



Scale: 1:15,000  
Projection: MGA  
Map Sheets:  
1:25,000: Kundabung 9435-1S  
Tinebank 9435-4S  
1:100,000: Kempsey 9435  
Contour Interval 10m

# Harvest Plan Operational Map

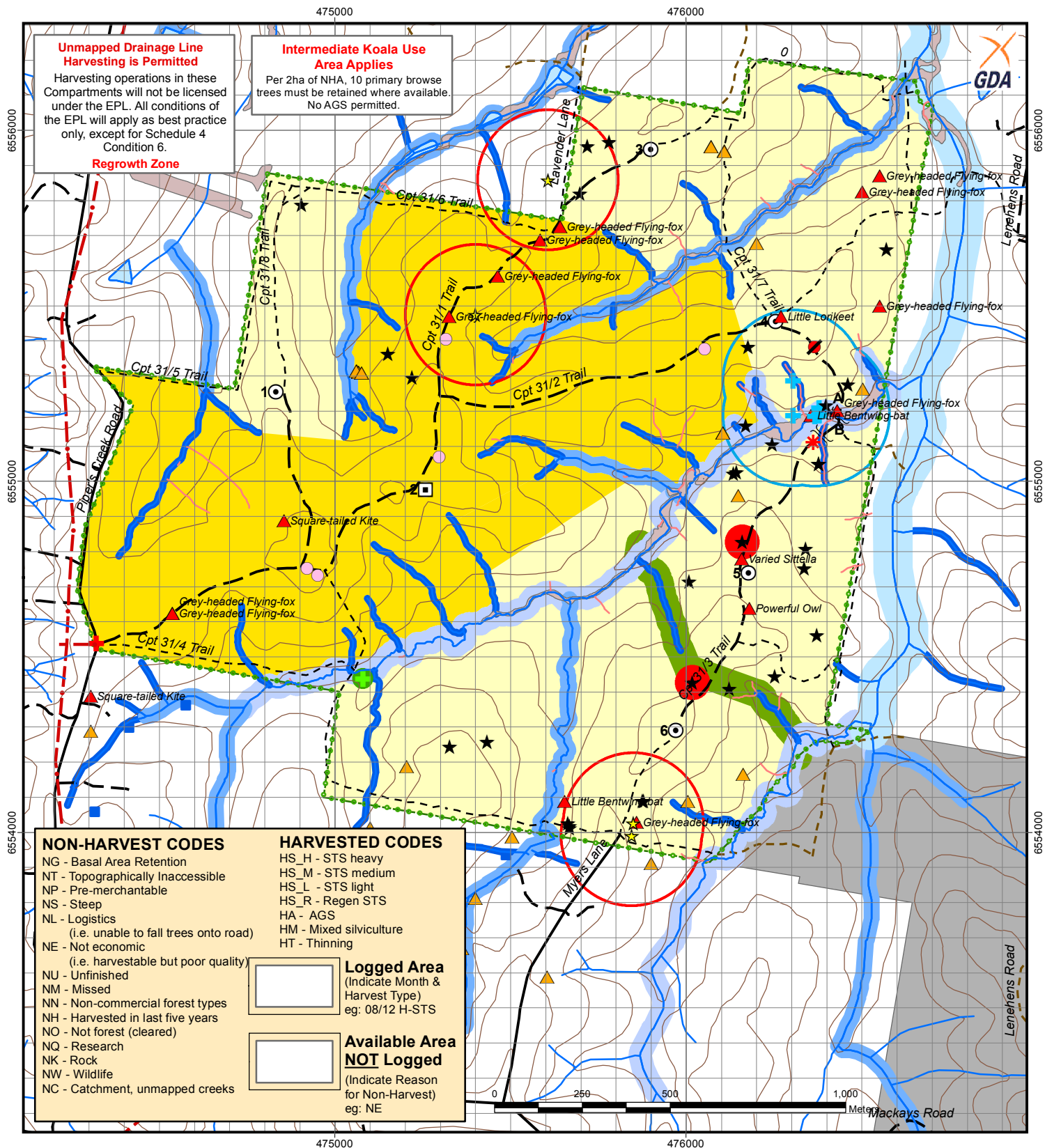
## Compartment 31

### Maria River State Forest

#### Hardwood Forests - Kempsey Management Area



Approval Date: 22/11/2016  
Controlled Map: MariaRiver\_31\_HPOM



**Unmapped Drainage Line**  
**Harvesting is Permitted**  
Harvesting operations in these Compartments will not be licensed under the EPL. All conditions of the EPL will apply as best practice only, except for Schedule 4 Condition 6.

