

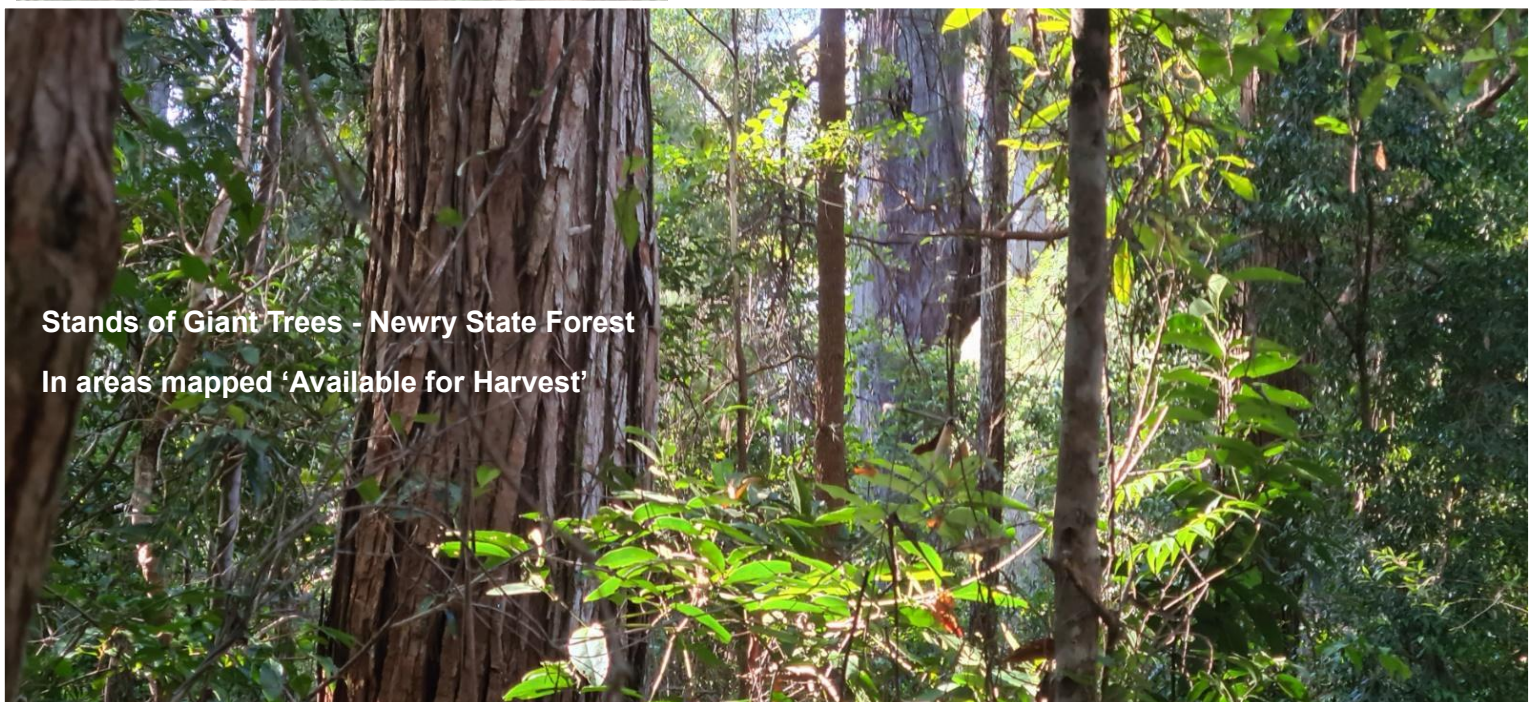


**Nature Conservation Values
Compartments 21, 22, 26, 27 & 28
Newry State Forest**

Report for North East Forest Alliance

Prepared by Bower Bush Works

July 2023



**Stands of Giant Trees - Newry State Forest
In areas mapped 'Available for Harvest'**

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1.0 Background

Opportunistic searches for threatened flora and fauna species, and high conservation value forest have been undertaken through proposed harvest areas of Newry State Forest (SF), with a focus on Compartments 21, 22, 26, 27 & 28 (Figure 1). Compartments 23 & 24 have not been assessed.

Search effort was focussed on species listed under Federal Environmental Legislation - Environmental Protection & Biodiversity Conservation EPBC 1999 (EPBC Act) & NSW State Biodiversity Conservation Act 2016 (BC Act).

Searches were undertaken through areas mapped 'Available for Harvest', environment/ecological exclusion zones (EZ), Threatened Ecological Communities (TEC), and in proximity to 'indicative mapped snag tracks'.

