located closest to that first tree in which the koala is found or under which koala scats are found. (It does not matter if one or more of the 10 trees is outside the net mapped operation area.) (4) If koala scats are found under three or more of the 10 trees searched, the area containing those three or more trees (as well as the tree that triggered the thorough search) is a koala high use area.	Not determined	Condition (2) The EPA did not determine compliance with this condition. EPA officers did not gather appropriate audit evidence to determine whether koalas were looked for in trees or koala scats were searched for under the canopy of white cypress and eucalypt trees. Accordingly this compliance with this condition was not determined. Condition (3) and (4) The EPA did not determine compliance with this condition. EPA officers did not gather appropriate audit evidence to determine whether koalas were present. Accordingly this compliance with this condition was not determined.	Not determined	No action

FURTHER OBSERVATIONS TABLE – VICKERY STATE FOREST, COMPARTMENTS 161, 162, 163, 164, 165, 166

These are matters that were recorded during the field investigation but relate to conditions outside the audit scope

Relevant condition	Details of matter	Risk categorisation of further observation	Recommendation
<p>327 Diversion of water onto stable surface. <i>If a drainage structure is used to divert water from the surface of a road, bush track or extraction track (including for the purpose of complying with this Part), Forests NSW must ensure that water is or will be discharged (and will continue to be discharged) onto a stable surface that is capable of withstanding concentrated water flow and that traps sediment, and dissipates energy, effectively.</i></p>	<p>Around Location 1 shown in figure 1 of the appendix 1, EPA officers observed that a number of cross banks used along the snig tracks were poorly designed and/or constructed. In particular these cross banks often didn't have an outlet to allow water to discharge onto a stable surface. The cross banks were angled perpendicular to the snig track. This design will result in a pooling of water at the base of the cross bank. This will ultimately lead to failure of the bank and erosion to occur along the snig track.</p> <p>This further observation is considered a low environmental risk as the scale of environmental impact is low, the sensitivity of the environmental receiver is low and the likelihood of environmental harm is less likely.</p>	<p>Code: Yellow</p>	<p>An action plan must be developed and implemented to ensure the appropriate design and construction of cross banks.</p>
<p>260 (4) Forest NSW is to make a written record of the extent and location of any species protection zones for Part 1 Box Gum Woodland EEC and any environmentally significant area for Part 2 Box Gum Woodland EEC that it identifies.</p>	<p>EPA officers observed an area along the in the North East corner of compartment 16. This area was part of the net harvest area. The area was described as Inland Box Gum Woodland EEC. No logging operation was observed in this area. This area however wasn't included in the harvest plan or on the operational map as Box Gum Woodland EEC.</p> <p>This further observation is considered a low environmental risk as the scale of environmental impact is moderate, the sensitivity of the environmental receiver is moderate and the likelihood of environmental harm is less likely.</p>	<p>Code: Orange</p>	<p>An action plan must be developed and implemented to ensure the all EEC identified are recorded on the harvest plan and operation plan.</p>

<p>186 Search for koala and koala high use areas</p> <p>(2) Koalas are to be looked for in white cypress trees and Eucalypt trees within the net mapped operation area. The ground under the canopy of such trees must be searched for koala scats.</p> <p>(3) If a koala is found in a tree, or koala scats are found under a tree, then the ground under the canopy of that tree, and under the canopies of 10 other trees in the vicinity of that first tree, must be thoroughly searched for koala scats. The 10 other trees may be of any species, but each must have a dbhob of 200 mm or more. They must be the 10 trees with such a dbhob that are located closest to that first tree in which the koala is found or under which koala scats are found. (It does not matter if one or more of the 10 trees is outside the net mapped operation area.)</p> <p>(4) If koala scats are found under three or more of the 10 trees searched, the area containing those three or more trees (as well as the tree that triggered the thorough search) is a koala high use area.</p>	<p>EPA officers undertook a search for evidence of Koalas within the harvested area at locations 1, 2 & 3 shown in figure 1 of appendix 1.</p> <p>Location 1 (WP 954) At this location EPA officers search the ground at random locations under the canopy of Eucalypt trees and didn't observe koalas or evidence of Koalas (scats).</p> <p>Location 2 (WP 957) At this location EPA officers search the ground at random locations under the canopy of Eucalypt trees and didn't observe koalas or evidence of Koalas (scats).</p> <p>Location 3 (WP 958) At this location EPA officers search the ground at random locations under the canopy of Eucalypt trees and didn't observe koalas or evidence of Koalas (scats).</p>	<p>Not Applicable</p>	<p>Not Applicable</p>
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ACTION PLAN - VICKERY STATE FOREST, COMPARTMENTS 161, 162, 163, 164, 165, 166