**Regrowth Zone**

**Intermediate Koala Use Area Applies**

Per 2ha of NHA, 10 primary browse trees must be retained where available. No AGS permitted.

**NON-HARVEST CODES**  
NG - Basal Area Retention  
NT - Topographically Inaccessible  
NP - Pre-merchantable  
NS - Steep  
NL - Logistics  
(i.e. unable to fall trees onto road)  
NE - Not economic  
(i.e. harvestable but poor quality)  
NU - Unfinished  
NM - Missed  
NN - Non-commercial forest types  
NH - Harvested in last five years  
NO - Not forest (cleared)  
NQ - Research  
NK - Rock  
NW - Wildlife  
NC - Catchment, unmapped creeks

**HARVESTED CODES**  
HS\_H - STS heavy  
HS\_M - STS medium  
HS\_L - STS light  
HS\_R - Regen STS  
HA - AGS  
HM - Mixed silviculture  
HT - Thinning

**Logged Area**  
(Indicate Month & Harvest Type)  
eg: 08/12 H-STs

**Available Area NOT Logged**  
(Indicate Reason for Non-Harvest)  
eg: NE

#### MAP FEATURES

- State Forest Boundary
- Compartments Boundary
- 100m/1km Grid
- 10 m Contour
- Private Property (cadastre)
- Water bodies
- Powerline (approximate location to be confirmed in the field)

#### ROADS, DUMPS & CROSSINGS

- Gravel Road
- Natural Surface Road
- Not to be used for haulage
- Roads outside harvest area
- Temporary Dry
- Temporary Wet
- Approved Crossing

#### HARVEST AREA & EXCLUSION ZONES

Harvest Area (IHCs 1 & 2)

General Management (FMZ 4)

**Exclusions**  
Non-harvest Area

- National Park
- EEC (not verified)
- Dam - 10m buffer
- Modified Harvest Area (10m buffer)
- Feed Tree - protect from harvesting
- 3 Bar Limited Felling
- Ridge & Headwater Habitat

#### DRAINAGE FEATURES

Spatially corrected LIC (Geonet/LiDAR)

- Drainage line (5m Operational Zone)
- Un-mapped drainage features (GeoNet/LiDAR)
- 1st Order (Protection 10m)
- 2nd Order (Protection 20m)
- 3rd Order (Protection 30m)
- 4th order & above (Protection 50m)

#### Threatened Species Records

- Giant Barred Frog (*Mixophyes iteratus*) 30m buffer on mapped streams within 200m; no UMDL with 200m - revert to 10m
- Green-thighed Frog (*Litoria brevipalmata*) 30m buffer
- Glossy Black-cockatoo (*Calyptorhynchus lathami*)
- Nest site with 50m buffer; retain feed trees
- Yellow-bellied glider (*Petaurus australis*) 200m MHA

#### Other records of presence

- Ecology point site (labelled on map)
- Koala



Scale 1:125,000  
Datum: GDA94  
Map Sheets  
1:25,000; Kundabung 9434-1S  
Tinebank 9435-4S  
1:100,000; Kempsey 9435

