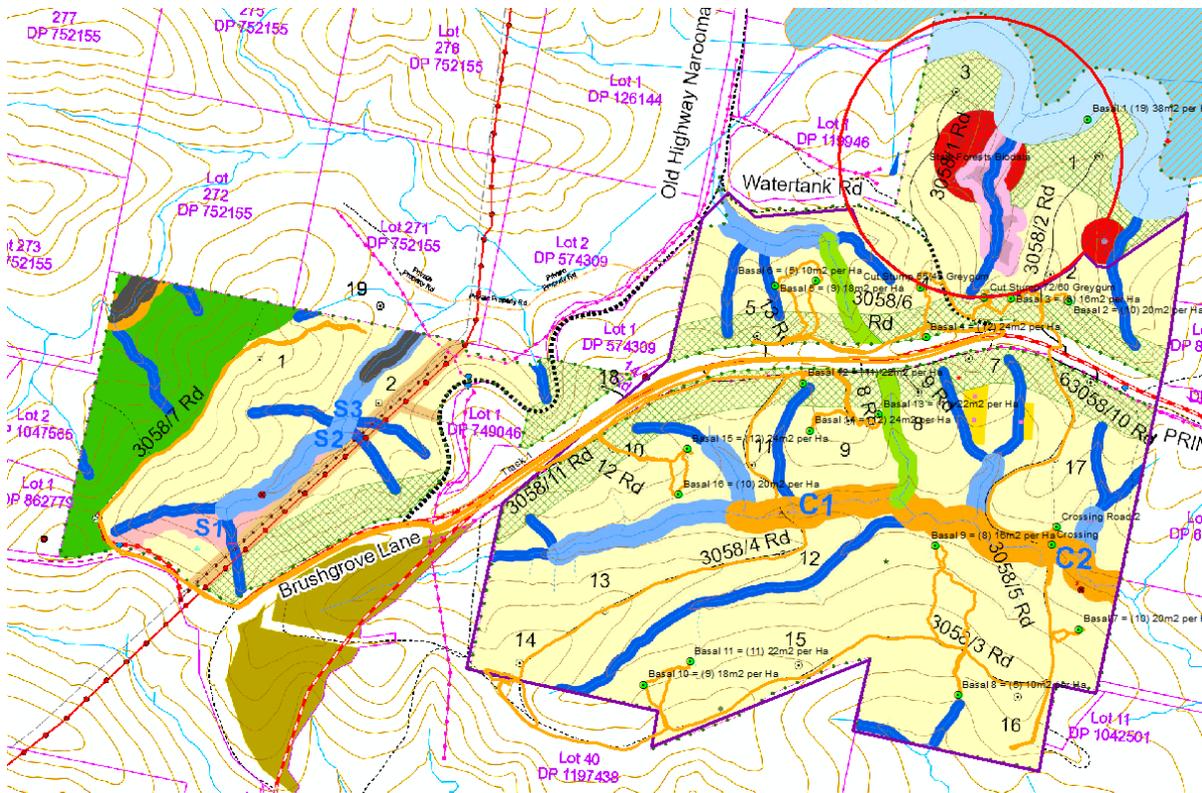
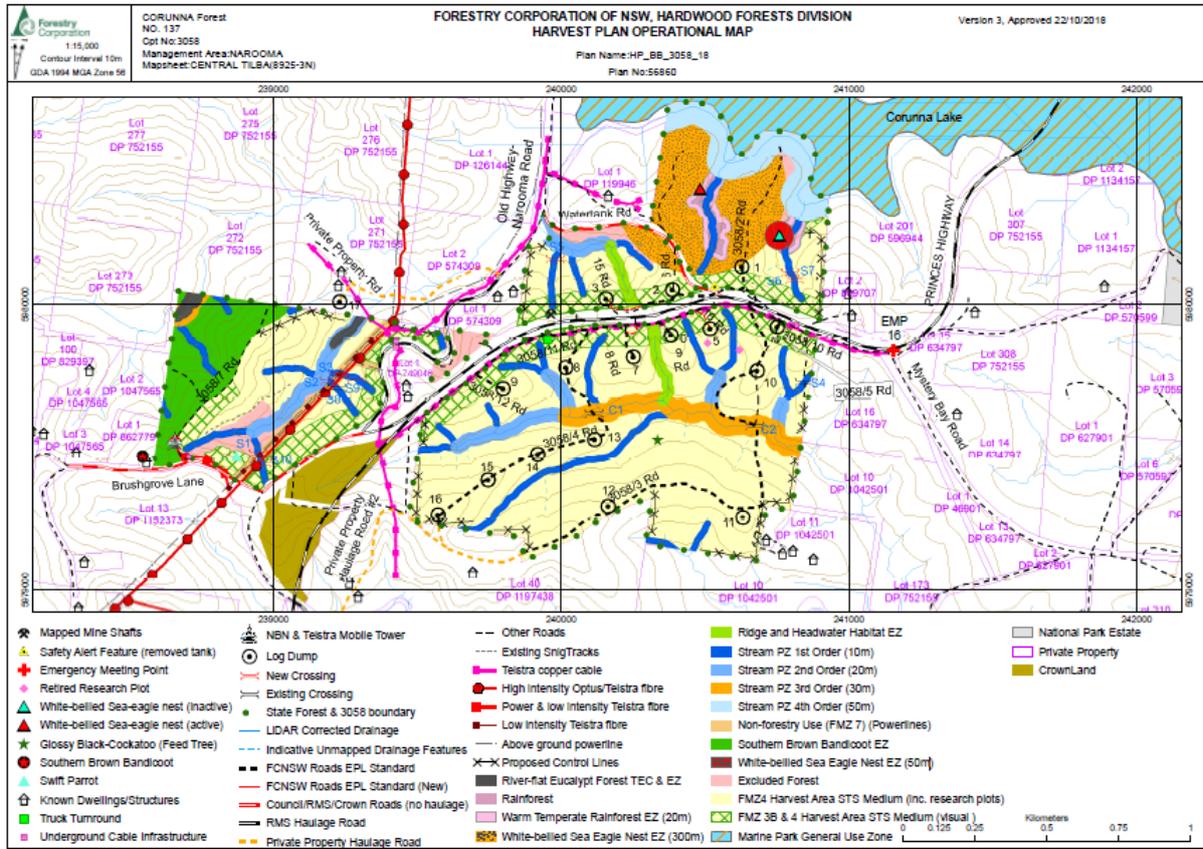


