

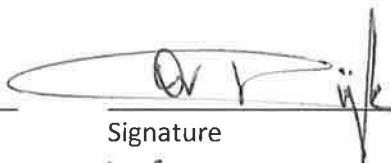
FORESTRY CORPORATION OF NEW SOUTH WALES
WAUCHOPE MANAGEMENT AREA
NATIVE FOREST HARVESTING PLAN

Kippara State Forest - Compartments 18, 19 & 20 Ptn 16, 17 & 21

Certification

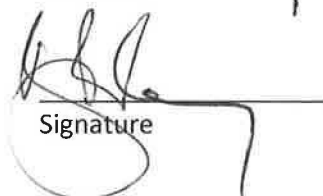
This plan has been prepared in accordance with the Integrated Forestry Operations Approval issued under the Forestry and National Park Estate Act 1998 and addresses significant aspects and impacts in the planning process. The Standard Harvest Plan Conditions for Native Forest Operations in Central Region apply to this operation.

Prepared by: Dirk van Dijk
 Senior Planner


 Signature

15/07/2014
 Date

Reviewed and Approved by: Brent Brown
 Planning supervisor


 Signature

21/7/2014
 Date

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

Description of Proposal

This is a plan for Integrated Harvesting of Native Forest and associated road works.

This is Scheduled operation for Compartments 16 & 19 which will be licensed under the EPL.

This is not a Scheduled operation for Compartments 17, 18, 20 & 21 which will not be licensed under the EPL.

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

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

Attachment 3: Standard Harvest Plan Conditions for Native Forest Operations

Area Identification and Yield Estimates

State Forest	Compartments	Region	Management Area	Price Zone	Harvest Plan ID
Kippara	16, 17, 18, 19, 20 & 21	Central	Wauchope	Wauchope Upriver	10590

	18	19	20	Total
FRED Cpt Plan ID	20821	20822	20823	
Gross Area (ha)	182	166	198	546
Net Harvest Area (ha)	48	84	93	225
Estimated Yield (m3)	3400	4800	5800	14,000
<i>NB: Residue not counted</i>				

	16	17	21	Total
FRED Cpt Plan ID	20915	20916	20917	
Gross Area (ha)	190	214	50	454
Net Harvest Area (ha)	8	11	1	20
Estimated Yield (m3)	480	660	60	1200
<i>NB: Residue not counted</i>				

Silviculture and Harvesting Prescriptions

These compartments were last logged in the early 1980's. Silvicultural treatment was intense with over 30,000 m3 quota removed.

The current stand condition comprises large areas of good quality regrowth with pre-merchantable stems and early mature stems (sawlog and pole grade). There are many mature stems throughout.

Silvicultural Planning

These compartments are likely to be harvested over a number of seasons.

Restrictions on logging are:

Remove less than 50 % canopy within the net harvestable area (NHA)

Remove less than 30 stems per ha of trees over 40 cm DBH within the NHA.

Markets are constrained at the time of writing this plan, but may change. In the absence of residue markets, salvage, pole and quota sawlogs should be removed (light-medium STS). The logging restrictions above combined with adequate advanced growth remaining after logging will keep the stand adequately stocked.

Harvesting Prescription

Stand type	% of net area	Example	Treatment (%STS,AGS,THIN)
Regrowth Dry Blackbutt, Tallowwood and Sydney Blue Gum	80	Marowin Brook Road	<ul style="list-style-type: none"> • Medium STS • Remove all merchantable product as far as markets allow. • Retain pre-merchantable advanced growth as growing stock until next harvest.
Mature moist hardwood	10	In patches scattered throughout, mostly lower slopes	<ul style="list-style-type: none"> • Medium STS • Remove all merchantable product as far as markets allow.
Brush Box	10	Lower slopes along drainage lines	<ul style="list-style-type: none"> • Medium STS • Remove all merchantable products as far as markets allow.

Notes:

1. Retained seed trees must be mature, have good form and large, healthy crowns. Do not retain suppressed trees as seed trees.
2. Unless otherwise directed by the Lead Technician, 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

Basal Area retention will be managed through the large number of pre-merchantable trees, over-mature/hollow-bearing trees, and areas of low merchantability or difficult to access areas.

Special Conditions

Critical boundaries

Willi Willi National Park and the Kumbatine SCA adjoin these compartments to the north, south and west. This boundary must be determined using GPS

Seasonal Harvesting and Burning Restrictions

There are seasonality restrictions in all of these compartments:

Cpts 16 & 19: IHC3, There is to be **no harvesting** on areas with slopes $\geq 20^\circ$ from 1st December to 30th April.

