Scale: 1:15,000
Datum: GDA94
Projection: MGA
Map Sheets:
1:25,000: Wollombi 9132-3-S
1:100,000 Cessnock 9132
Contour Interval: 10 m

Harvest Plan Operational Map
Compartments 297, 298 & 299
Watagan State Forest
Morisset Management Area

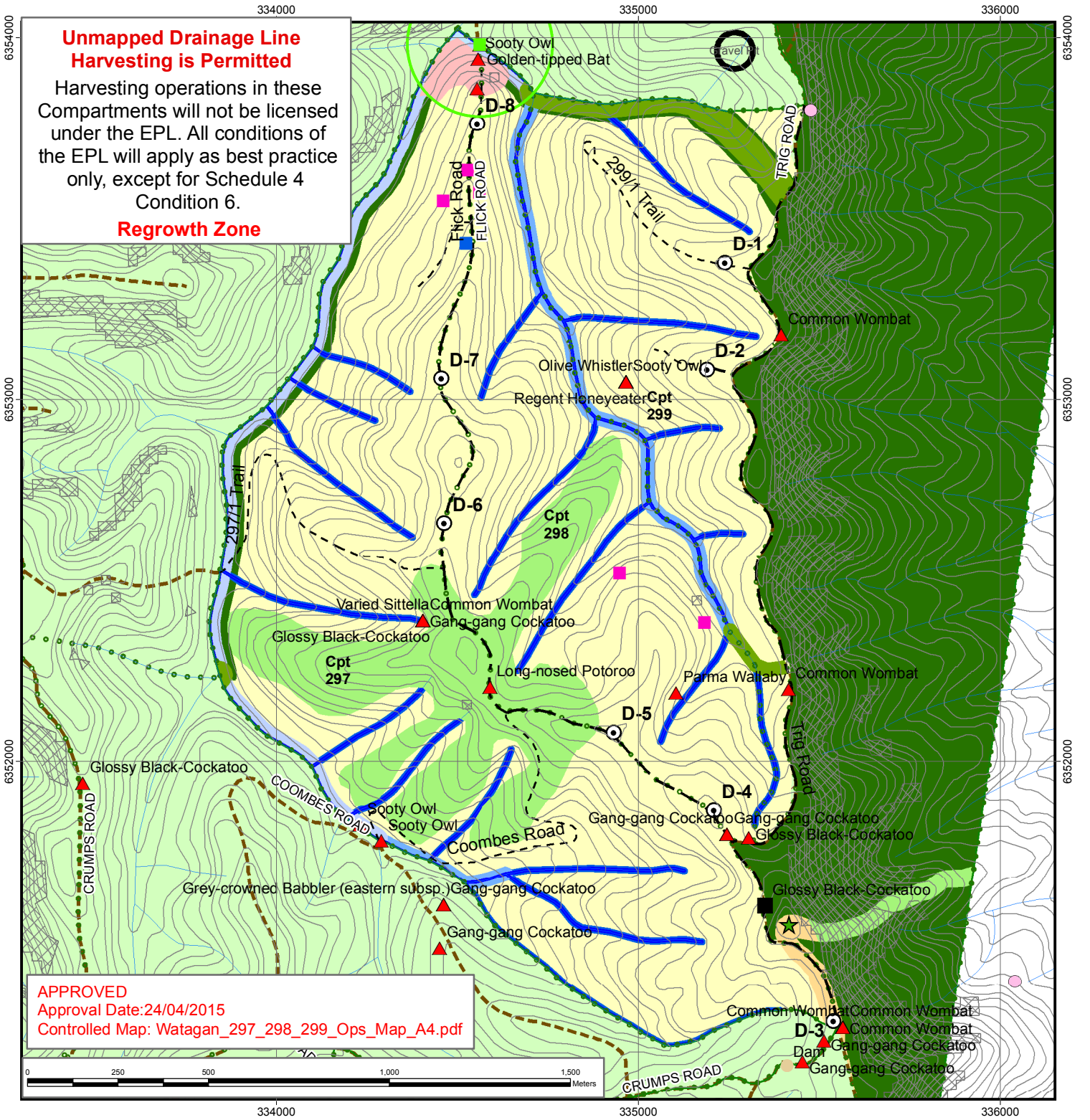
Forestry Corporation

Prepared by: Paul Williams
Date: 15/04/2015

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:24/04/2015
Controlled Map: Watagan_297_298_299_Ops_Map_A4.pdf