EPA AUDIT REPORT – CROWN FOREST STATE FOREST, COMPARTMENT(S)

Auditee:	Forestry Corporation NSW
Audit scope:	Corunna State Forest (see Map 1, below).
Region:	Southern
Date/Audit timing:	19 March 2019
Lead EPA auditor:	John Forcier
Assisting EPA auditors:	Jock Duncan
Justification of audit:	Post-Harvest Audit of High-Risk Forest
Audit objectives:	Undertake an assessment of post-harvest operations within the Corunna State Forest. Audit included specific Biodiversity Conservation Species Licence (BSL) and water pollution compliance conditions. The audit also assessed basal dispersal across a set of randomly generated points within the main net harvest area.
Audit criteria:	<ul style="list-style-type: none"> • Site Specific White Bellied Sea Eagle (300m EZ) • Cond 6.5 Swift Parrot • Cond 6.6 Southern Brown Bandicoot (modified management condition issued by EPA under 2.1b BCL) • Basal Area assessment • Cond 5 clause 37 5-30m drainage • Sect 120 POEO Act
Summary of Operations	<p>Compartment History and Stand Condition</p> <p>The compartment has been harvested a number of times through history, areas not harvested in the last 10 years are the areas targeted for this harvesting event.</p>

AREAS ASSESSED:



Map 1: Areas inspected during the EPA audit on Corunna State Forest

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AUDIT FINDINGS - OVERVIEW

A summary of EPAs findings are shown in the table below.