# Hardwood Forests - Locality Map

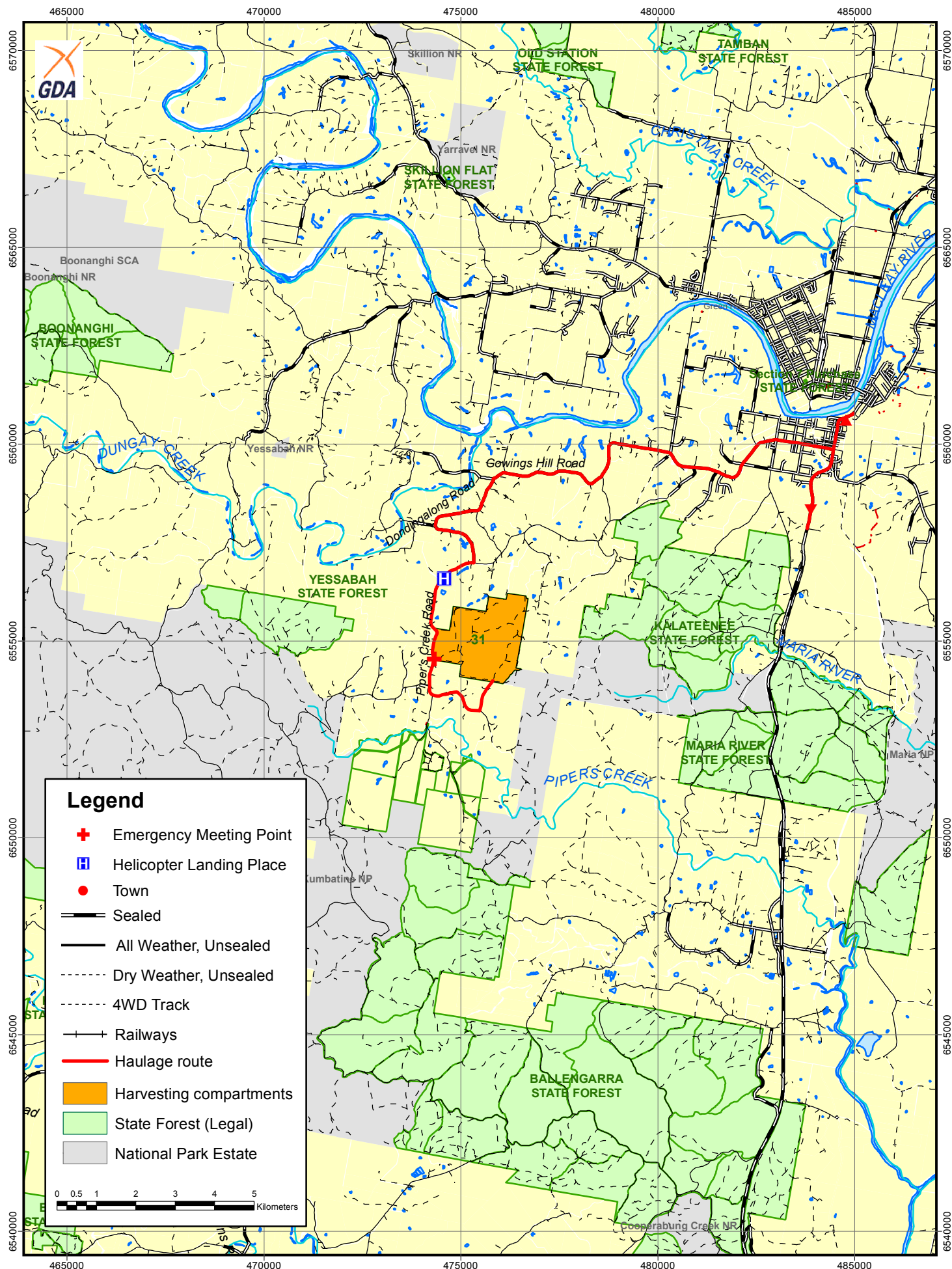
## Kempsey MA

### Compartment 31

### Maria River State Forest

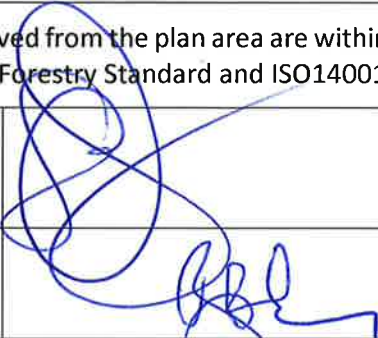



Prepared by: Sarah Gormley  
Date: August 2016





# Harvest and Haul Plan

State Forest	Maria River	Compartment	31
Management Area	Kempsey	IFOA Region	Lower North East
Harvest Plan No.	44776	Supply Zone	3 / Kempsey Coastal
Legal Conditions	Native Forest Harvesting in accordance with IFOA conditions. To implement this plan you must hold a current Contractors Licence. Standard Harvest Plan Conditions and Operating Procedures apply. Survey expiry date for this plan is 20/1/2020.		
Certification	Timber products removed from the plan area are within the Defined Forest Area covered by Australian Forestry Standard and ISO14001 Certificate 13761		
Prepared by	Planner Sarah Gormley		Date: 22/11/2016
Approved by	Planning Supervisor Brent Bailey		Date: 22/11/2016
Abbreviations	FT = Forest Technician, HC = Harvesting Coordinator, PtS= Protection Supervisor, HS = Harvesting Supervisor, RC = Roading Co-ordinator, Crew = Harvest Contractor/Forest Operators, IFOA = Integrated Forestry Operations Approval, TSL = Threatened Species Licence, EPL = Environment Protection Licence, FL = Fisheries Licence, CH = Cultural Heritage, SOP = Standard Operating Procedure.		

## 1. Harvest Area Details

	31	Total
Event ID	56173	44776
Gross Area (ha)	370	370
NHA	319	319
Expected Harvest area	140	140
Estimated Yield	3,500m <sup>3</sup>	3,500m <sup>3</sup>
Yield/ha	25m <sup>3</sup>	25m <sup>3</sup>
Slope (%0-15 degrees)	100	100
Slope (% 0-20 degrees)	0	0
Slope (% 20-25 degrees)	0	0
Slope (% 25-30 degrees)	0	0

\*Contractor must ensure timber removed is allocated to the correct compartment when entered into Electronic Delivery Docket.

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Harvest Plan no.: 44776	Approval Date: 22/11/2016	Expiry Date: 20/1/2020