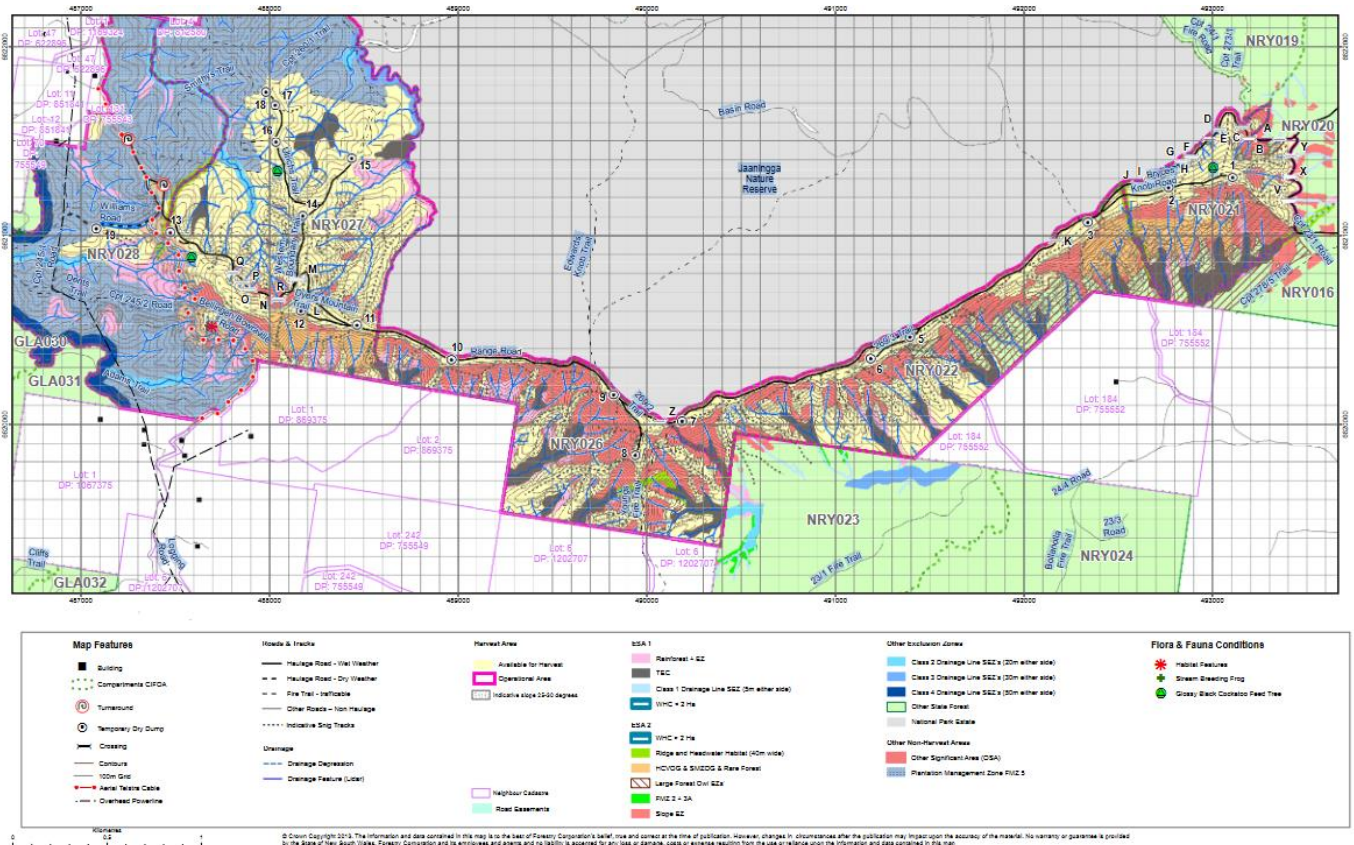


Figure 1. Harvest Operations Management Plan (HOMP) for Newry SF Comp. 21, 22, 26, 27 & 28

2.0 Search Effort

Three nights of spotlighting by vehicle and on foot using head lamps were undertaken. All roads throughout the designated compartments were surveyed across three nights.

Three days were applied undertaking flora and habitat assessments.

On ground search effort was only applied in Compartments 22, 26, 27 & 28.

3.0 Search Priorities

Searches were prioritised for locations with recorded sightings, signs or suitable habitats (per NEFA brief).

- Arboreal mammals
- Brush-tailed Rock Wallaby
- Koala scats, Glossy Black Cockatoo feed trees
- Searching for locations of threatened plants including Milky Silkpod, Slender Marsdenia, Rusty Plum, Newry Golden Wattle, Red Bopple Nut and *Senna acclinis*
- Sampling Scrub Turpentine, Native Guava (re: Myrtle Rust, height, dbh@130cm & healtht)
- Occurrences of Lowland Subtropical Rainforest
- Areas of Old Growth / High Conservation Value OG
- Lantana impacts
- Identify colonies of Bell Miner and areas of dieback
- Comment on degree of lantana infestation
- Identification of Giant Trees and Hollow bearing trees
- General proximity of search effort with most roads used for spot lighting
- See Appendix 1 for priority threatened species (the focus of search effort)

4.0 Overview of Newry State Forest habitat values

Newry SF (Compartments 21, 22, 26, 27 & 28) comprise an east-west aligned ridgeline with associated slopes and gullies, abutting Jaaningga NR, private land and state forest. This area provides a significant wildlife corridor, habitat link, from coastal to hinterland forests (see Figure 2 & 3) supporting wet & dry sclerophyll forest, rainforest and identified High Conservation Value Forest and High Value Old Growth HVOG.

At least 20 threatened species potentially occur in the area (Appendix 1).

Newry SF comprises older growth forest (selectively logged), regrowth to higher intensity logged areas comprising of younger-aged forest, mostly located outside of the areas searched.

Newry SF comprises an extent of forest with high quality conservation values, noted by a diverse assemblage and age range of eucalypt species (including giant trees, mature, hollow bearing and recruit trees) including primary and secondary forage species for Koala *Phascolarctos cinereus*, Southern Greater Glider *Petauroides volans* and high-quality sap and nectar producing species suitable for other glider and nectivorous species including Yellow bellied Glider *Petaurus australis* and Grey Headed Flying Fox *Pteropus poliocephalus*; and noted habitat features for large forest Owls.

Search effort across areas mapped 'Available for Harvest' identified 40 locations of five threatened plant species, measured 32 Giant Trees and identified at least 56 'Habitat Feature - Eucalypt trees' either mature, hollow bearing or with 'signs of fauna use' (refer to Appendix 2).

Forest Oak – *Allocasuarina torulosa* is a common sub canopy species throughout Newry SF which is a known preferred feed tree for Glossy Black Cockatoo *Calyptorhynchus lathamii*. Mature stands of this species were also detected in areas mapped 'Available for Harvest'.



Figure 2. Landscape context of Newry State Forest - Comp. 21, 22, 23, 24, 26, 27 & 28