IFOA condition	Non-compliances	Compliances	Not Determined
White Bellied Sea Eagle - 300m Exclusion	0	1	0
6.5 Swift Parrot	0	1	0
6.6 Brown Bandicoot	0	1	0
Basal Area Assessment	0	1	0
Cond 5 clause 37 5-30m drainage	1	1	0
Sect 120 POEO Act	1	1	0
TOTAL	2	6	0

AUDIT RECOMMENDATIONS

Action Details	Non-compliance Code*	Target/Action Date
White Bellied Sea Eagle – Special 300m Exclusion Zone	Compliant	No Further Action Required
6.5 Swift Parrot	Compliant	No Further Action Required
6.6 Brown Bandicoot	Compliant	No Further Action Required
Basal Assessment	Compliant	No Further Action Required
Condition 5 Clause 37 5-30 Drainage	Not Compliant	Further Investigation Required
Section 120 POEO Act	Not Compliant	Further Investigation Required

AUDIT FINDINGS

1. White Bellied Sea Eagle Exclusion Zone

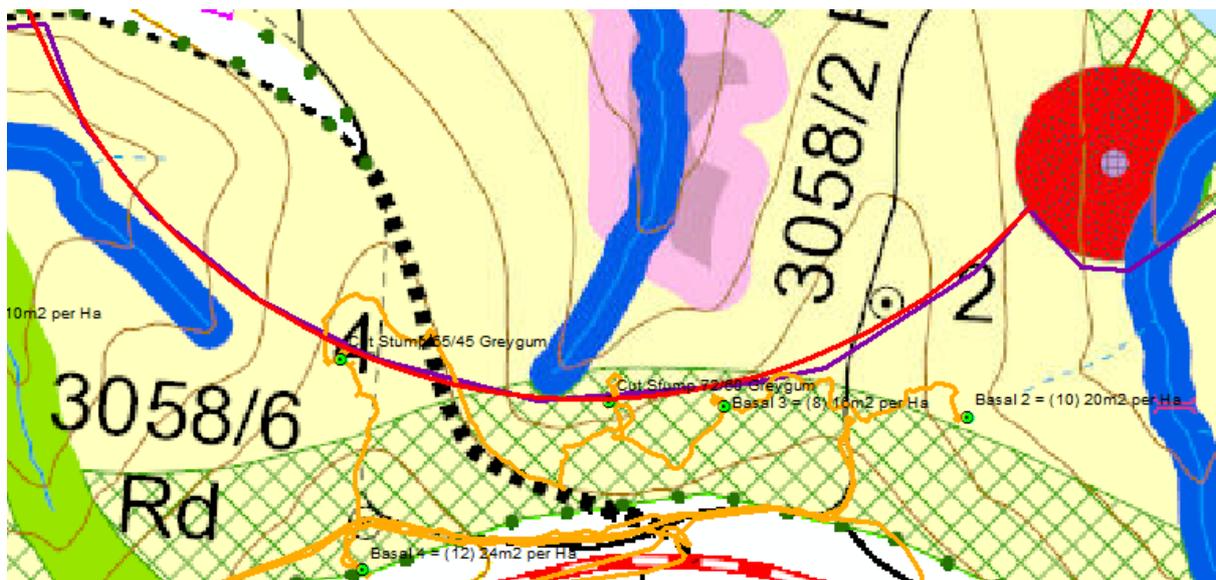
On 18 August 2017, FCNSW requested EPA agree to a site specific BSL condition for White Bellied Sea Eagle records identified in compartment 3058. This request is in line with condition 1.2 and 1.3 of BSL for the South Coast Sub-region

Condition No.	Compliant? Yes/No/Not determined/Not applicable	Number of non-compliance sample (sample size)	Risk Code	Action required by licensee
Site Specific	Compliant	0/1 (300m of boundary)	n/a	n/a

Comment and Evidence

This finding is based on the assessment of 300m of boundary immediate to the net harvest area, as well as post-harvest aerial imagery of the forest.

The EPA found that FCNSW was **compliant** with the relevant conditions in the area assessed.



Above: Check of 300m White Bellied Sea Eagle EZ

2. Swift Parrot

At least 10 eucalypt feed trees must be retained within every two hectares of net logging area.

Condition No.	Compliant? Yes/No/Not determined/Not applicable	Number of non-compliance sample (sample size)	Risk Code	Action required by licensee
BSL 6.5	Compliant	0/1	n/a	n/a

Comment and Evidence

Audit included a sample 120 hectare area of net logging area ($120/2 = 60 \times 10 = 600$) which required 600 eucalypt feed trees to be retained. The required number of retained eucalypt feed trees was exceeded across the net harvested area.