MAP FEATURES

- State Forest Boundary
- Compartments Boundary
- 1 Km Grid
- 10m Contour
- State Forest
- Private Property (cadastre)
- Slopes >30° (indicative)
- Flat Rock Lookout
- Quarry
- Log Dump (numbered)
- Operational Zone
- Dam

ROADS

- Gravel Road
- Natural Surface Road
- Not to be used for haulage
- Roads outside harvest area

DRAINAGE FEATURES

- Drainage line (5m Operational Zone)
- 1st Order (Protection 10m)
- 2nd Order (Protection 20m)
- 3rd Order (Protection 30m)

HARVEST AREA & EXCLUSION ZONES

Base Net Area - (IHC 1&2)
Harvest Area

- General Management (FMZ 4 and 8)
- Visual Protection (FMZ 3B)

Exclusions

3 Bar Limited Falling

- Harvesting Protection (FMZ 3A)
- Rare & Non Commercial Forest Type
- Ridge & Headwater Habitat (40m/80m wide exclusion)
- Harvesting Protection (FMZ 2)

Threatened Species Records

Records requiring prescription

- Golden-tipped Bat (Harvest exclusion 30m's each side of all drainage lines within 200m of the record)
- Glossy-black Cockatoo Feed Tree
- Observed Cliff Site

Other records of presence

- Ecology point site (labelled on map)

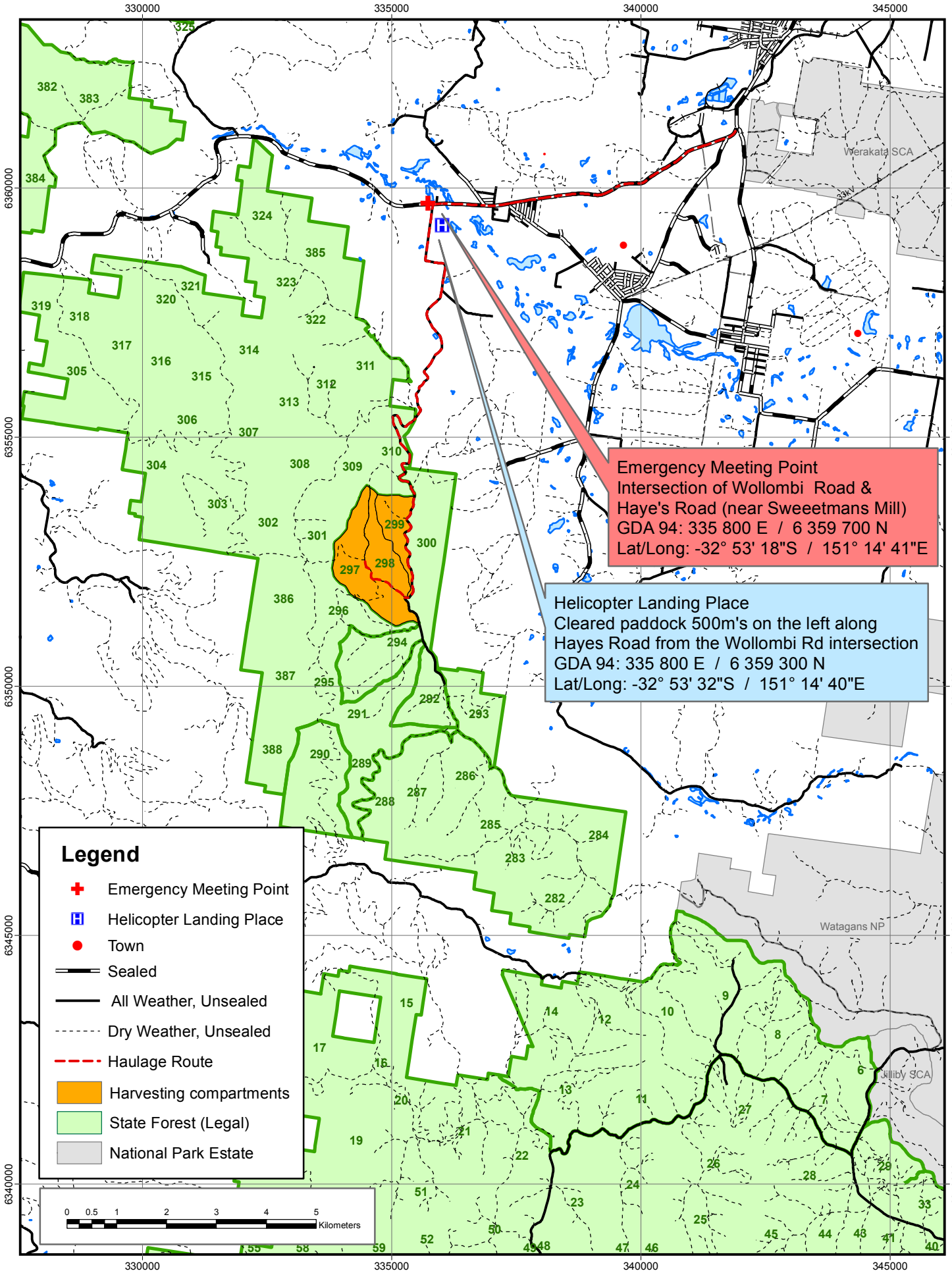
Scale 1:100,000
Datum: GDA94
Map Sheets
1:25,000; Wollombi 9132-3-S
1:100,000; Cessnock 9132