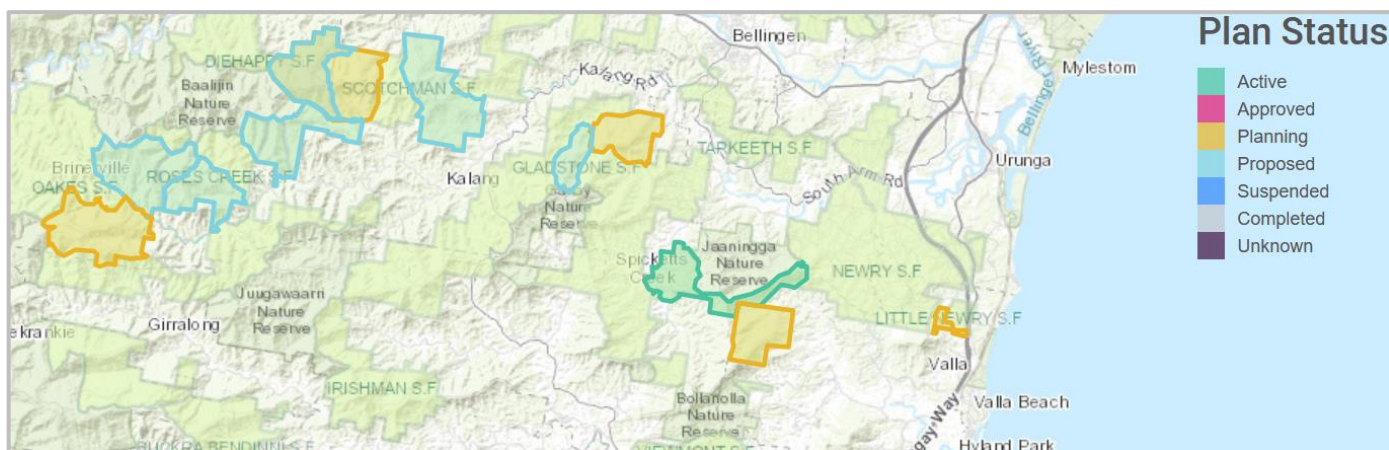


Figure 3. Landscape context of 12 Forestry Corp operations, including Newry SF

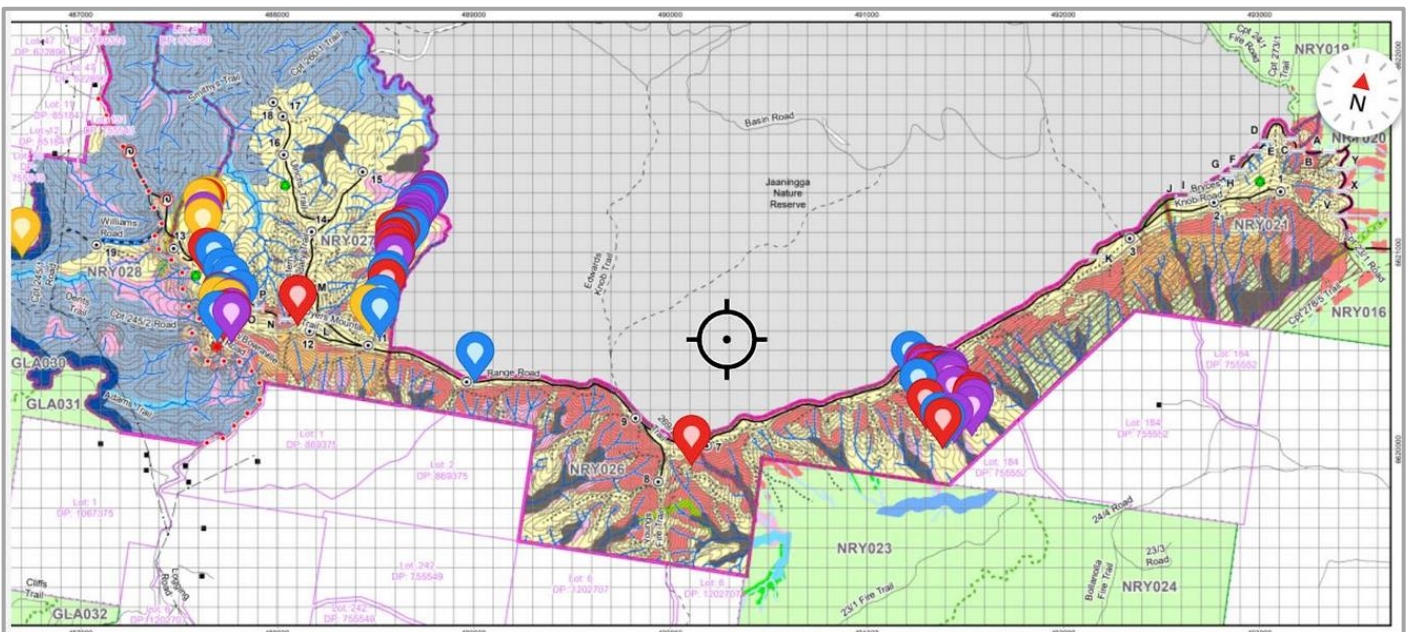
5.0 Preliminary Findings

Five threatened plant species were recorded from 40 locations in Newry SF (see Section 11).

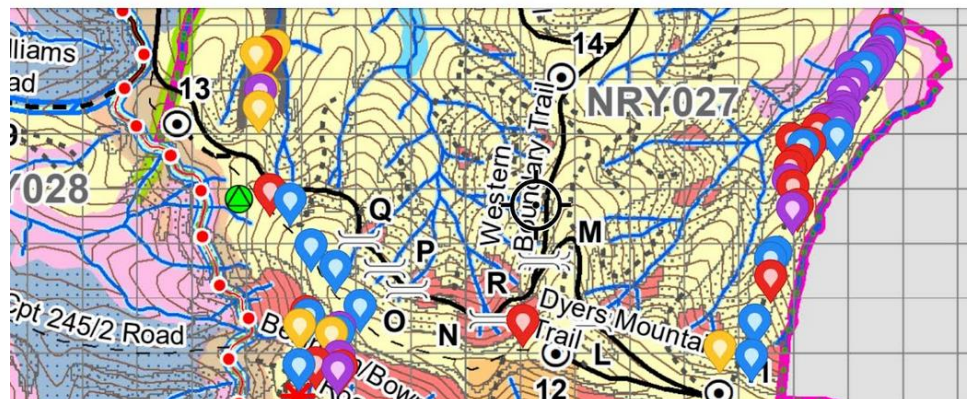
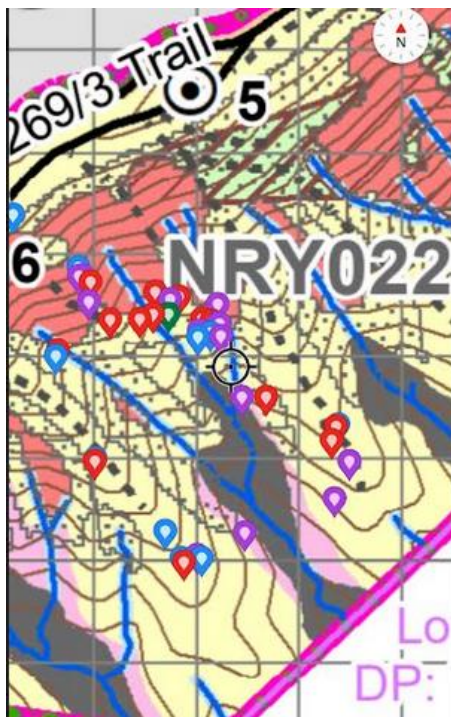
A Southern Greater Glider was observed exiting a den tree during a nocturnal search on 15 July 2023. On checking the location during daylight hours on 17 July 2023, the animal exited the hollow, then glided and climbed into the upper branches of the tree when it heard us walking near the the tree. However, it returned to its hollow immediately when the site was vacated. This highlights the sensitivity this species has to disturbance.

Volunteers looking for Glossy Black Cockatoo nests reported seeing a Southern Greater Glider at Nunguu Mirral Aboriginal Area - Picket Hill on the 11 July 2023. They also spotted a Powerful Owl *Ninox strenua* near Fig Tree Bridge in Newry State Forest on 25 June 2023 (which has been lodged on Bionet).

Other Arboreal mammals or large forest owls were not observed during our searches, however significant Habitat Features suitable for hollow dependant fauna and Koala were recorded, including stands of mature to 'Giant Trees' & trees bearing signs of use. Refer to Figures 4 and Appendix 2 – List of Threatened Flora & Habitat Resources – Newry SF.



Figures 4 a,b,c. Area of search & priority points.



- Blue** – Habitat Feature Trees
- Red** – Giant Trees
- Purple** – Threatened Plants
- Yellow** – Photo points of weeds

6.0 Southern Greater Glider – *Petauroides volans*

An individual Southern Greater Glider was observed emerging from its den tree on the evening of 15 July 2023. This species is listed Endangered under the BC Act & EPBC Act. This is a regionally significant sighting noting the limited extent of recent records for this species in the coastal lowlands.

There is no record for Southern Greater Glider identified in the current Harvest Plan for Newry SF.

The location of the den tree (Figures 6 & 7) in Comp.26 is on periphery of an area mapped as an Exclusion Zone in the Harvest Plan, 'Available for Harvest' and a log dump (temp. dry dump) (Figure 8 & 9). Given the Endangered status of this species and vulnerability to disturbance, the CIFOA protocols providing a 50m buffer for Southern Greater Glider den trees, and the retention of only 8 hollow bearing trees per hectare are unlikely to provide adequate protection for this record/location.

The Southern Greater Glider is highly territorial, occupying a range of one to three hectares and known to utilise up to 18 hollows in their home range (OEH 2023). Further to this, the impact of logging operations during the species reproductive phases increases its vulnerability, noting this species breeds between March to June, carries pouch young to four months, with three months carried on the parents back.

There is substantial habitat for Southern Greater Glider (and Yellow-bellied Glider) with mature and hollow bearing trees across the southern slopes adjacent to the 'located den tree' and particularly in compartments 23/24 in proximity to Bollandolla Mt, in areas that are mapped 'Available for Harvest'.

As stated above (Section 5), volunteer surveyors looking for Glossy Black Cockatoo nests observed a Southern Greater Glider at Nunguu Mirral Aboriginal Area - Picket Hill on the 11 July 2023, which further indicates the species is persisting in Newry State Forest.