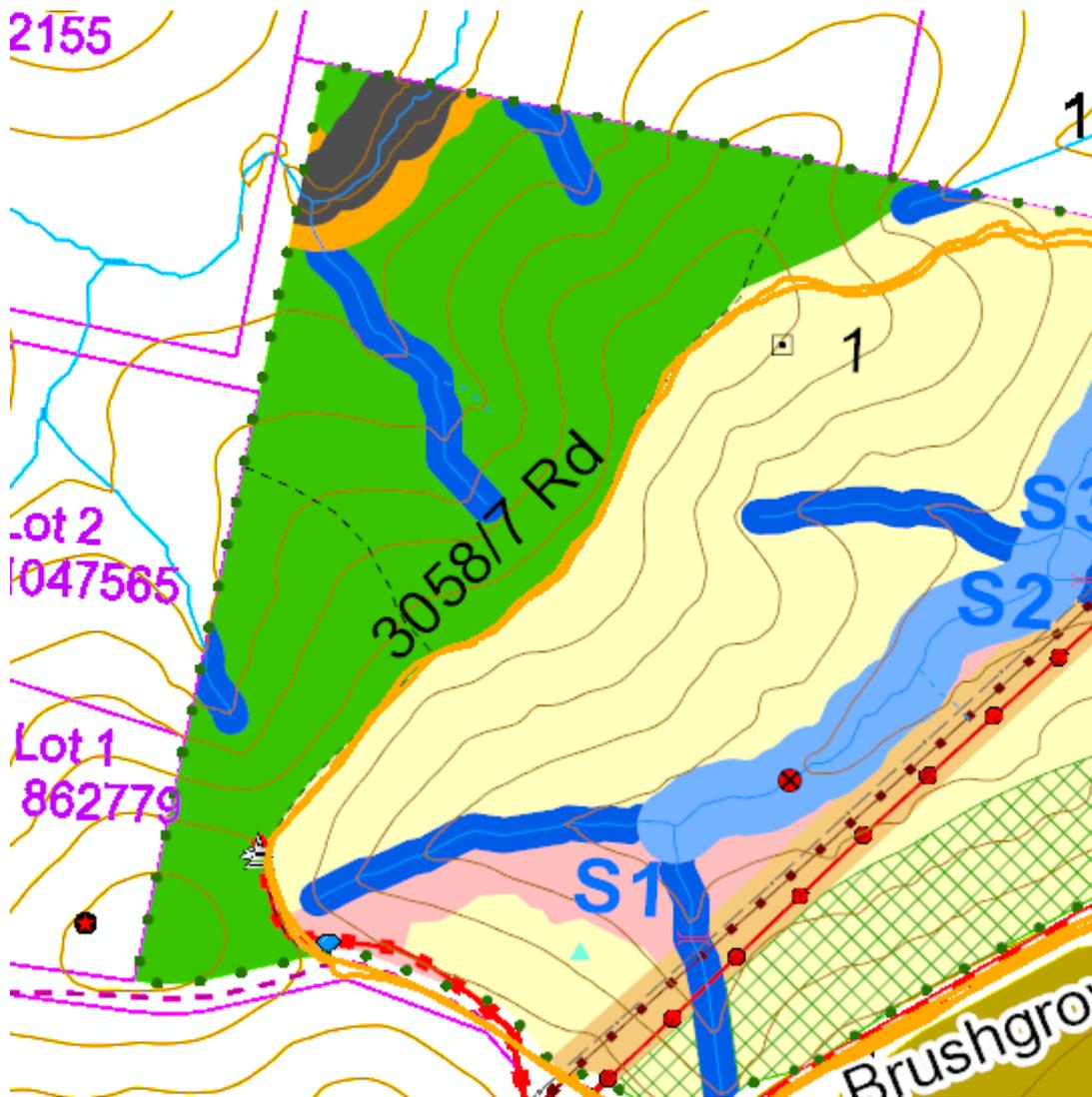
3. Southern Brown Bandicoot

A site specific treatment was applied at this compartment - *An exclusion zone of 12 hectares must be implemented in Corunna State Forest adjacent to the record*

Condition No.	Compliant? Yes/No/Not determined/Not applicable	Number of non-compliance sample (sample size)	Risk Code	Action required by licensee
BSL 6.6	Compliant	0/1	n/a	n/a

Comment and Evidence

The exclusion in Corunna State Forest is formed by the extension of compartment road 3058/7 to the northern boundary of Corunna State Forest and incorporates the forest area to the west of the compartment road out to the northern, western and southern boundaries of the forest block. No harvest activity was detected within the exclusion zone.