Locality / Site Safety Map
Compartments 297, 298 & 299
Watagan State Forest

GDA

Forestry Corporation

Prepared by: Paul Williams
Date: 22/04/2015



Emergency Telephone 000 / 112 Forests NSW (02) 6585 3744

FORESTRY CORPORATION OF NSW - CENTRAL REGION

NATIVE FOREST HARVESTING PLAN

Watagan State Forest – Compartments 297, 298 & 299

1. Certification

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

Prepared by: Paul Williams Harvest Planning Forester	Reviewed by: Dirk Van Dijk Acting Planning Supervisor
Signature: Original signed by Paul Williams	Signature: Original signed by Dirk Van Dijk
Date: 21/04/02015	Date: 24/04/2015

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 work.

***Attachment 1*:** Site Safety Plan – describes safety requirements and 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	Region	Management Area	Price Zone	Harvest Plan ID
Watagan	297, 298 & 299	Central	Morisset	Morisset	10707

	Cpt 297	Cpt 298	Cpt 299	Total
PlanCptID	21978	21979	21980	-
Gross Area	159 Ha	85 Ha	72 Ha	316 Ha
Net Harvest Area	107 Ha	63 Ha	59 Ha	229Ha
Estimated accessible and viable area	80 Ha	27 Ha	18 Ha	125 Ha
Estimated Yield	2050m^3	690 m^3	460 m^3	3200 m^3
% NHA > 15°	52 %	53 %	50%	-

4. Silviculture and Harvesting Prescriptions

Compartment History and Stand Condition

These compartments have a long history of timber harvesting. Many of the accessible areas within the compartments were harvested then followed up with timber stand improvement (TSI) in the early to mid 1960s. This treatment generally resulted in good regeneration. Certain areas were thinned in the early 1990s. This has resulted generally in a fully stocked even-aged regrowth forest with a scattering of mature trees that were the retained seed trees from previous events. Areas of better site quality have a higher proportion of regrowth that will produce HQL volumes.

The proposed harvesting operation will target mature stems which were retained as growers in the last harvesting event. The silvicultural objective of this harvesting operation is to use STS to maximize the removal of merchantable timber and to regenerate the stands. However, some ridges were harvested intensively last time and these will be either harvested lightly or left to grow on.

Harvesting Prescription

Stand type	% of net area	Example	Treatment (STS, AGS, or THIN) and Prescription
Regrowth stands dominated by Blue-Leaved Stringybark or Gum (SBG or RLG)	42%	.	STS – Mod to heavy Retain seed trees at 30-40m and growers 30-40cm DBH. Remove as many small suppressed stems as possible. The intended mode of regeneration is natural seedling establishment and coppice. The seed source will be from heads of felled trees as well as retained seed trees.
Stands dominated by mature Blue-Leaved Stringybark	3%		STS – Heavy Retain seed trees at 30m and remove as many small suppressed stems as possible. The intended mode of regeneration is natural seedling establishment and coppice. The seed source will be from heads of felled trees as well as retained seed trees.
Small regrowth with occasional sawlog	30%		STS – Light Remove sawlogs with minimal disturbance to retained growers
Inaccessible or unviable stands	25%		No harvest.