Condition No.	Number of non-compliances	Action Details	Non-compliance Code*	Target/Action Date
198(2)	2	White Cypress Selection – Forest structure An action plan must be developed and implemented to ensure white cypress trees to be retained for the purposes of condition 198 are selected from the cohort of healthy, mature trees with the next largest diameters at breast height over bark	Orange	Immediately
107	1	Stream protection – Mark-up & protection The EPA is investigating this matter through a separate process to this audit.	Red	N/A
327	1	Snig track drainage An action plan must be developed and implemented to ensure the appropriate design and construction of cross banks.	Yellow	End of March 2015
260(4)	1	Inland Box Gum Woodland EEC identification An action plan must be developed and implemented to ensure the all EEC identified are recorded on the harvest plan and operation plan.	Orange	Immediately
Total	5			

Locations 1 to 3 subject to audit inspection

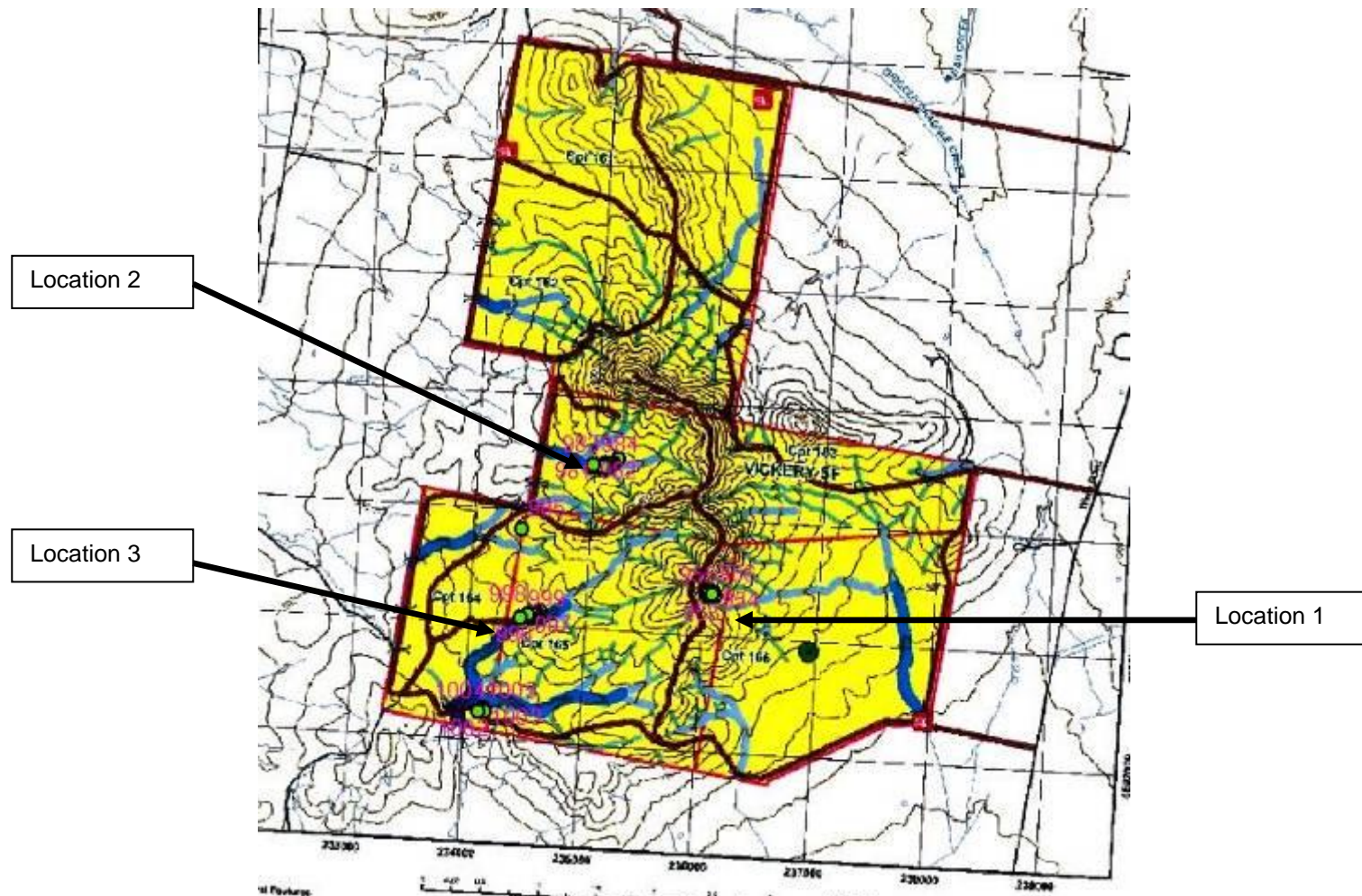


Figure 1 location of white cypress retention plots (L1, L2 & L3).