Above: Check of Southern Brown Bandicoot EZ

4. Basal Area Assessments

Corunna State Forest has been designated *FMZ4 Harvest Area STS Medium* by FCNSW.

IFOA Limits	STS Medium	Total
STS Tract	110.4ha	110.4ha
Pre-harvest BA	23m ²	2,539m ²
Post harvest BA	15m ²	1,650m ²

Comment and Evidence

Audit included a sample 120 hectare area of net logging area for which 20 random sample locations were generated by EPA prior to audit. EPA located 16 usable points in the field and undertook basal assessments of the forest structure using a dendrometer (factor 2).

The forest was found to have been harvested to 10m² in two locations, however the average across the net harvested area was above the required 15m² and was found to be compliant.

Title	Tree Count @ Factor 2	Northing	Easting
Basal 1	19 = 38m ² per Hectare	4159227.947	9579747.982
Basal 2	10 = 20m ² per Hectare	4158837.929	9579709.554
Basal 3	8 = 16m ² per Hectare	4158843.545	9579586.95
Basal 4	12 = 24m ² per Hectare	4158760.75	9579405.151
Basal 5	9 = 18m ² per Hectare	4158870.954	9579084.545
Basal 6	5 = 10m ² per Hectare	4158881.874	9579171.318
Basal 7	10 = 20m ² per Hectare	4158135.099	9579730.32
Basal 8	5 = 10m ² per Hectare	4157994.824	9579473.08
Basal 9	8 = 16m ² per Hectare	4158314.317	9579424.14
Basal 10	9 = 18m ² per Hectare	4158016.227	9578804.919
Basal 11	11 = 22m ² per Hectare	4158066.449	9578903.484
Basal 12	11 = 22m ² per Hectare	4158661.894	9579144.052
Basal 13	11 = 22m ² per Hectare	4158595.504	9579303.474
Basal 14	12 = 24m ² per Hectare	4158560.923	9579158.439
Basal 15	12 = 24m ² per Hectare	4158521.718	9578898.243
Basal 16	16 = 20m ² per Hectare	4158424.56	9578879.891

5. Roads and Crossings

Condition No.	Compliant? Yes/No/Not determined/Not applicable	Number of non-compliance sample (sample size)	Risk Code	Action required by licensee
EPL Schedule 5	No	1/2	Likely	FCNSW must put in place satisfactory drainage between 5 and 30 meters on both sides of Crossing 2

Condition No.	Compliant? Yes/No/Not determined/Not applicable	Number of non-compliance sample (sample size)	Risk Code	Action required by licensee
S120 POEO	No	1/2	High	FCNSW must ensure drainage features on both sides of Crossing 2 prevent pollution from entering stream

Comment and Evidence

The EPA make a single compliance / non-compliance finding in relation to each assessed crossing.

