



Variation No. 1 of Harvesting Plan for Compartments 193, 194 & 195, Lansdowne State Forest

LOCATION

Compartments 193 & 195 - Lansdowne State Forest

CONDITION TO BE VARIED AND SPECIFIC INSTRUCTIONS

- 1) Updated HPOM following changes to the break-up of the harvest plan net harvest area into off-set areas and treatment areas. Approximately 13 hectares of previously identified treatment area associated with dumps 7 and 12 are added to the off-set area under this variation. Conversely, approximately 15 hectares of previously identified off-set area is added to the treatment area and is associated with dump 2 adjacent to Longs Crossing Road.

Attachments:

- Updated HPOM, dated 19/06/2015.

PREPARED BY:

Handwritten signature of Mark Stute in blue ink.

Mark Stute
Senior Planner

Date: 19/06/2015

APPROVED BY:

Handwritten signature of Justin Williams in black ink.

Justin Williams
Operations Planning Manager

Date: 19/06/2015

Scale: 1:15,000
 Datum: GDA94
 Projection: MGA
 Map Sheets:
 1:25,000: Coopernook 9434-3-N
 1:100,000: Camden Haven 9434
 Contour Interval: 10 m

Harvest Plan Operational Map - Amendment 1

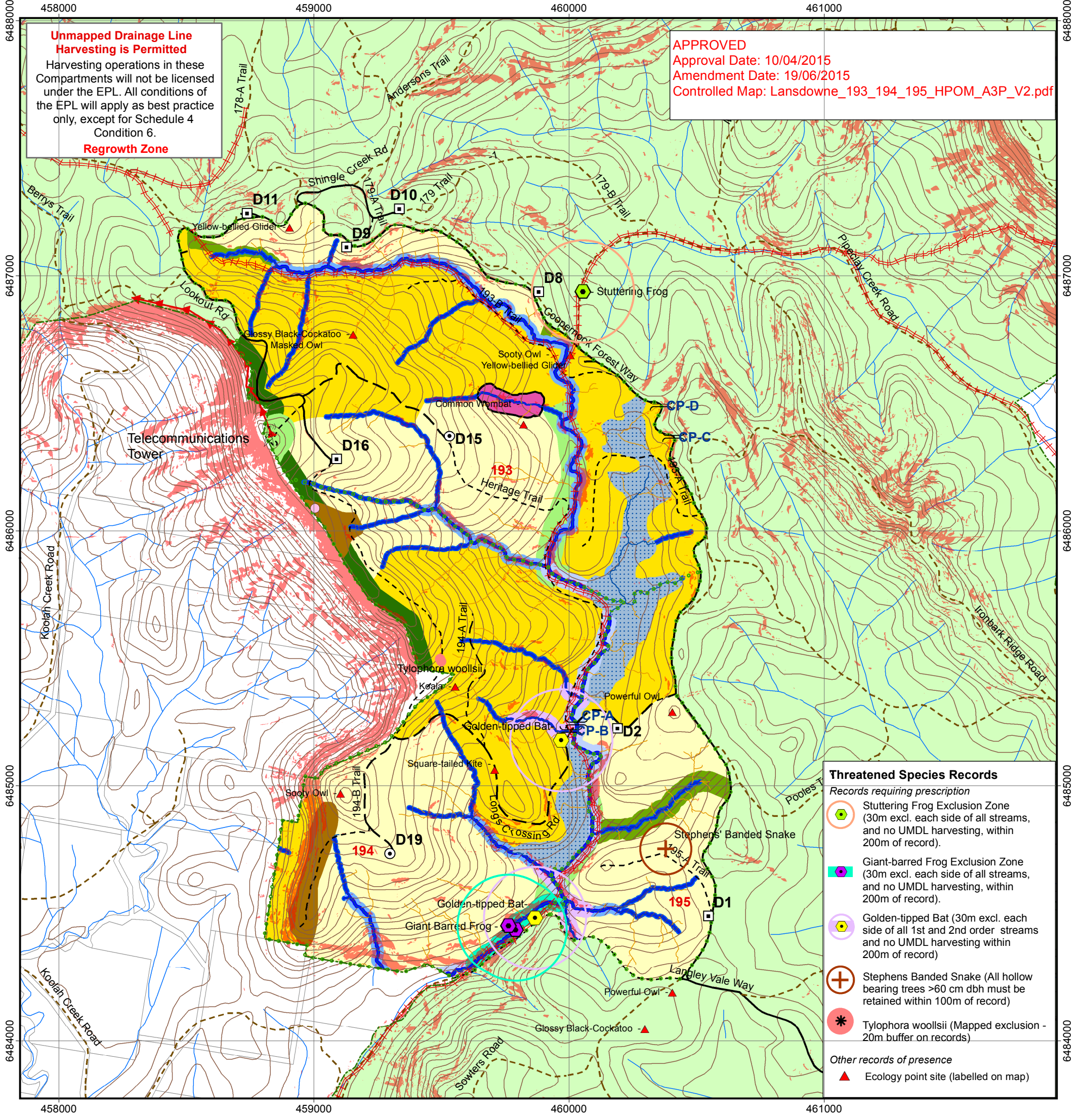
Compartments 193, 194 & 195

Lansdowne State Forest

Coopernook Management Area



Prepared by: Mark Stute
 19/06/2015



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

APPROVED
 Approval Date: 10/04/2015
 Amendment Date: 19/06/2015
 Controlled Map: Lansdowne_193_194_195_HPOM_A3P_V2.pdf

Threatened Species Records

Records requiring prescription

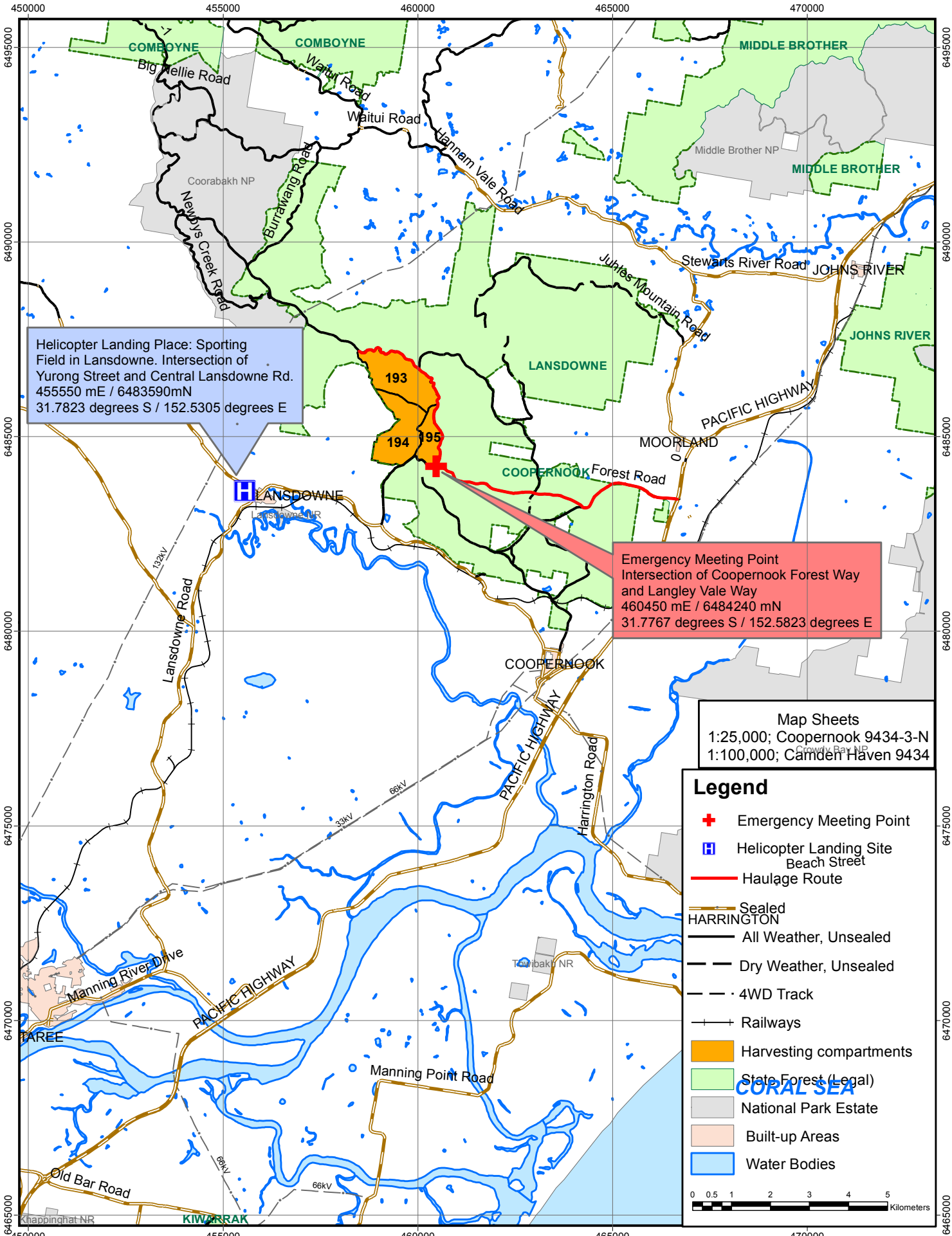
- Stuttering Frog Exclusion Zone (30m excl. each side of all streams, and no UMDL harvesting, within 200m of record).
- Giant-barred Frog Exclusion Zone (30m excl. each side of all streams, and no UMDL harvesting, within 200m of record).
- Golden-tipped Bat (30m excl. each side of all 1st and 2nd order streams and no UMDL harvesting within 200m of record)
- Stephens Banded Snake (All hollow bearing trees >60 cm dbh must be retained within 100m of record)
- Tylophora woollsii (Mapped exclusion - 20m buffer on records)