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## 2. Management Conditions on Boundaries

Boundary	Conditions
Private Property	The SE boundary is defined by Euroka Creek, a 3 <sup>rd</sup> order drainage line – this boundary is shared with Kumbatine National Park. All other boundaries are with Private Property. Some boundaries of this compartment are fenced, and some areas of adjacent private property are forested. Caution must be taken where trails appear in the vicinity of boundaries, and logging is only to occur to the PP boundary as it appears on HPOM, not necessarily the trail. Care must be taken when harvesting approaches all boundaries – any unclear boundaries must be marked by FT. There is an old trail adjacent to PP in the SW corner of this compartment. If in doubt of boundary location, contact must be made with the adjacent PP owner prior to harvesting commencing – refer to Planning Supervisor for contact details.
SMZ / FMZ	<b>FMZ4</b> – Available, displayed on the HPOM as net harvest area. Normal harvesting conditions apply
Endangered Ecological Communities (EEC)	Modelled EEC is present in this compartment. Parts of this were field checked by a FCNSW Ecologist and no EEC was found during surveys. FT to be aware of finding additional areas of EEC. FT to verify and mark any confirmed EEC as excluded from timber harvest. Any additional areas of EEC found in this harvest area must be recorded on iPad mobile data. The HPOM indicates the extent of potential EEC.
Cultural Heritage	Surveys have been conducted. If any potential heritage sites are identified, an interim 20m exclusion buffer must be applied and ACHO notified immediately.
Modified Harvest Areas	Modified Harvest Areas are to be marked in the field for protection with a 10m exclusion buffer. Existing roads through buffers may be used. Immediately prior to harvesting, the marking must be checked by the HC.