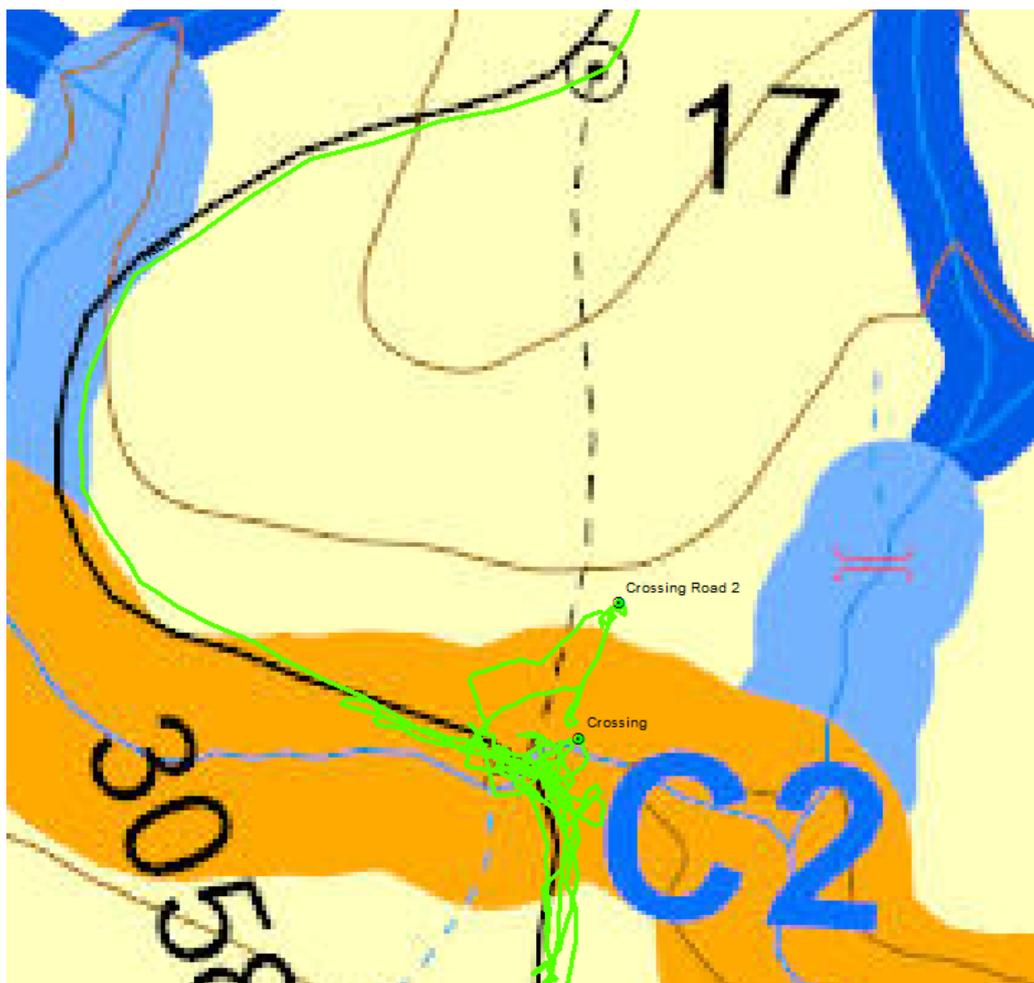
EPA officers assessed two marked crossings, C1 and C2 and an unmarked crossing adjacent to Crossing 2. Crossing 1 was found to be compliant. Crossing 2 was not compliant and polluting. The non compliances will be investigated separately.

*Below boxed excerpt is from FCNSW Harvest Plan

<p>C2 Crossing Cement Bridge. 3rd Order Drainage line. Contractor Responsibility</p>	<ul style="list-style-type: none"> • On north approach install drainage either side of the road at approximately 10m and silt traps. Mitre drains are recommended. • On south approach, east side install drainage and silt trap at approximately 10m. A mitre drain is recommended. • On south approach, west side (cut batter) install a silt trap at the end of the cut batter (approximately 3m from the bank of the drainage feature). • Install 2-3 baulks to EPL specification on 3058/5 Road 	
<p>Document title: HP_BB_3058_18v3</p>	<p>Version No.: 3</p>	<p>Page 20 of 21</p>
<p>Harvest Plan no.: 56860</p>	<p>Approval Date: 13/09/2018</p>	<p>Expiry Date: 15/02/2027</p>

Inspection by EPA noted that the silt traps and mitre drains have been installed, however both traps and mitres were observed to be full of sediment and no longer operating.

The unmarked crossing was located adjacent to Crossing 2, however this crossing does not appear to be mapped or authorised on the plan.