Other records of presence

- Ecology point site (labelled on map)

<p>MAP FEATURES</p> <ul style="list-style-type: none"> State Forest Boundary Compartments Boundary 1 Km Grid Contour - 10m Powerline State Forest National Park Slope >30° (LiDAR indicative) Telecommunications Tower 	<p>ROADS, DUMPS & CROSSINGS</p> <p>Internal Roads (Unlicensed)</p> <ul style="list-style-type: none"> Gravel Road Patch Gravelled or Natural Surface Road Internal Road not to be used for haulage <p>Roads Outside Operational Cpts</p> <ul style="list-style-type: none"> Haulage Route Other roads outside harvest area <p>Dumps and Crossings</p> <ul style="list-style-type: none"> Log Dump - Temporary Dry Log Dump - Temporary Wet Approved Crossing (Existing) 	<p>HARVEST AREA & EXCLUSION ZONES</p> <p>Harvest Area</p> <ul style="list-style-type: none"> General Management (FMZ 4) Future Treatment Area incl. FMZ 3B (not to be logged this event) <p>Exclusions</p> <ul style="list-style-type: none"> Authorised Plantation 4 Bar - Accidental Rainforest - Crafti + RN17 3 Bar - Limited Felling <ul style="list-style-type: none"> Special Management (FMZ 2) Harvesting Protection (FMZ 3A) Ridge & Headwater Habitat (40m exclusion) Owl Landscape Protection Rock (& Buffer) 	<p>DRAINAGE FEATURES (IHC = 2)</p> <ul style="list-style-type: none"> Spatially corrected LIC Drainage Line (LiDAR) Possible un-mapped drainage feature (LiDAR - will be managed under UMDL best management practices) Uncorrected LiDAR drainage line outside compartments <p>Drainage Line Buffer Zones</p> <ul style="list-style-type: none"> 5m Filter Strip and estimated average channel width. 1st Order (Protection 10m) 2nd Order (Protection 20m) 3rd Order (Protection 30m) 4th order & above (Protection 50m) <p>MODIFIED HARVEST AREA</p> <ul style="list-style-type: none"> Exclusion Zone (30m radius) Historical Tramline (Refer to HP for logging conditions)
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Helicopter Landing Place: Sporting Field in Lansdowne. Intersection of Yurong Street and Central Lansdowne Rd.
 455550 mE / 6483590mN
 31.7823 degrees S / 152.5305 degrees E

Emergency Meeting Point
 Intersection of Coopernook Forest Way and Langley Vale Way
 460450 mE / 6484240 mN
 31.7767 degrees S / 152.5823 degrees E

Map Sheets
 1:25,000; Coopernook 9434-3-N
 1:100,000; Camden Haven 9434

Legend

- + Emergency Meeting Point
- H Helicopter Landing Site
- Haulage Route
- Sealed
- All Weather, Unsealed
- Dry Weather, Unsealed
- 4WD Track
- Railways
- Harvesting compartments
- State Forest (Legal)
- National Park Estate
- Built-up Areas
- Water Bodies