Cpts 17, 18, 20 & 21: IHC2, There is to be **no harvesting** on areas with slopes $\geq 25^\circ$ from 1st January to 31st March.

Post-harvest burning is NOT to occur in any of these compartments during these months.

Non-Regrowth Zone

These compartments are in the non-regrowth zone and therefore a minimum of 5 hollow bearing trees and 5 recruitment trees must be retained per hectare of net logging area.

Research Plots

There is one Permanent Growth Plot northeast of Dump 3, Wollongbar Road, compartment 20. The Tactical Planner must be contacted to arrange measurement prior to harvesting

Snig Track Drainage Line Crossing

Several snig track drainage line crossings were identified during planning which could be used. Appropriate planning and documentation must be completed if any are required to be used during harvesting. The Senior Planner should be consulted prior to their use such that the required documentation can be completed

Refer to FPC 2012/05 - Use of Temporary Snig/Extraction Track Slash Crossings of Drainage Features in Native Forest Logging Operations.

Rutting

Maximum allowable soil disturbance limits shall be:

On log dumps a depth of 25cm and a length of 10m; and

On snig and/or extraction tracks a depth of 20 cm and a length of 10m.

(See Forest Practices Circular 2008/04)

Traffic Management

All traffic is to exercise caution along Upper Rolands Plains Road. The Central Region Rural Roads Strategy must be applied on School bus routes.

Long snigging

Long snigging will need to occur extensively throughout these compartments. This strategy has been adopted to minimise road works.

Mapped drainage

Mapped (LIC) drainage has been corrected using LiDAR and field verification resulting in a significant difference to LIC mapped drainage. Drainage protection buffers are indicated on the HPOM

Forest Management Zoning Conditions

FMZ2: Occur as small areas of mapped exclusions within the compartments.

FMZ 3A: Occur mostly as either rainforest, or HCVOG. There are some small areas compartments 19 & 20 which appear as FMZ3A – not to be harvested.

FMZ 4: General management: Available for harvesting.

FMZ8: The majority of these areas appear as either predicted drainage buffers, or indicative slopes $>30^\circ$, and will be managed according to drainage feature protection, or harvesting slope limits accordingly.

Cultural Heritage Conditions

Aboriginal heritage: An Aboriginal site survey was performed by Forestry Corporation Aboriginal Cultural Heritage Officer in 2014.

Non-Aboriginal heritage: There are no known non-Aboriginal heritage sites within these compartments.

Contact the Lead Technician and ACHO if further sites are uncovered during harvesting operations.

Flora and Fauna Conditions

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

General TSL Prescriptions

- **Field Technician Mark Up Searches** – Conditions 5.1(h), 5.2 and 5.13 (general, koala and bird roost and nest searches) must be implemented. Koala star search trigger from an old observation were identified during reporting. No high use nor intermediate use triggres were identified.
- **Tree Retention** – Non-regrowth Zone. Conditions 5.6 (b), (c) 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 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	Prescription applies (Y/N)
2, Accidental	5.04	Rainforest	Mapped Exclusion	Y
3, Machinery	6.04	Sphagnum Frog	Mapped exclusion, 50 m buffer on records	Y
4, Limited	5.03	HCVOG	Mapped Exclusion	Y
4, Limited	5.11	Rocky Outcrop	20 m buffer on outcrops > 0.1 ha or cliffs > 3m high	Y
4, Limited	6.09	Owl Landscapes	Mapped exclusion - Wilson River	Y
	6.27	Threatened Flora	Ecologist has determined that a monitoring program as per condition 6.27 will not be appropriate as only a small population has been found so far outside of the net harvest area. Forest technicians have been trained in the ID of this species and have been asked to advise the ecologist if significant populations are found within the net harvest area. As per the approved species monitoring plan.	N

Melaleuca groveana

Vulnerable species

FAMILY

MYRTACEAE

HABIT

Shrub or small tree 2–5 (–10) m high, with firm fibrous-papery bark.

MAJOR IDENTIFYING FEATURES

White 'bottlebrush' flower spikes with stamens fused into 5 bundles and hairless spike stems; dull, blue-green leaves > 3 mm wide.

CONFUSING SPECIES

Other species of *Melaleuca* with broad leaves tend to have longitudinal veins in the leaves. Species of *Callistemon* have flowers with free stamens that are not fused into bundles.