RISK ASSESSMENT OF NON-COMPLIANCE

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

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

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

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

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

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

APPENDIX 1: DATA TABLES AND FIGURES

Title	Date Created	Latitude	Longitude	Northing	Easting
Basal 1	2019-03-19T09:03:54011:00	-36.28566954	150.1129803	4159227.947	9579747.982
Basal 2	2019-03-19T09:24:26011:00	-36.2891915	150.1126822	4158837.929	9579709.554
Basal 3	2019-03-19T09:34:34011:00	-36.28917383	150.1113168	4158843.545	9579586.95
Basal 4	2019-03-19T09:57:13011:00	-36.28996805	150.1093223	4158760.75	9579405.151
Basal 5	2019-03-19T10:22:17011:00	-36.28906169	150.1057201	4158870.954	9579084.545
Basal 6	2019-03-19T10:29:14011:00	-36.28894013	150.1066816	4158881.874	9579171.318
Basal 7	2019-03-19T11:49:17011:00	-36.29551402	150.1131462	4158135.099	9579730.32
Basal 8	2019-03-19T12:05:14011:00	-36.29684603	150.1103315	4157994.824	9579473.08
Basal 9	2019-03-19T12:13:54011:00	-36.29398253	150.1096813	4158314.317	9579424.14
Basal 10	2019-03-19T13:02:53011:00	-36.29683228	150.1028926	4158016.227	9578804.919
Basal 11	2019-03-19T13:07:29011:00	-36.29635372	150.1039723	4158066.449	9578903.484
Basal 12	2019-03-19T13:32:13011:00	-36.29092808	150.1064511	4158661.894	9579144.052
Basal 13	2019-03-19T13:38:15011:00	-36.29148314	150.1082461	4158595.504	9579303.474
Basal 14	2019-03-19T13:42:46011:00	-36.29183335	150.1066445	4158560.923	9579158.439
Basal 15	2019-03-19T13:53:20011:00	-36.292256	150.1037635	4158521.718	9578898.243
Basal 16	2019-03-19T13:57:16011:00	-36.2931357	150.1035915	4158424.56	9578879.891
Crossing	2019-03-19T11:08:18011:00	-36.29389454	150.1124462	4158316.682	9579672.796
Crossing Road 2	2019-03-19T11:33:39011:00	-36.29355334	150.1125557	4158354.251	9579683.764
Cut Stump 55/45 Greygum	2019-03-19T09:49:06011:00	-36.28901077	150.1091608	4158867.408	9579393.805
Cut Stump 72/60 Greygum	2019-03-19T09:39:14011:00	-36.28916986	150.1106708	4158845.714	9579528.929

APPENDIX 2: FCNSW RESPONSE

As a result of an EPA request to FCNSW to correct the non-compliant crossing, FCNSW undertook the following corrective measures to the crossing construction and ensured that the crossing is no longer polluting. It should also be noted that a third (unknown) party appears to have undertaken works on Cpt 3058/5 Rd at some time between the EPA inspection on 19 March and 4 April 2019.

Corrective measures

On the 4th April 2019 FCNSW implemented the following measures to mitigate the risk of future erosion in the vicinity of crossing 2.

- Reinstated existing drainage structures on both approaches of crossing 2 (see example in *figure 7*).
- Cleaned out existing sediment ponds (where required) (see example in *figure 7*).
- Repaired sediment fencing (see example in *figure 7*).
- Improved 5-30m drainage structures. Installed extended mitre at 30m on southern approach and reinstated mitre at 28m on northern approach (see *figure 8*).
- Installed seed and hay/mulch on old track immediately downstream of crossing 2 and installed additional roll over at 20m from the 3rd order drainage line (see *figure's 9, 10 & 11*).
- Installed an additional 10 extended mitre drains along Cpt 3058/5 Rd; 7 on the northern side of Crossing 2 and 3 on the southern side of crossing 2.
- Cleaned silt pond and installed haybales on the northern approach of crossing 2 to ensure any sediment movement from the newly installed extended mitre drains is captured (see *figure 12*).



Figure 7 - new extended mitre drain, cleaned sediment pond and repaired silt fence on northern approach of crossing 2.



Figure 8 – example of newly installed extended mitre drains on Cpt 3058/5 Rd, southern approach of crossing 2



Figure 9 - seed and mulch applied to old track crossing approaches.



Figure 10 - old track, looking north, showing seed and mulch and rollover drain at 20m.



Figure 11 - old track, looking south over newly installed rollover drain.



Figure 12 - northern approach to crossing 2 showing cleaned silt pond and haybales.