0 0.5 1 2 3 4 5 Kilometers

Scale: 1:15,000
 Datum: GDA94
 Projection: MGA
 Map Sheets:
 1:25,000: Coopernook 9434-3-N
 1:100,000: Camden Haven 9434
 Contour Interval: 10 m

Harvest Plan Operational Map

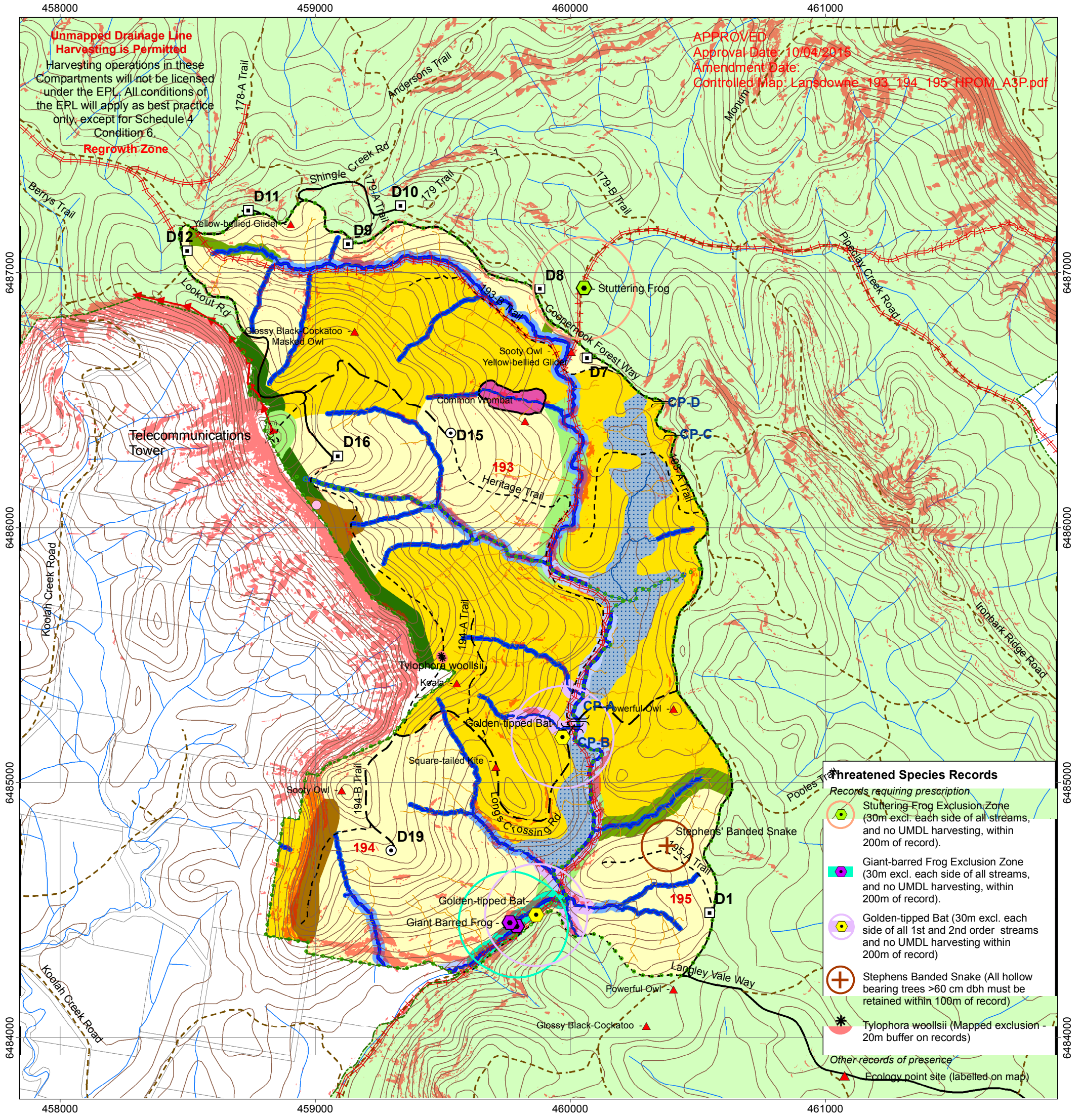
Compartments 193, 194 & 195

Lansdowne State Forest

Coopernook Management Area



Prepared by: Mark Stute
 10/04/2015



MAP FEATURES	ROADS, DUMPS & CROSSINGS	HARVEST AREA & EXCLUSION ZONES	DRAINAGE FEATURES (IHC = 2)
<ul style="list-style-type: none"> State Forest Boundary Compartments Boundary 1 Km Grid Contour - 10m Powerline State Forest National Park Slope >30° (LiDAR indicative) Telecommunications Tower 	<p>Internal Roads (Unlicensed)</p> <ul style="list-style-type: none"> Gravel Road Patch Gravelled or Natural Surface Road Internal Road not to be used for haulage <p>Roads Outside Operational Cpts</p> <ul style="list-style-type: none"> Haulage Route Other roads outside harvest area <p>Dumps and Crossings</p> <ul style="list-style-type: none"> Log Dump - Temporary Dry Log Dump - Temporary Wet Approved Crossing (Existing) 	<p>Harvest Area</p> <ul style="list-style-type: none"> General Management (FMZ 4) Future Treatment Area incl. FMZ 3B (not to be logged this event) <p>Exclusions</p> <ul style="list-style-type: none"> Authorised Plantation <p>4 Bar - Accidental</p> <ul style="list-style-type: none"> Rainforest - Crafti + RN17 <p>3 Bar - Limited Felling</p> <ul style="list-style-type: none"> Special Management (FMZ 2) Harvesting Protection (FMZ 3A) Ridge & Headwater Habitat (40m exclusion) Owl Landscape Protection Rock (& Buffer) 	<p>Drainage Line Buffer Zones</p> <ul style="list-style-type: none"> Spatially corrected LIC Drainage Line (LiDAR) Possible un-mapped drainage feature (LiDAR - will be managed under UMDL best management practices) Uncorrected LiDAR drainage line outside compartments 5m Filter Strip and estimated average channel width. 1st Order (Protection 10m) 2nd Order (Protection 20m) 3rd Order (Protection 30m) 4th order & above (Protection 50m) <p>MODIFIED HARVEST AREA</p> <ul style="list-style-type: none"> Exclusion Zone (30m radius) Historical Tramline (Refer to HP for logging conditions)