Detailed surveys to ascertain the extent of this species in proposed harvest areas needs to be conducted prior to any logging operations to identify den trees and home ranges and to ensure individual animals are not harmed by logging operations, to enable a sustainable population is maintained in Newry State Forest.

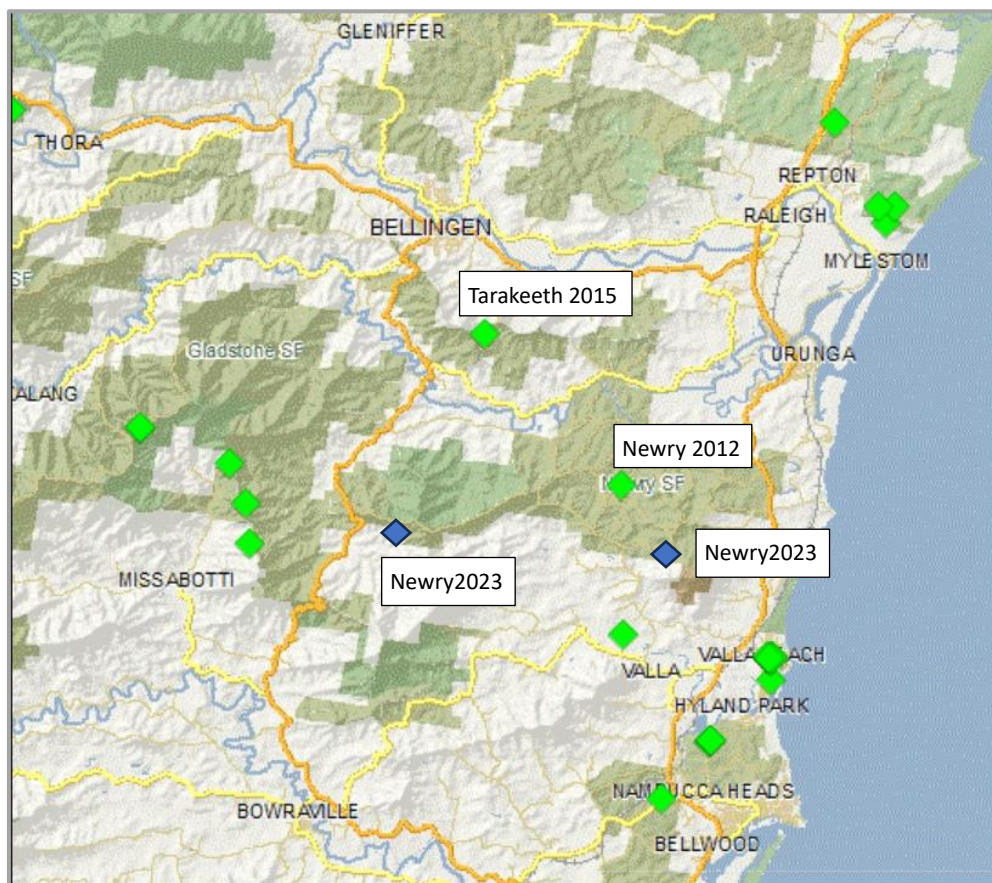


Figure 5. Southern Greater Glider - Bionet Atlas of NSW Wildlife 28.07.23.

Recent Records ◆
Southern Greater Glider ◆



Figure 6. Co-author pointing to den tree.



Figure 7. Close up of hollow/den tree.

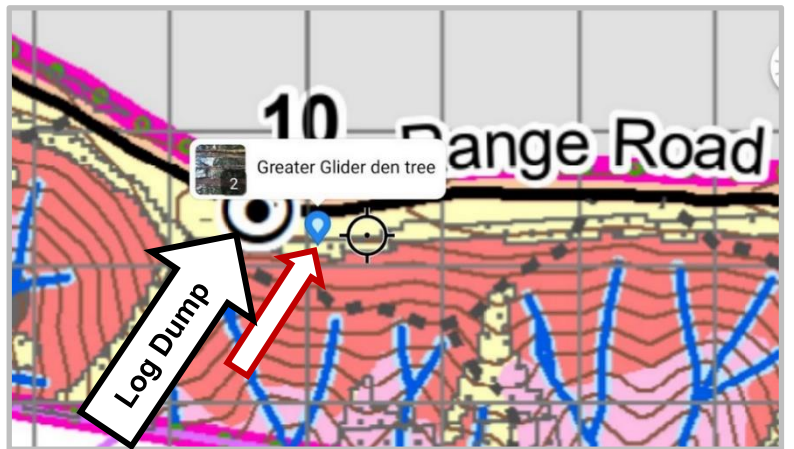
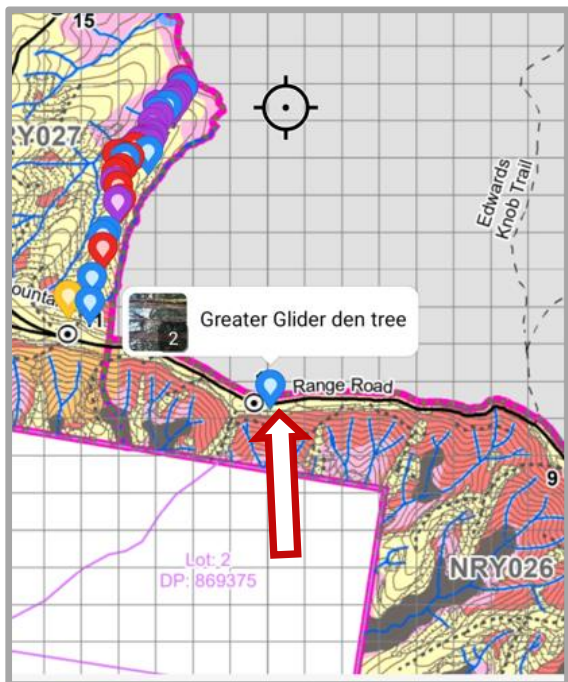


Figure 8. & 9. Location of Southern Greater Glider den tree & proximity to harvest plan details, including a log dump (black & white circle).

7.0 Glossy Black Cockatoo *Calyptorhynchus lathami*

On the mid coast of NSW, the Glossy Black Cockatoo (GBC) is reliant on the cones and seeds of Forest Oak and Black Oak *Allocasuarina littoralis* as their primary food resource. The GBC has been recorded processing 580 cones per day, with pairs processing 420,000 cones per year and females remaining in their nesting hollow for up to 90 days (<https://glossyblack.org.au/about-glossy/>). GBC are known to move locally between food resources as they ripen so are present in low numbers or are absent from areas when cone yield is low.

With significant areas of *Allocasuarina* sp. burnt in the 2019-20 bushfires north, south and west of Newry SF it is likely that much of the regional population's food resources have been diminished. Retention of existing Forest Oak stands is important to provide food resources in the current & near future.

In Newry SF the subcanopy typically includes a moderate to high density of Forest Oak. There is suitable foraging habitat for Glossy Black Cockatoo through much of the harvest plan area, despite active feed trees not being detected during this survey. Forest Oak is also recognised as an important feed tree for the Koala in this region.

At the time of inspection, Forest Oak in Newry SF held low crops of cones and were flowering so would not be as attractive to the Glossy Black Cockatoo at this time of year, when Black She oak are fruiting heavily in the coastal lowlands and where regular visitation of Glossy Black Cockatoos feeding in Black She Oak holding high yield cones crops is being observed (Hank Bower pers obs).