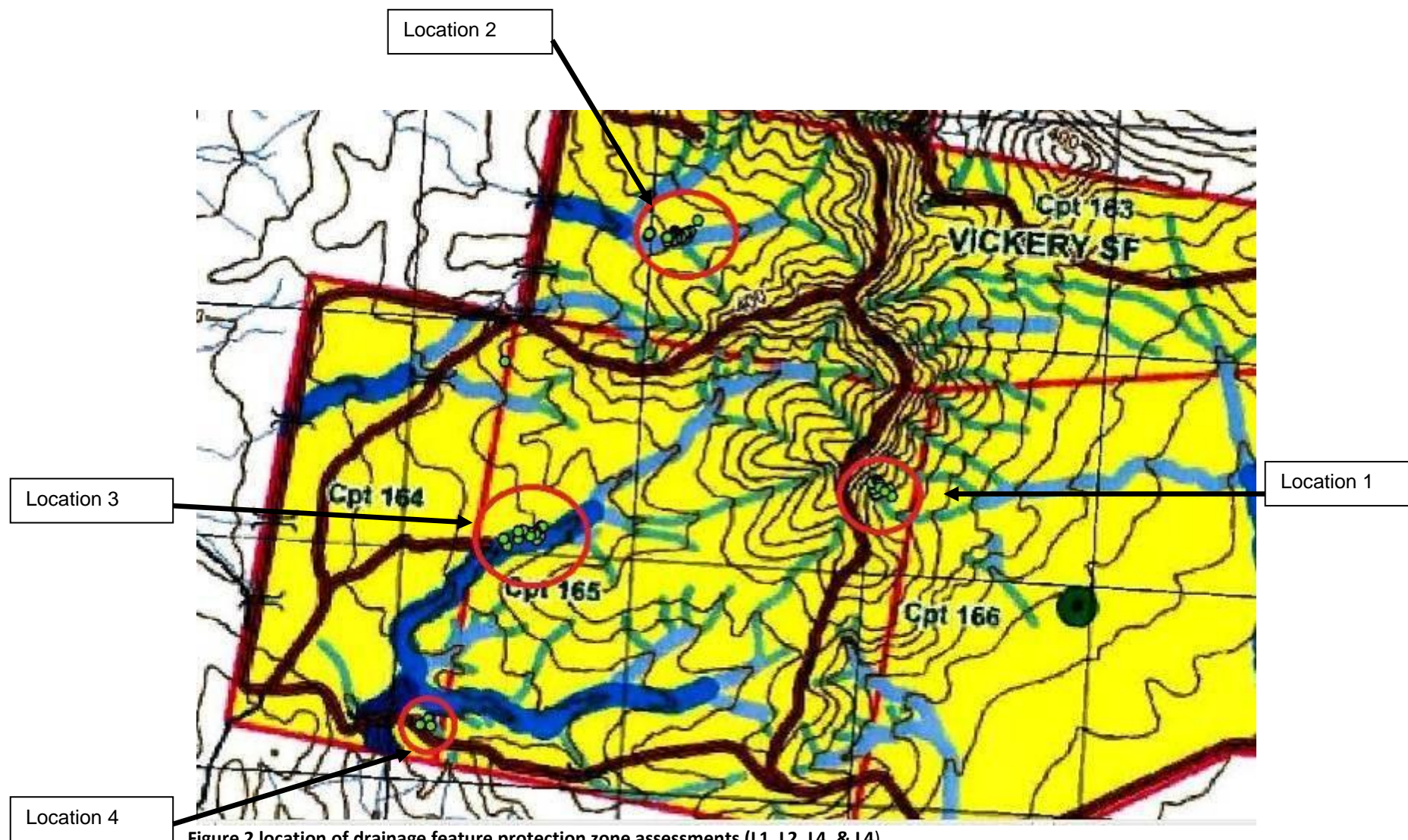


Figure 2 location of drainage feature protection zone assessments (L1, L2, L4, & L4).

ATTACHMENT 2: EPA 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			
Level of Environmental Impact		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.