500 250 0 500 1,000 Meters

FORESTRY CORPORATION OF NEW SOUTH WALES

NATIVE FOREST HARVESTING PLAN

Lansdowne State Forest – Compartments 193, 194 & 195

1. Certification

This plan has been prepared in accordance with the Integrated Forestry Operations Approval (IFOA) issued under the Forestry and National Park Estate Act 1998.

Prepared by: Mark Stute Senior Planner	Reviewed and Approved by: Dirk van Dijk Acting Planning Supervisor
Signature:	Signature:
Date: 10/04/2015	Date: 10/04/2015

Note: Approval encompasses the Harvest Plan Operational Map (HPOM) with the corresponding approval date displayed on the map, verifying final approved version.

2. Description of Proposal

Native forest timber harvesting and associated road maintenance works.

This operation will not be licenced under the EPL. Refer to Legal Conditions (Item 10).

Attachment 1: Site Safety Plan – describes safety requirements and Medical Emergency Evacuation Plan (MEEP) for this harvesting operation.

Attachment 2: Operational Road Works Plan – outlines roading requirements for this harvesting operation.

Attachment 3: Standard Harvest Plan Conditions for Native Forest Operations under the IFOA: Central Region.

3. Area Identification and Yield Estimates

State Forest	Compartments	Management Area	Price Zone	Harvest Plan No.
Lansdowne	193, 194 & 195	Coopernook	Coopernook	10722

	Cpt 193	Cpt 194	Cpt 195	Total
PlanCptID	22022	22023	22024	
Gross Area	173 Ha	159 Ha	68 Ha	400 Ha
Net Harvest Area	131 Ha	123 Ha	50 Ha	304 Ha
Treatment Area *	65 Ha	62 Ha	26 Ha	153 Ha
Estimated Yield	4160 m ³	3968 m ³	1664 m ³	9792 m ³
% Treatment Area > 15°	74 %	64 %	11%	59%

* Treatment Area is the portion of NHA that is proposed for harvesting during this event.