The harvest plan maps identify the protection of only 'three' GBC feed trees (Figure 10), across an area of habitat six kilometres in extent and gross area of 657 ha. This suggests that surveys were conducted during low fruiting times or of insufficient survey intensity to locate most feed trees.

Mature stands of Forest Oaks with DBH > 35cm and height estimate of 20m were detected in areas mapped 'Available for Harvest', on the mid to lower slopes of Compartment 22 and 27 and forming part of the upper strata and canopy (Figures 11 & 12).

Further surveys for active Glossy Black feed trees need to be undertaken during more productive fruiting, and in addition the retention and protection of an age range of Forest Oaks across the area is necessary to protect and provide regional food resources (for both the Koala and the Glossy Black Cockatoo). The detection and protection of nest trees and watering sites warrants further survey effort.

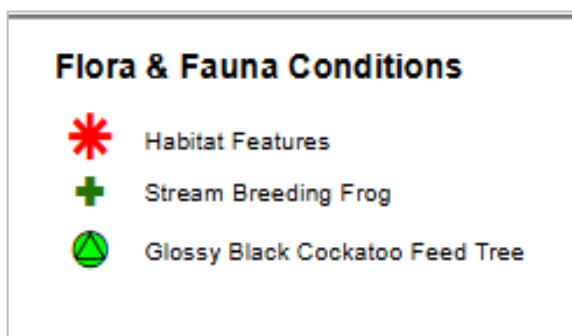


Figure 10 Legend from Harvest Plan.

Only three GBC Feed Trees have been recorded in the plan, across 657ha of habitat, which holds significant stands of Forest Oak.



Figure 11. & 12. Images of mature Forest Oak, DBH > 35cm found in Comp. 22 & 27. Forest Oak occurs across Newry SF (young to mature plants). This species is important for Koalas & Glossy Black Cockatoo.

8.0 Koala *Phascolartos cinereus*

Koala use / food trees occur throughout the harvest area, including mature stands of Tallowwood, Grey Gum, White and Red Mahogany's, some of which measured over 140cm diameter@30cm above ground to qualify as 'Giant Trees'. Their density and proximity to each other requires further assessment as they may collectively constitute High Value Old Growth recorded (see Figure 13. – 15.).

Newry SF, including the areas mapped 'Available for Harvest' support high quality Koala habitat, with numerous food trees (over 30cm DBH) and with consistent signs of Koala use noted on Grey Gum *Eucalyptus propinqua* (with scratch marks from their base up the trunk to the canopy). This is evidenced by the recent detection of scats in the western extent of Newry SF by Steve Phillips (June 2023) and records of scats by Forest Ecology Alliance.

With large areas of prime Koala habitat burnt in the 2019-20 bushfires across eastern Australia, it is important to retain all Koala food trees in unburnt areas to enable Koala populations to stabilise, and then disperse into surrounding areas as they recover.



Figure 13. 14. & 15. Giant Tree sized Tallowwood recorded in Comp. 22 & 27. Fauna / Koala scratches on Grey Gums noted throughout the area (Fig. 15 on far right).

At least ten priority Koala ‘feed and use’ tree species occur throughout Newry SF in areas mapped Available for Harvest (Table 1). Use classes as per ‘Review of koala tree use in NSW’ (OEH 2018).

Table 1. Assigned classes of ‘koala tree use’ trees recorded in Newry SF

No.	Koala Feed Tree	Assigned Koala Use Classes
1	Tallowwood <i>Eucalyptus microcorys</i>	Regional High Use
2	Grey Gum <i>Eucalyptus propinqua</i>	Regional High Use
3	Red Mahogany <i>Eucalyptus resinifera</i>	High Use
3	Blue Gum <i>Eucalyptus saligna</i>	Significant Use
4	Flooded Gum <i>Eucalyptus grandis</i>	Significant Use
6	White Mahogany <i>Eucalyptus acmenoidies</i>	Significant Use
7	Coastal Ironbark <i>Eucalyptus siderophloia</i>	Significant Use
8	Turpentine <i>Syncarpia glomulifera</i>	Significant Use
9	Brush Box <i>Lophostemon confertus</i>	Significant Use
10	Forest Oak <i>Allocasuarina torulosa</i>	Significant Use

Table 2. Expected Species & Yield (Excerpt Newry Harvest Plan - PN 20000852 (Forest Corp. 2022).)

2. Expected Species and Yield			
Species for harvest	HQ Species Mix %	Product	Volume (m ³)
Blackbutt	80	High Quality Large Sawlog	1,600
Tallowwood	5	High Quality Small Sawlog	765
Blue Gum	2	Veneer	250
Flooded Gum	2	Poles, Piles, Girders	300
White Mahogany	2	Low Quality	2,000
Red Mahogany	2	Total	4,800
Ironbark	5		
Brushbox	2		

Seven koala use tree species are identified for harvest (Table 2), comprising 18% of the proposed harvest of High Quality logs (estimated 864m³ of the total yield). Whilst Grey Gum is not identified as a species for harvest, it is expected it will be subject to harvest as a Low Quality sawlog.

8.1 Koala Forestry Prescriptions

The Harvest Plan identifies Koala Prescriptions '1 and 2', this being the retention of five or 10 listed feed trees >20 cm DBH per hectare). The HPOM – Harvest Plan Operational Map does not show where they differentially apply.

Of the 10 feed trees identified above, the prescriptions only apply to Tallowwood, Grey Gum, and Sydney Blue Gum. Given Koala's preference for trees >30 cm DBH and of those species listed in Table 1, this can mean that all their preferred feed trees can be harvested; and noting likely impact to mature specimens of Forest Oak during logging operations.

There needs to be a thorough Koala survey (during Spring mating/rutting season and use of detection dogs) to identify and protect Koala home ranges. Given their high usage of Tallowwood, Grey Gum and Red Mahogany (greater than >30cm DBH, all such trees require protection.

9.0 Hollows and Giant Trees

Search effort in compartment 22 and 27 detected stands of large mature trees, hollow bearing and Giant trees measured over 140cm diameter / or over 160cm diameter at 30cm height for Blackbutt (Table 3) (Figures 16 – 17). The areas surveyed provide suitable habitat for arboreal mammals including Koala, Southern Greater Glider, Yellow Bellied Glider as well as large forest Owls and foraging habitat for Grey headed Flying Fox.

There are areas with numerous large and defective trees that provide important habitat resources for hollow dependant species and threatened species including the federally listed Southern Greater Glider, Yellow Bellied Glider. Should these be removed or damaged, the habitat values will be degraded as there are few recruits of sufficient size class to provide these important habitat resources into the future.

The protocol to remove defective trees to improve stand/harvest quality is a practise that will diminish hollow and food resources for a wide range of species, particularly Koala, Southern Greater Glider, Yellow-bellied Glider and Glossy Black Cockatoo.

Further conservation assessment of individual and stands of hollow bearing and Giant Trees is advised (see Section 10.0).