LEAVES

Alternate, narrow-elliptic, 20–55 mm long, 3–8 mm wide, apex pointed, margins entire, lamina hairless, with fine oil dots. Venation consisting of a single mid-rib with lateral veins extending to an intramarginal vein (some leaves may have 2 or 3 longitudinal veins). Petiole 1.5–3 mm long. Dull blue-green colour.

INFLORESCENCE

Few- to many-flowered spike 2–3 cm long, towards branch ends, with branch tip growing on into a leafy shoot. Inflorescence stem ± glabrous.

FLOWERS

Solitary with a bract below, white. Sepals small, triangular, shedding before fruit-set; petals free, ovate, up to 4 mm long; stamens in 5 bundles of 11–26 filaments. Flowers spring.

FRUIT/SEED

Fruit barrel-shaped, smooth, 4–7 mm diameter, orifice 2–3 mm wide at top. Seed numerous, linear.

HABITAT

Likely habitat: Grows in heath and shrubland, often in exposed sites, at higher elevations, on granite outcrops and conglomerate cliffs.

Additional known habitat details:

SEASONAL SURVEY

Not required.

DISTRIBUTION

Widespread, scattered populations in coastal districts north from Port Stephens extending to Queensland. Recorded in Mount Boss, Kippara and Broken Bago State Forests.

RESERVED POPULATIONS

Beerwah NP; Mount French NP; Bago Bluff; Tomaree NP; Werrikimbe NP; Yengo NP.



Melaleuca groveana

Soils and Water Protection Conditions

This is a Scheduled forestry activity for compartments 16 & 19. As such, harvesting operations within these compartments, including the roads and trails associated with harvesting, are licensed. All EPL conditions will be applied.

This is a Non-scheduled forestry activity for compartments 17, 18, 20 & 21. As such, this harvesting operation, including the roads and trails associated with harvesting, are not licensed. All EPL conditions will be applied to harvesting operations as best management practice only, except for schedule 4 condition 6 relating to filter strips on unmapped drainage lines. The Best Management Practices detailed in **Attachment 3** of this Plan are to be applied to unmapped drainage lines.

Un-mapped Drainage Line harvesting is NOT permitted in compartments 16 & 19.

Un-mapped Drainage Line harvesting is permitted in compartments 17, 18, 20 & 21 only.

Refer to EPL Booklet & Standard Plan Conditions

Site-specific EPL conditions – this table contains the information that determines which site-specific conditions apply.

Elements	Conditions
Inherent Hazard Classes	2: cpts 17,18,20 & 21 3: cpts 16 & 19
Unmapped Drainage Lines	No UMDL in cpts 16 & 19 BMP for UMDL apply
Drainage Feature Protection	See HPOM for widths
Dispersible Soils	No
Mass Movement	No evidence sighted Low – refer below
Seasonal Harvesting Exclusions and slope limits	<u>R1 Zone as displayed on HPOM</u> 1 Jan – 31 March No Harvesting on Slopes > 25 degrees during this period <u>R2 Zone as displayed on HPOM</u> 1 Dec – 30 April No Harvesting on Slopes > 20 degrees during this period No harvesting permitted on slopes ≥25° at all times
Seasonal Burning Exclusions	No Post-harvest burning between 1 December and 30 April.
Log Dumps	Refer relevant conditions for IHL 2 & 3
Snig Tracks	Refer relevant conditions for IHL 2 & 3
Roads	See schedule 5 of EPL Booklet

- Any maintenance grading or road upgrading should aim not to undercut the toe of large cut batters.
- All snigging should be directed away from drainage features with uphill snigging patterns used whenever practical.

- Works must not commence during or immediately after prolonged rainfall events. The harvesting area, associated with new side cut construction or reopening of existing side cut snig tracks must be allowed to dry prior to any earthworks commencing.
- Existing snig tracks should not be widened where the batter will exceed 1m in height. Snig track reopening is restricted to clearing of regrowth on track surface. Vegetation on batter should remain when safe to do so.

Legal Conditions

This operation must comply with the following conditions in compartments 16 & 19: (licenced)

- Standard Harvest Plan Conditions for Native Forest Operations in Central Region
- Licence Conditions issued by Forests NSW 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 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 must comply with the following conditions in compartments 17, 18, 20 & 21: (unlicenced)

- Standard Harvest Plan Conditions for Native Forest Operations in Central Region
- Licence Conditions issued by Forests NSW 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 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
- All conditions of the Environment Protection Licence No. 3957 LNE issued under section 55 of the Protection of the Environment Operations Act 1997 (EPL) apply as best management practice, except for Schedule 4 condition 6 relating to filter strips on unmapped drainage lines.