4. Silviculture and Harvesting Prescriptions

Compartment History and Stand Condition

These compartments have a long history of forest management, including harvesting and hazard reduction burning. Compartment 193 was last harvested in calendar year 2004, and compartments 194 and 195 were last harvested in calendar years 2007 and 2008, producing all products. The compartments were treated with a range of silvicultural regimes including thinning, STS harvesting, and AGS gapping.

Current stand condition is varied, with regeneration succeeding in some areas and failing in others.

These compartments comprise predominately moist Blackbutt stands with a scattering of mixed dry hardwood, flooded gum on lower slopes and along drainage lines, and dry blackbutt towards the escarpment. Where patches of good regeneration exist from previous harvesting events, these areas should be avoided and damage to stands should be minimized.

The stands of mature forest will be harvested intensively in order to maximise their commercial value and achieve regeneration. The silvicultural objective of this harvesting operation is to harvest end-point stands to create ground disturbance and conditions suitable to achieve regeneration.

Basal Area limits will be managed by having offset areas within these compartments which will be harvested at a later date.

Harvesting Prescription

Stand type	% of net area	Example	Treatment (STS, AGS, or THIN) and Prescription
Moist Blackbutt Stands and minor patches of Dry Blackbutt Stands treated with STS harvesting.	40%	Most of compartments 193, 194 & 195.	<ul style="list-style-type: none"> • Regen STS. • Harvest intensively to remove merchantable products as well as poor quality stems and suppressed trees. • Retain good quality seed trees¹ of preferred species at 30 - 50m spacing. • Treat areas between seed trees to aid regeneration². • Avoid damage to patches of advanced regeneration of preferred species, where present.
Moist Blackbutt stands previously treated with AGS gaps.	8%	Scattered throughout the available harvesting area.	<ul style="list-style-type: none"> • Avoid damage to advanced regeneration where it is present. • Areas where regeneration has failed may be treated (by machinery disturbance) to provide another opportunity for regeneration.
Dry Hardwood Stands.	2%	Minor stands	<ul style="list-style-type: none"> • Moderate STS. • Care must be taken to avoid damage to advanced regeneration.
Stands treated by STS harvesting in 1998 or 2006.	50%	Displayed as "Future Treatment" Areas on HPOM	<ul style="list-style-type: none"> • Do not harvest. Retain for future harvesting events. • Snig tracks may be permitted through these areas where access is otherwise impractical. Care must be taken to avoid damage to advanced regeneration.

Notes:

1. Retained seed trees must be mature, have good form and large, healthy crowns. Trees chosen as seed trees must be of preferred species and must be dominant or co-dominant in the pre harvest stand. Do not retain suppressed trees as seed trees.
2. Areas between seed trees should be treated to aid regeneration, including removal of shade-tolerant stems as far as practicable under the conditions of the IFOA and as market conditions allow.

IFOA Limits

STS Basal Area(BA) limit (40%)	Sections of native forest will be retained within the NHA (displayed as ‘future treatment areas’ on the HPOM) to ensure BA limits are not reached. The Harvest Planning Forester must be contacted if changes to this plan are proposed.
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5. Special Conditions

Non-Harvest Areas

In this compartment, non-harvest areas comprise:

- FMZ 2 (visual protection, runs parallel with the Lansdowne escarpment)
- FMZ 3a (associated with Vincent’s Lookout and Langley Vale tramway. Also coincident with rainforest, and rock/rock buffer).
- FMZ 5 (Authorised Hardwood Plantation)
- Rock and associated rock buffer (coincident with FMZ 3A or FMZ 2)
- Ridge and headwater habitat
- Slopes over 30° (mapped indicatively)
- Riparian protection zones
- Threatened species exclusions
- Owl landscape reserves.

FMZ 3B

There is a small area of FMZ 3B (Visual Impact Management Zone) which adjoins the western edge of the rock and rock buffer in the south western corner of compartment 194. This area would normally be silviculturally treated in the same way as FMZ 4, however, it forms part of the harvesting off-set area in this harvesting event.

Haulage Pattern

All timber will be hauled out along Forest Way via Coopernook Forest Way and Langley Vale Forest Way.

Critical Boundaries

Much of the western boundary of cpt 193 is bounded by private property, however, the private property boundary is separated from net harvest area by FMZ 2 and FMZ 3A exclusion zones. The western boundary and southern boundary of compartment 194 also adjoin private property. The associated private property boundaries are largely protected by FMZ 2 exclusion, rock exclusion, net harvest area off-set areas and slopes greater than 30 degrees. For the areas where harvesting might approach a private property boundary, the boundary line can be adequately identified using GPS equipment. Compartment 195 does not adjoin private property.