Table 3. – Significant Habitat Features

Eucalypt Trees - Habitat Features of Conservation Value	No. Recorded
Giant tree, mature, hollow bearing & /or with signs of fauna usage	54
Giant trees (Blackbutt > 160cm, Other > 140cm)	32
Mature, hollow bearing, hollow recruits &/or with signs	22



Figure 16. Blackbutt measured at 260 cm in Comp. 27

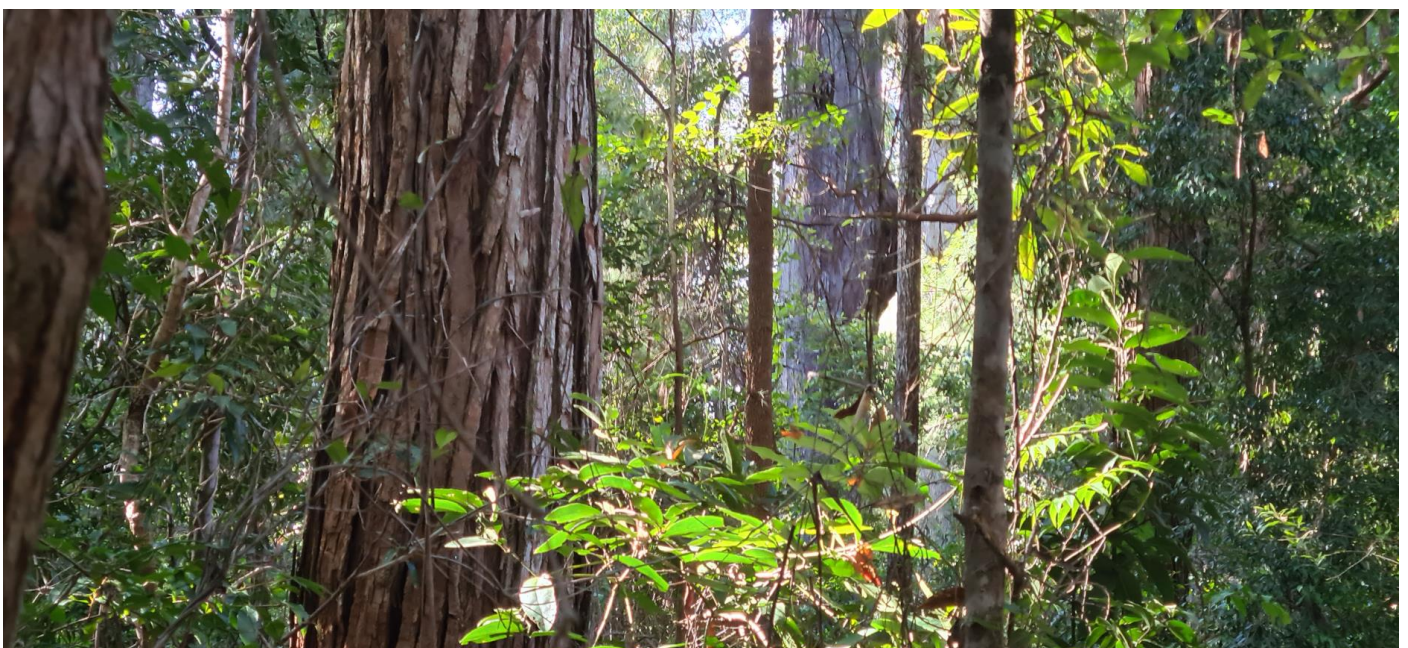


Figure 17. Giant Trees Comp. 27 backing onto rainforest, in an area identified “Available for Harvest”.

Stands of mature and Giant Trees were identified in areas mapped “Available for Harvest’ (see Figures 4). Considering the time lag since the initial mapping of significant forest to current, some key habitat areas have increased in age and complexity, unless invaded by Lantana.

These stands of trees possess exceptional habitat resources for hollow dependant species due to the high numbers of hollow-bearing trees and large recruitment trees, features which are lacking from many of the surrounding forests in this part of the mid north coast.

Considering the lack of such habitat resources from many of the surrounding forests due to intensive native forestry, it is integral that stands of ‘Old Trees’ are recognised as being of ‘Outstanding Biodiversity Value’ and protected.

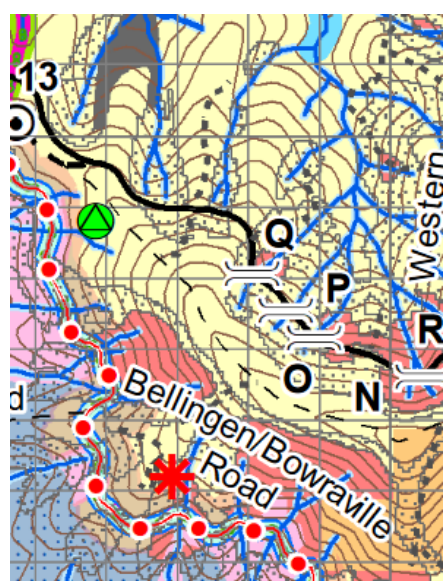


Figure 18. Tree identified as ‘Habitat Feature’ on Harvest Plan, with significant scratch marks indicative of arboreal fauna use.



Figure 19. Grey Gum with habitat features, one of many identified throughout Newry SF.

9.1 Identified Habitat Feature



Flora & Fauna Conditions



-  Habitat Features
-  Stream Breeding Frog
-  Glossy Black Cockatoo Feed Tree

Figure 20 Map of identified Habitat Feature (pic on left) & map legend.

The Harvest Plan identifies a ‘Habitat Feature’ (see red asterisk) and notes “Habitat Trees (one shown on HPOM as habitat feature - others may be present)”. A mature Grey Gum with significant scratch marks & hollows was found at this location (Figure 18). Many Grey Gums in the area support similar fauna use of these ‘habitat features’ amongst other Giant Trees. Figure 20. also shows one of the three ‘identified’ Glossy Black Cockatoo Feed Trees, in an area with stands of Forest Oak.

10.0 Managing High Value Conservation Forest

There is a continuum of rainforest gullies along the steep south-eastern flanks of Newry SF Comp. 22 & 26 with some areas mapped as headwater, large forest owl, rare forest, identified TEC's and steep exclusion zones (Figure 21 & 22).

Many identified TEC's are surrounded by areas 'Available for Harvest' in which stands of Giant Trees with rainforest understory were identified. The proposed logging in steep terrain in Comp 22 & 26, above and around the narrow bands of TEC rainforest and in proximity to high value habitats will increase the vulnerability of significant rainforest habitats and Old Growth trees to climate variances and weed invasion and remove and degrade important habitat attributes for Commonwealth and State listed threatened flora and fauna.