## 3. Expected Yields

Product Estimates	Volume (m3)
HQ Large Sawlog (Quota)	550
HQ Small Sawlog	830
Poles, Piles and Girders	210
LQ Sawlog (Salvage)	1400
Fencing/Pulp/Residue	480
Total	3450

Species	Species Mix (Sawlog)
BBT	70%
TWD	6%
SPG	1%
Other	23

## 4. Haulage

Haul Route	Timber from dumps 1-4 will leave SF to the west along Cpt 31/1 Trail to Piper's Creek Road. Timber from Dumps 5 & 6 will go north along Cpt 31/3 Trail, then West to Piper's Creek Road. All trucks will then go north along Piper's Creek Road→Wirrang Drive→Dondingalong Road→Gowings Hill Road→ Kempsey, then either north or south along the Pacific Highway.
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<b>School Bus Routes</b>	<p>School buses on this haulage route WILL NOT have UHF radios – extreme caution is required during school bus times.</p> <p>Haulage contractor must contact relevant bus company to confirm school bus hours on Piper's Creek Road, Wirrang Drive, Dondingalong Road and Gowing's Hill Road. Haulage contractor must apply SSP.</p> <p>Drivers are reminded that there is a maximum speed limit of 40km/hr around school buses when flashing lights are operating.</p>
<b>Haulage Speed Limit</b>	<p>Log Trucks must observe a 40km/hr speed limit along Piper's Creek Road AT ALL TIMES. NO trucks are to use Piper's Creek Road during School Bus Hours:</p> <p>Morning: 7:45am-8:35am</p> <p>Afternoon: 3:50pm-4:30pm</p> <p>Log Trucks are advised to observe an appropriate speed along Gowing's Hill Road, Dondingalong Road and Wirrang Drive during the school bus pick up/drop off hours above. These roads are narrow and have sections where sight distance is poor.</p>
<b>Dust and Mud</b>	All truck drivers must minimise dust creation along Piper's Creek Road – 40km/hr speed limit applies at all times.
<b>Operating Hours</b>	Restrictions apply to haulage contractors, refer to table 5 below.

## 5. Community

Issue	Detail	Conditions
<b>Notifications Required</b>	Nil	All relevant notifications have been conducted. A notification list for FCNSW staff is available from the planner.
<b>Speed limit on forest trails/roads</b>	40km/hr maximum	A speed limit of a maximum of 40km/hr must be observed when using the forest trails/roads in this area due to the high potential of meeting recreational forest users or neighbours.
<b>EPA Noise guidelines</b>	When operating within 100m of dwellings	When operating within 100m of dwellings, machinery (including chainsaw) operating hours will be limited to between 7am and 8pm Monday to Friday, and 8am to 12pm on Saturdays. Machinery must not be operation on Sundays and Public Holidays.
<b>Haulage Hours</b>	Piper's Creek Road	No trucks are to use Piper's Creek Road prior to 5:30am.

## 6. Infrastructure

Infrastructure	Conditions
<b>Utilities Underground</b>	There are Essential Energy underground earths/wires in this area near Lavender Lane, and Piper's Creek Road. There is to be no earth-works in the vicinity of these points, & heavy machinery is not to come within 10m of the estimated location as indicated by any markers in the field. If harvesting crew wants to come within these site distances, they need to engage a Telstra Accredited Locator before working in the area. The exact position of cables can only be confirmed by physically exposing the cable. See Site Safety Plan Appendix 2:

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	<p>Telstra Duty of Care, for further information. This document must remain on site at all times.</p> <p>If snagging or forwarding over suspected cable is required, the crew must contact an Accredited Plant Locator to determine cable depth and suitable crossing point prior to commencing the activity.</p>
Powerlines	There is a mapped 19kV Powerline running adjacent to Piper's Creek Road, the approximate location shown on the HPOM. Refer to <i>Procedure 4.8 Working in the Vicinity of Overhead and Underground Electric Lines</i> .
Mapped Trails	If mapped trails within this area are used for snagging or other harvesting activity, these trails must remain open and trafficable by 4WD vehicle after use, in order to facilitate any postharvest bush fire hazard reduction operations.