Harvesting Debris Management

Logging debris must be removed within 5 meters of the base of retained seed trees and hollow bearing trees to avoid damage in burning operations.

Powerline

An above ground powerline exits to the west of Lookout Road and runs roughly parallel to the escarpment. It services the telecommunications tower on Vincents Lookout. It is within FMZ exclusions zones and should not present an issue with respect to harvesting, however, all operators need to be aware of its location.

Traffic Management

Harvesting operations adjacent to Coopernook Forest Way are likely to require traffic control especially when logs are being snigged across Coopernook Forest Way to dumps 8, 10 and 11, and when trees are being felled within 2 tree lengths of Coopernook Forest Way. The harvesting contractor must provide an adequate traffic management plan and adequate implementation of the traffic management plan. Refer to Forests NSW Safety Standard OSS009 – “Traffic Management”.

6. Forest Management Zoning

Zone	Management
FMZ 2	Special Management – excluded from harvesting <ul style="list-style-type: none"> • Along the Lansdowne escarpment (60m wide strip parallel with escarpment)
FMZ 3A	Harvesting exclusion <ul style="list-style-type: none"> • Mapped rainforest area. Vincent's Lookout. Part of the Langley Vale Tramway. Rock and rock buffer.
FMZ 3B	Special Prescription – usually available under modified harvesting prescriptions, however, added to harvesting off-set area for this harvest event. <ul style="list-style-type: none"> • Small area adjacent to the western edge of rock and rock buffer in south western corner of compartment 194.
FMZ 4	General management – available for harvesting.
FMZ 5	Hardwood Plantation – excluded from harvesting in this harvest event.

7. Cultural Heritage

An Aboriginal cultural heritage site survey was performed by Forests NSW Aboriginal Cultural Heritage Officer (ACHO) in 2006. Contact the Contract Coordinator and ACHO if further sites are uncovered during harvesting operations.

The Langley Vale Tramway, built in 1897, extended through compartments 193, 194 and 195 roughly following Rock Creek. The known extent of the original line is shown on the harvest plan operational map. Bridge remnants, cuttings and raised beds are found along the tramway corridor in these compartments. The following prescriptions have been developed from recommendations from previous reports and prescriptions from previous harvesting plans. The aim of these prescriptions is to preserve all substantial remnants of earth works and infrastructure, especially cuttings where encountered.

For the following prescriptions *corridor* refers to the width of the tramway.

- No structures in the tramway corridor are to be disturbed if found. If found, report to the Harvest Planning Forester immediately.
- The Harvesting Coordinator may approve the felling of trees out of the tramway corridor if it is considered that the activity will not cause damage to the cutting. This decision is only at the Harvesting Coordinator's discretion.
- No trees are to be felled into the tramway corridor where a cutting exists, however, if a tree is accidentally felled, it may be removed if it can be carried out without causing damage to the cutting.
- No machinery is to enter the tramway corridor except to cross where the tramway is level with the ground surface (i.e. no substantial earthworks are present).
- No snagging along the tramway is permitted.

Part of the tramway is within FMZ 3A which is zoned for the purposes of preserved heritage. This zone is a harvesting exclusion area.

8. Flora and Fauna

Refer to the Threatened Species Licence (TSL) Booklet for Conditions.

General TSL Prescriptions

HARVEST PLAN – Compartments 193, 194 & 195, Lansdowne State Forest

- **SFO Mark Up Searches** – Conditions 5.1(h), 5.2 and 5.13 (general, koala and bird roost and nest searches) must be implemented. No koala star search triggers were identified during pre-harvest surveys.
- **Tree Retention** – Regrowth Zone. Conditions 5.6 (d), (e) and (f) must be applied - Glossy Black Cockatoo feed trees.
- **Riparian Habitat Protection** – Condition 5.7 must be applied.
- **Ground Habitat protection** – Condition 5.17. Commercial firewood collection is permitted in these compartments.