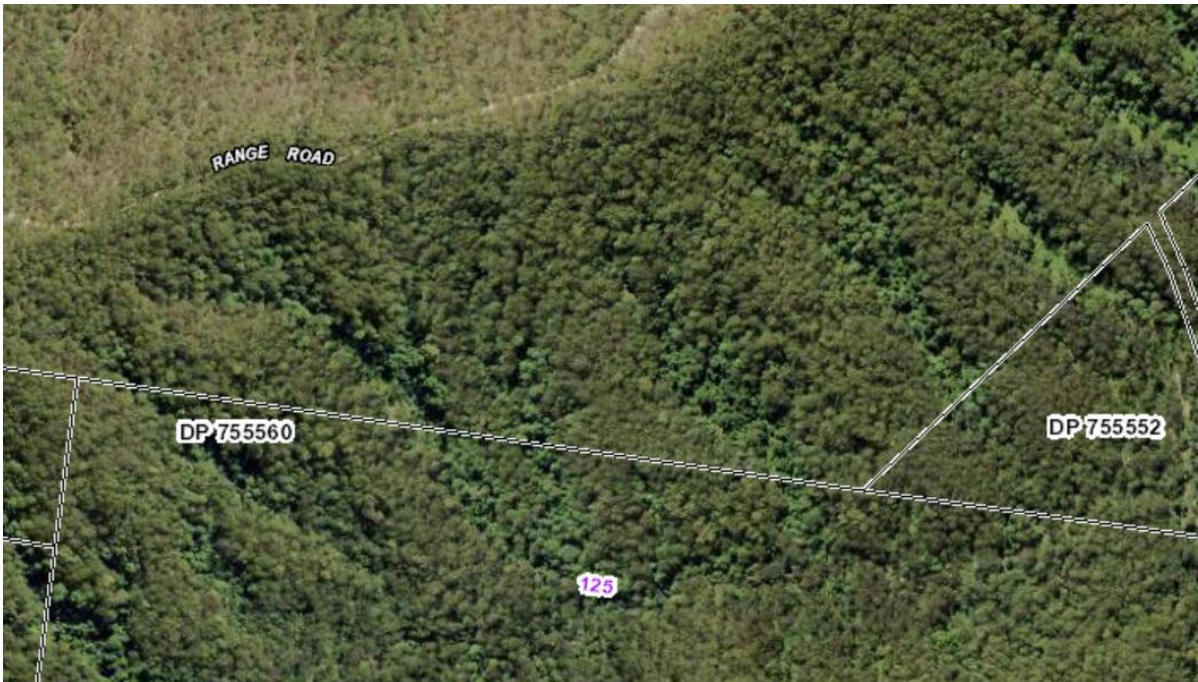


Figure 21. Aerial image of Compartment. 22. Some of these rainforest gullies are mapped TEC, surrounded by forest mapped 'Available for Harvest'. Stands of Giant Trees have been located above the TEC & in between Steep Exclusion Zones. Image: Source Six Maps.

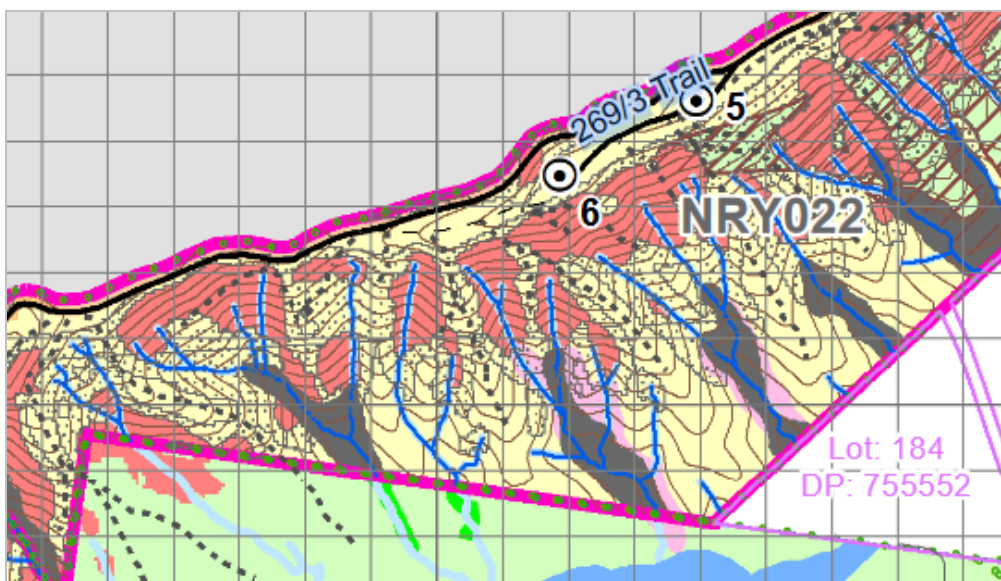


Figure 22. Map from Harvest Plan. Yellow areas are available for harvest. Grey areas are TEC Rainforest, Red – Slope exclusion zones. Proposed snig tracks are dotted through the red exclusion zones. See Figure 1 to identify the full extent of steep land 'proposed' for logging.

Logging practises and protocols currently applied under the Coastal Integrated Forest Operations Approval (CIFOA), will cause the degradation and simplification of high conservation value habitats in Newry SF.

The habitat values of this forest are on the crux, of being greatly enhanced if retained and protected from logging or will be degraded and have significant threatened species habitat resources damaged/removed if subject to the current CIFOA logging practises.

Newry SF needs further investigation for all subject threatened / endangered species and entities to inform whether the proposed operations will impact on threatened species. The current level of information provided in the Harvest Plan indicates that insufficient survey effort was applied and subsequent identification of threatened species, their habitat and other high conservation values is lacking.

Further survey effort needs to be applied across all of Newry and Little Newry State Forests including the contiguous compartments 023 and 024 (Bollanolla Road), which to date, harvest plans and associated threatened species locations have not been advertised.

Further assessment is required to determine what habitat values are present across all areas identified in the harvest plan and make consideration for the adequate protection of Commonwealth and State listed threatened flora and fauna habitats. At present there is no understanding of the population status and of Nationally and State listed threatened species in these forests.

11.0 Myrtle Rust Impacts

Scrub Turpentine *Rhodamnia rubescens* [CE – EBPC, BCA]

Numerous Scrub Turpentine *Rhodamnia rubescens* were detected, mostly in clumps and with most specimens in poor to moderate condition, with stands of dead plants not uncommon.

Moderately healthy specimens with DBH at 5.5cm and height up to 6m were recorded in Comp. 22.

The protocol to only protect plants at DBH > 5cm and 15m tall diminishes the opportunity to protect smaller sized plants that may exhibit genetic resistance to the rust, which may help secure the species future.

Native Guava *Rhodomyrtus psidioides* [CE – EBPC, BCA] was not detected during search effort.

Rose Myrtle *Archirodomyrtus beckleri* is common in Newry SF occurring in sheltered habitats and rainforest edges. Nearly all plants had symptoms of Myrtle Rust. Most plants appeared to be in moderate to health, lacking in vigour, initially exhibiting yellow rust pustules and with dieback of foliage (Figure 23). This species should be monitored and protected from disturbance to avoid further stress and decline.



Figure 23. Rose Myrtle with dieback of leaves from Myrtle Rust

12.0 Threatened Plants

Five threatened plants were recorded from 40 locations in Newry SF (Table 2). NB: not all individual plants were mapped.

Most of these species are the focus of the NSW Government Saving Our Species SOS strategy which aims to protect species in the wild for 100 years and maintain their conservation status under the BC Act. Protocols identified in the CIFOA for threatened plants are contrary to the aims of the SOS strategy.

Table 2 – Threatened Plants sighted in Newry SF

Threatened Plants	No. of locations
Threatened Plants Total	5 species (across 40 locations)
Milky Silkpod – <i>Parsonsia dorrigoensis</i>	10 plants x 8 locations
Slender Silkpod - <i>Marsdenia longiloba</i>	4 plants (juv) x 3 locations
Rainforest Cassia - <i>Senna acclinis</i>	2 plants (juv) x 1 location
Rusty Plum - <i>Niemeyera whitei</i>	32 plants (juv to mat) x 17 locations
Scrub Turpentine - <i>Rhodamnia rubescens</i>	20 plants (juv to mature) x 11 locations

Rusty Plum *Niemeyera whitei* [V – NSW] – at least 32 plants were recorded at varying growth stages in areas mapped ‘Available for Harvest’, with some plants recovering from previous logging operations.