## 7. Harvesting Conditions

Silviculture Type	Harvesting Objectives and Condition for each stand condition				
Regeneration STS	<p>In stands dominated by commercial endpoint Blackbutt, the objective is to implement a regeneration harvesting treatment to establish a new, vigorous Blackbutt stand.</p> <p>Crew to retain well-formed seed trees of preferred species at ~40 m spacing</p> <p>HC to instruct crew to retain patches of quality advanced regeneration where they occur.</p> <p>Crew to remove all merchantable stems not marked for retention and ensure mechanical disturbance creates a suitable seed bed for regeneration.</p>				
STS Medium	<p>In the two-aged mixed dry hardwood stand the objective is to harvest the merchantable component of the mature aged crop and retain the younger age class trees for a future cut.</p> <p>Forest technician to mark growers for retention as operationally appropriate.</p> <p>Crew is to select trees for removal and avoid damage to retained growers.</p>				
Monitoring	Harvesting limits will not be reached in this harvesting operation due to the low merchantability of timber. No changes are to be made to silviculture/offsets without consultation with Planning Supervisor.				
IFOA Limits	BBT	Mixed age /Mixed species	Mixed species, poor quality	Non-harvest	Total
Silviculture	Regen STS	Medium STS	Light STS	Nil	
Est. % of Harvested NHA	60	30	10		
STS Tract (ha)	84	42	50*	142	318
Pre-harvest BA/ha	19.9	19.9	19.9	6.2	
Pre-harvest Total standing BA	1669	834	993	878	4375
Expected BA Removal	70%	30%	10%	0%	35%
BA removed	1168	250	99	0	1518
Min Post-harvest BA	6	13.9	17.9	6.2	

\*Includes ~40ha write-down where little/no harvest expected

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## 8. Tree Retention - refer to TSL booklet for full conditions

Prescription	Condition/Responsibility
<b>Mark-Up</b> – the FT is responsible for marking up the forest ahead of harvesting operations consistent with SOP 2: Exclusion Zone Boundary Management, and SOP 3: Forest Mark Up & Tree Retention	
Compartment Mark-Up Survey 5.1, 5.2, & 5.13 6.14	Compartment mark-up surveys must be conducted at least 300m in advance of operations. The survey must search for threatened and protected species features listed in conditions 5.1, 5.2 & 5.13 of the TSL.  Intermediate koala use area applies. FTs must remain vigilant for the presence of koalas, and conduct further star searches as required.
Hollow-bearing and Recruitment tree retention (H and R)	<b>Regrowth Zone</b> – Conditions 5.6 (d), (e), & (f) apply. Additional H trees for Greater Glider condition does not apply. FT must select and mark 5 H trees/ha where available and one R for each H retained.
Significant Food Resources 5.6 (g)	Glossy Black Cockatoo feed trees – 5.6 (g) (iii) apply  FT must mark for retention: 6 Eucalypt feed trees/2 ha where they occur, glider sap feed trees, stands of forest oak and forest oak feed trees.  White Mahogany, Bloodwood and Ironbark are suitable E tree species present in these compartments.
<b>Harvesting - crew and HC responsibilities</b>	
Protection of Retained Trees (5.6h)	Trees marked or selected for retention must not be felled.  The crew must minimise damage to H, R and E trees by using directional felling.  Harvesting debris should not accumulate within 5 m of retained trees. Where debris does accumulate the crew must remove or flatten to < 1m high.  The HC must be notified of any badly damaged retained trees and they must assess and record if a replacement retained tree is required.
Stag Retention (Dead standing trees 5.6 (f))	The crew should retain stags where safe to do so.  The crew must record the date, DBH, risk and location of unsafe stags removed
Significant food resources 5.6 (g)	The crew should avoid damaging flowering or fruiting banksias or grass trees.