ATTACHMENT 3: FCNSW SUBMISSION ON DRAFT AUDIT FINDINGS

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
<p>Vickery SF</p> <p>Clause 198</p> <p>Retention of large white cypress tree</p> <p>Clause 198 (2) requires the following:</p> <ul style="list-style-type: none"> - Only living trees may be selected. - Tree diameters to be greater than 550 mm where available. - If not enough trees with diameters greater than 550 mm then trees are to be selected from the cohort of 	<p>Non-compliant</p> <p>Code Orange</p>	<p>Location 1 (WP954)</p> <p>Location 2 (Wp957)</p> <p>Location 3 (WP958)</p>	<p>FCNSW disputes the draft findings of Non-compliance-No environmental harm</p> <p>A cohort of trees is a population of a species of a common age. A number of factors determine which trees are to be selected for retention. They do not need to be the six largest individuals as asserted by the audit report. Tree health is a major consideration.</p> <p>FC is of the view that audit report has wrongly interpreted cl 198 as:</p> <ol style="list-style-type: none"> 1. The IFOA does not define a cohort as 2 Standard Deviations above the mean DBHOB. IF FC were to apply EPA's methodology it would require FC to select and mark trees to be retained across the compartment prior to the commencement of operation, which is inconsistent with cl 194. 	<p>Non-compliant</p> <p>Code Orange</p> <p>FCNSW is non-compliant with clause 198 of the Brigalow-Nandewar IFOA.</p>	<p>The term cohort as used in clause 198 clearly refers directly to the size of the trees; it does not refer to age class.</p> <p>The EPA did not find White Cypress Pine (WCP) of 550 mm or greater diameter within the harvested compartments.</p> <p>FCNSW was therefore required by the Brigalow-Nandewar IFOA to retain trees from the cohort of healthy, mature trees with the next largest diameters at breast height.</p> <p>The EPA utilises random samples and statistics to better understand the diameter distribution of retained and removed</p>

healthy, mature trees with the <u>next largest diameters</u> at breast height.			2. Tree health is taken into account when selecting trees for removal. If a large tree showing signs of dead branches, thin crown or sap crack is removed the next largest is retained in close proximity to the stump.		<p>WCP.</p> <p>EPA found that FCNSW removed trees from the largest diameter cohort, that were required to be retained, in each of the areas assessed by EPA officers, a non-compliance with the Brigalow-Nandewar IFOA.</p> <p>Accordingly the draft audit finding and its risk code is retained.</p> <p>An action plan must be developed and implemented to ensure white cypress trees to be retained for the purposes of condition 198 are selected from the cohort of healthy, mature trees with the next largest diameters at breast height over bark.</p>
<p>Vickery SF</p> <p>Clause 327</p> <p>Diversion of water onto</p>	<p>Non-compliant</p> <p>Code Yellow</p>	Location 1	<p>FCNSW disputes the draft findings of Non-compliance-No environmental harm</p> <p>FCNSW inspected a number of cross banks in Compartment 165 and 166. All</p>	<p>Non-compliant</p> <p>Code Yellow</p>	<p>EPA found that water was not diverted onto a stable surface.</p> <p>Cross banks were not designed and /or</p>

stable surface			were in working order following recent rainfall events. There was no evidence of failure of the banks inspected. The IFOA does not require cross banks to have constructed outlets. Their design had sufficient cross fall allowing the water to pool (thereby dissipating the energy) with any overflow able to escape onto a stable surface.		<p>constructed to divert water.</p> <p>Accordingly the draft audit finding and its risk code is retained.</p> <p>Good practice requires cross banks to effectively drain the snig tracks as well as to dissipate the flow of energy from moving water.</p> <p>The integrity of fresh or unconsolidated cross banks are at risk as they are prone to collapse if they allow water to pool behind them.</p>
<p>Vickery Sf</p> <p>Clause 260 (4)</p> <p>Written record of the extent Non-compliance and location of any SPZ for Box Gum Woodland</p>	Non-compliant	Compartment 161, north east corner.	<p>FCNSW disputes the draft findings on Non-compliance-No environmental harm</p> <p>The audit report refers to Compartment 16. FCNSW assumes this is an error.</p> <p>The audit report has not provided location details of the EEC found during the audit. The audit acknowledges that</p>	<p>Non-compliant</p> <p>Code Orange</p>	<p>EEC not included in harvest plan or on HPOM.</p> <p>The EEC area was within the net harvested area and harvesting occurred up to the boundary of the adjacent road.</p> <p>The EPA considers that this</p>

EEC (<i>'the EEC'</i>)			<p>there was no evidence of a logging operation in the area claimed to be Inland Box Gum EEC. The harvest plan (page 6) indicates that although white box occurs through the operational area some area potentially qualify as box gum woodland EEC. In accordance with cl 182 (2) compartment mark-up is undertaken at least 200m ahead of the operation. Features searched for during compartment mark-up are responded to as they are encountered. Given we haven't not commenced harvesting in this compartment it has not been marked up.</p>		<p>area was likely observed by FCNSW staff during mark up and harvesting of the adjacent area.</p> <p>This EEC should have been identified during mark up and recorded on the HPOM at that time.</p> <p>It is important to record and map EEC's were they occur as identification and awareness of the EEC reduces the potential for environmental harm to occur</p>
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