Notes:

1. Retained seed trees must be mature, have good form and large, healthy crowns. Do not retain sub-dominant or suppressed trees as seed trees.

IFOA Limits

STS BA limit (40%)	Basal Area retention limits will not be reached because a significant proportion of the net harvest area will be retained to grow on. In addition, sections of native forest that are within the NHA but are inaccessible for harvesting machinery will be retained. The Harvest Planning Forester must be contacted if changes to this plan are proposed.

5. Special Conditions

Critical Boundaries

The compartments are surrounded by State Forest. In general, roads or drainage features form the boundaries of the compartments.

Exclusion Zones Outside the Compartments

Compartment 300 is completely comprised of FMZ 2 – Harvesting Exclusion. Trig Road forms the boundary of this exclusion. Thus, a Limited Falling exclusion Zone (3 bars) must be applied along the eastern edge of this road. Log dumps cannot not be placed on the eastern side of Trig Road.

Special Prescription - FMZ 3B

A 40m strip along Trig Road has been zoned FMZ 3B for visual impact management. Within this zone, only Single Tree Selection silvicultural techniques may be used. At least 50% of the pre-harvest canopy must be retained within this zone. Felling and snigging must be directed away from Trig Road, where practicable. Log dumps should not be placed within this zone, as far as practicable. Snig tracks, bark heaps and logging debris should also be kept out of this zone, where possible.

Haulage Pattern

All timber will be hauled north along Trig Road, Hayes Road.

6. Forest Management Zoning

Zone	Management
FMZ 2	Harvesting Exclusion. Located: • Along 3rd order stream on western boundary of compartment 297 – 50m exclusion; • A section follows the Ridge & Headwater Habitat Reserve and drainage line to the north of compartments 298 & 299. • Eastern side of Trig road
FMZ 3A	Harvesting Exclusion • Area within compartments 297 & 298
FMZ 3B	Special Prescription • One strip along Trig Road - 40m from road centre. • Refer to Special Conditions section of this plan.
FMZ 4	General harvest area.

7. Cultural Heritage

Investigations were conducted during April, 2015 by the Region's Aboriginal Cultural Heritage Officers (ACHO) and there were no sites identified.

If any sites are identified in the course of harvesting operations, the **Harvesting Forester** must determine an appropriate interim exclusion zone pending an investigation by the ACHO.

8. Flora and Fauna

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

General TSL Prescriptions

- **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 – 5.6 g (iii) Glossy Black Cockatoo feed trees.
- **Riparian Habitat Protection** – Condition 5.7 must be applied.
- **Ground Habitat protection** – Condition 5.17. Commercial firewood collection 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
3, Machinery	6.20	Golden-tipped Bat	Mapped exclusion, 30 m buffer on mapped streams within 200 m of a records and no UMDL within 200m of a record. Revert to 10m UMDL EPL protection
4, Limited	5.05	Rare non-commercial Forests	Mapped Exclusion
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

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	1
Dispersible Soils	No
Mass Movement	No
Seasonal Harvesting Exclusions	Nil
Seasonal Burning Exclusions	Nil
Log Dumps	Refer relevant conditions for IHC 1: Conditions 26, 27, 30, and 33 of Schedule 4 EPL. Refer relevant conditions for IHC 2: Conditions 26, 27, 28, 30, 31 and 33 of Schedule 4 EPL. Max. allowed soil disturbance for log dumps: rut depth 25cm, length 10m. (Forest Practices Circular 2008/4)
Roads	See Schedule 5 EPL

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 EPL Schedule 4 Condition 41.
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 Forests NSW under the Forestry Act (1916)
- 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 May 2003 including associated licences for Lower North East Region.
    - Threatened Species Conservation Licence (TSCL) issued under the Threatened Species Conservation Act (1995) as amended May 2003
    - Part 7 (Div 3) Fisheries Management Act (1994) as amended May 2003
- 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 297, 298 and 299 Watagan 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