## 9. Site-Specific Flora and Fauna

Condition	Boundary Type	Prescription
Riparian Habitat Protection 5.7 <i>(The HPOM indicates LIC drainage order corrected by Geonet/LiDAR)</i>	2 bars	Implement filter strip (hard) and protection zone (soft) around drainage features as shown on the HPOM. Refer to SOP1.  FT must mark the location of UMDL with the “U” symbol, and 1 <sup>st</sup> order protection zone boundary with 2 bars.  The crew will locate and protect all 2 <sup>nd</sup> order and above streams with GPS.
Ground Habitat 5.17 (d)	N/A	Commercial firewood collection is permitted in these compartments
Endangered Ecological Community (EEC)	Solid (4 bars 2 dots)	FT to be alert for potential EEC, and mark as exclusion if found and verified, as per section 2 of this HP.  The crew must protect all areas of marked EEC.
Koala 6.14	Modified Harvest Area	Koala intermediate use area applies – per two ha of NHA, 10 primary browse trees (Grey gum, Tallowwood, Forest Red Gum, Swamp Mahogany) must be retained where available. FT to mark for retention. AGS is not permitted in this compartment.
Giant Barred Frog 6.3	Machinery	30m buffer on mapped 1 <sup>st</sup> & 2 <sup>nd</sup> order streams within 200m of a record, and no UMDL within 200m of record. Mapped exclusion to be located by GPS in harvester.  Revert to 10m protection on UMDL – FT to mark these areas with 2 bars.
Green-thighed Frog 6.4 a)	Machinery	Mapped 30m exclusion on records to be located by GPS in harvester.  Mapped exclusion, 30m buffer on record, or on the most suitable breeding habitat within 100m of the record.
Ridge & Headwater Habitat 5.8	Limited	Mapped exclusion to be located by GPS in harvester.
Glossy Black-Cockatoo Nest 5.13	Limited	50m exclusion on nest tree to be located by GPS in harvester.
Yellow-bellied Glider 6.17 g) ii	Modified Harvest Area	FT to mark 15 feed trees to be retained within 200m of record.
Unknown species feed tree	Modified	Protect tree from harvesting disturbance
Fish	N/A	No fisheries licence conditions apply.



## 10. Soil & Water – Refer to EPL Booklet for full conditions

Issue	Assessment	Conditions
Licenced / Un-Licenced	Unlicenced	All conditions of the EPL will apply as best practice only, except for Schedule 4 Condition 6.
EPL Scheduled Activity	No	
Unmapped drainage Line harvesting	Permitted	Apply UMDL BMP's.
Inherent hazard level	2	<b>Refer SOP 1</b>
Dispersible Soils	No	Nil
Mass Movement / Instability	No	Nil
Acid Sulphate Soils	No	Nil
Seasonality Conditions	No	Nil
Historic or existing erosion	Limited to trail network	Nil (addressed in Roding Plan)
Ground cover	>70% at time of planning	Nil
Burning conditions	No	Nil
Log Dumps	HC	<b>SOP 5</b> - HC is responsible for authorising moving the location of a log dump.
Roding management during harvesting	HC	<b>SOP 6</b> - HC is responsible for monitoring road and crossing drainage during haulage.
Wet Weather and Rutting	Crew / HC	<b>SOP 6</b> - Crew is responsible for implementing automatic closures and following notified closures.  HC is responsible for ensuring crew notified when notified closure is lifted.
Snigging	Crew	<b>SOP 8</b> - Crew is responsible for progressive drainage of snig tracks
Snig Track Crossings	HC	<b>SOP 9</b> - HC is responsible to ensure snig track crossings are approved prior to use and rehabilitated upon completion.

## 11. Crossing Approvals

All crossing approvals are shown on the operational map – any other feature crossings must be assessed, recorded below and approved by the Planning Supervisor before use.

Crossing	EPA Approval	Conditions

**12. Operational Plan Briefing:** A briefing of this operational plan was conducted by

Person	Role	Nature of Briefing	Date

**13. Acknowledgement of Briefing:** I acknowledge that I have received a copy of the plan documents and that I have been briefed on the conditions of the Plan. I understand the operational control requirements as outlined in the plan and take responsibility for the implementation of plan conditions relevant to my responsibilities

Name	Role	Signature	Date

**14. Standard Operating Procedures:** The following SOP's apply to this plan. FCNSW staff and the crew must hold a copy on site whilst operating and comply with the conditions set out in each SOP.

Procedure Number	Title
1	Drainage Feature Protection
2	Exclusion Zone Boundary Management
3	Forest Mark-Up
4	Operating in Inherent Hazard Level 3 Areas
5	Log Dump Operation and Use
6	Road and Crossing Management and Wet Weather Controls
7	Safety Requirements
8	Snigging & Snig Track Construction
9	Tree Felling & Servicing of Logs & Products
10	Fire Precautions & other Miscellaneous Requirements for Harvesting Contractors

### Operational Diary:

[illegible]

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