Site-Specific Conditions, Exclusion Zones & Modified Harvest Areas

Mapped exclusion areas occur for the following. Site-specific conditions must be implemented

Boundary Type	TSL Condition Number	Prescription Name	Prescription Summary
2, Accidental	5.04	Rainforest	Mapped Exclusion
3, Machinery	6.03	Giant-barred or Stuttering Frog	Mapped exclusion, 30 m buffer on mapped streams within 200 m of records and no UMDL within 200m of records. Revert to 10m UMDL EPL protection
3, Machinery	6.20	Golden-tipped Bat	Mapped exclusion, 30 m buffer on mapped first order streams and second order streams within 200 m of records and no UMDL within 200m of records. Revert to 10m UMDL EPL protection.
3, Machinery	6.23	Threatened Flora	Mapped exclusion, 20 m buffer on records, <i>Tylophora woollsi</i> ,
4, Limited	5.08	Ridge and Headwater Habitat	Mapped Exclusion
4, Limited	5.11	Rocky Outcrop	20 m buffer on outcrops > 0.1 ha or cliffs > 3m high
4, Limited	6.09	Owl Landscapes	Mapped exclusion – Cooperook Planning Unit.
5, Modified	6.06	Stephens Banded-snake	All hollow bearing trees >60cm dbh must be retained within 100m of record

Note: Little Bent-wing bat and Common Bent-wing bat ecology point sites, which do not require prescription, are not shown on the HPOM.

9. Soils and Water Protection

Refer to Environmental Protection Licence (EPL) Booklet & Standard Plan Conditions

Site-Specific EPL conditions Element	Conditions
Unmapped Drainage Lines	Best Management Practices for Unmapped Drainage Lines apply
Drainage Feature Protection	See HPOM for widths
Inherent Hazard Class	2
Dispersible Soils	No
Mass Movement Potential	Low
Seasonal Harvesting Exclusions	Nil.
Seasonal Burning Exclusions	Nil.
Log Dumps	Refer relevant conditions for IHC 1: Conditions 26, 27, 30, and 33 of EPL Schedule 4. Maximum allowed soil disturbance for log dumps: rut depth 25cm, length 10m. (Forest Practices Circular 2008/4)
Snig Tracks	Refer to special conditions below.
Roads	See schedule 5 of EPL Booklet

Snig and Extraction Tracks

Element	Schedule 4 EPL Conditions
Technique	Conditions 38-40 Schedule 4 EPL
Drainage	Conditions 70-80 Schedule 4 EPL
Crossings	Conditions 42-68 Schedule 4 EPL Condition 5.7 TSL
Downhill Snigging	Condition 82 Schedule 4 EPL
Wet Weather	Condition 81 Schedule 4 EPL
Grade	Max grade must not exceed 25° except for short sections under certain circumstances. Refer to Cond 41 Sch 4 EPL.
Rutting	Max allowed soil disturbance limits for snig / extraction tracks: rut depth 20cm, length 10m. (Forest Practices Circular 2008/4)

10. Legal Conditions

This operation must comply with:

- Licence Conditions issued by Forestry Corporation under the Forestry Act (2012).
- State Forests of NSW Forest Practices Code - Part 2 Timber Harvesting in Native Forests 1999 and Forest Practices Code Part 4 Forest Roads and Fire Trails (1999).
- Integrated Forestry Operations Approval issued under part 4 of the Forestry and National Parks Estate Act 1998 (IFOA) as amended March 2013 including associated licences for Lower North East Region.
 - Threatened Species Conservation Licence (TSCL) issued under the Threatened Species Conservation Act (1995) as amended March 2013
 - Part 7 (Div 3) Fisheries Management Act (1994) as amended March 2013
- This operation is a non-scheduled operation under the Environment Protection Licence issued under section 55 of the Protection of the Environment Act 1997. This Harvesting operation including the roads and trails associated with harvesting are not licensed. All EPL conditions will be applied to harvesting operations, except for schedule 4 condition 6 relating to filter strips on unmapped drainage lines. The Best Management Practices detailed in Standard Harvest Plan Condition for Native Forest Operations in Central Region are to be applied to unmapped drainage lines.

11. Pre-Operational Briefing

I acknowledge that I have received a copy of the Harvesting Plan for Compartments 193, 194 & 195 in Lansdowne State Forest and that I have been briefed on the conditions of the Plan and understand the supervision and operational control requirements as explained to me by the Forest Planner or his/her delegate.

Position	Name	Signature	Date