Rusty Plum has a restricted and disjunct distribution, occurring north of Macleay River to southern QLD. The Coffs Harbour area is identified as a distributional stronghold for this species. The key threats for this species are identified at a landscape scale and the species is noted to be at ‘risk of localised extinction’ due to isolated populations <https://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10044>

Under the CIFOA Rusty Plum is provided a Species Management Plan, with no exclusions required for location of plant records.

Under the SOS strategy Rusty Plum is subject to a “Priority Action Statement” (PAS) to promote the recovery of threatened species.

The PAS identifies nine broad strategies, a few are noted below:

- Public authorities to ameliorate threats to the species on public land.
- Involve private landholders in the conservation of this species.
- Control weeds in known habitat for this species.
- Protect areas of known habitat from timber harvesting and other land clearing.
- Survey before road and track maintenance in the habitat of the species.

The lack of protective measures under the CIFOA will further threaten Rusty Plum. This is contrary to the NSW State Governments species conservation effort.

Slender Marsdenia *Marsdenia longiloba* [V – EBPC, E - BCA] (at least 4 plants recorded). All plants recorded were at a juvenile growth stage, from 3 locations in differing compartments (Fig. 24).

Under the CIFOA all Slender Marsdenia individuals require a 20m exclusion zone. None were identified or mapped on the HOMP. Further survey work is required to identify and protect all locations of this species.

Milky Silkpod *Parsonsia dorrigoensis* [E – EBPC, V - BCA] (at least 10 plants) were detected (Fig. 25).

Under the CIFOA Milky Silkpod is provided a Species Management Plan, but this plan has no protective exclusions for locations of plant records.

Milky Silkpod is found only within NSW, with scattered populations in the north coast region between Kendall and Woolgoolga. It is noted that this plant 'appears to be able to withstand, and maybe even favour, 'light to moderate physical disturbance'.

Whilst a recovery strategy is being developed for this species identified 'Activities to Assist this Species' including:

- Searches for the species should be conducted prior to any logging operations.
- Control introduced weeds in potential habitat areas.
- Protect known habitat from clearing, high levels of disturbance and development.
- Monitor populations to identify any threats or population declines.
- Ensure roadside populations are identified and marked to protect them from road works and weed spraying.
- Notify the OEH of any new records of this species.
- Ensure viable seedbank is maintained.
- Exclude cattle from known sites.

<https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10587>

Further surveys to identify locations of Milky Silkpod and establishment of protective buffers is required.

Rainforest Cassia *Senna acclinis* [E – NSW]. Two juvenile plants were detected in areas identified 'Available for Harvest'. None were identified in forestry surveys / or mapped on the HOMP. Further survey work is required for this species during spring and summer when the plant is flowering and fruiting to inform a road management plan as per CIFOA prescriptions.

Scrub Turpentine (refer to section 10.0).



Figure 24. Slender Marsdenia Comp.28



Figure 25. Milky Silkpod with a backdrop of rainforest in Comp.27

Our searches resulted in numerous records of threatened plants which were not recorded on the Harvest Plan and it is likely that more thorough searches will result in additional threatened plant records. This suggests that the survey effort for threatened plants for preparation of the harvest plan is not adequate.

A comprehensive survey for all target threatened plant species in Newry SF is required to ensure all locations are detected. All locations should be, demarked, adequately buffered, with pre and post logging monitoring; including active management of weed risk to threatened plants species and their habitats.

13.0 Lantana Invasion & General Biosecurity Duty

Lantana *Lantana camara* is present throughout Newry SF ranging from light low-level infestations to significant dense infestations along old snig tracks, in open forest and gullies (Figure 26).

The distribution of Lantana appears to be related to disturbance, mostly from logging operations and in association to soil moisture and soil productivity. The spread of Lantana is also likely to have increased with cessation of grazing and regular burning activities (both of which have their own detrimental impacts).

The NSW Forest Corporation website advises they “apply targeted treatment to manage pest and weeds across the landscape, and within plantations, with Lantana being sprayed only two to three times per 30 to 40 year plantation cycle and each time, is carefully managed”

<https://www.forestrycorporation.com.au/weeds>.

Newry SF occurs within the North Coast Local Land Services (NCLLS) region, where over 15% of land is identified in State Forest noting their obligation under the North Coast Regional Strategic Weeds Management Plan <file:///North-Coast-Regional-Strategic-Weed-Management-Plan-2023-2027.pdf>.

The Community, Industry and Government have a General Biosecurity Duty under the NSW Biosecurity Act 2015 to minimise the spread and impact of weeds which threaten biodiversity values and assets. The Australian Weeds Strategy also notes ‘everyone has a responsibility to ensure their actions do not exacerbate existing weed problems’. <https://www.agriculture.gov.au/AusWeedsStrategy.pdf>

The ‘invasion, establishment and spread of Lantana, *Lantana camara* is identified as a ‘Key Threatening Process’ under the *Biodiversity Conservation Act 2016* (BC Act). <https://www.environment.nsw.gov.au/key-threatening-processes.pdf>



Figure 26. Moderate to dense Lantana mid-slope Comp. 27

Significant Lantana invasion and degradation of habitats identified as TEC Lowland Rainforest was noted following inspection on ground and comparing aerial imagery (see Figures 27 – 32). These areas have been logged and subsequently invaded with Lantana. Strategic and repeated control of Lantana is needed to promote the restoration of rainforest habitats, improve recruitment of sclerophyll tree species and to protect threatened species entities.



Figure 27. Mapped TEC Lowland Rainforest Comp. 27 Newry Harvest Plan 20000852. Yellow pins photo points Fig. 30 & 31.

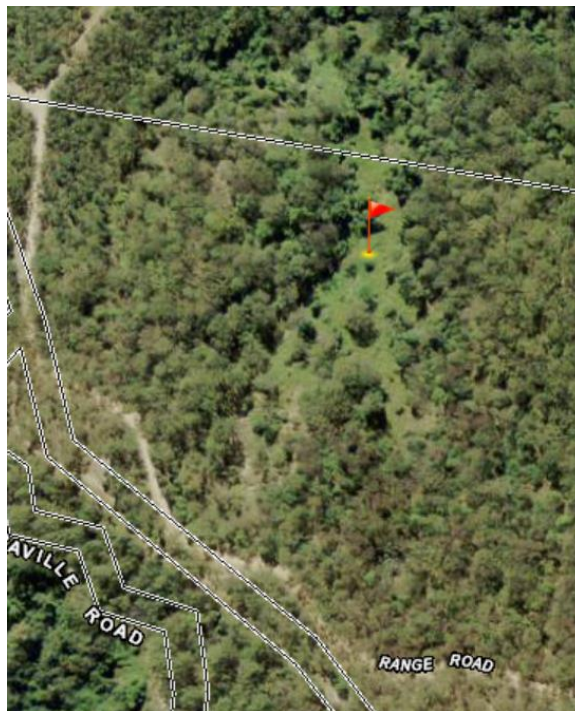


Figure 28. Aerial image of the TEC in Comp. 27 (source Six Maps).

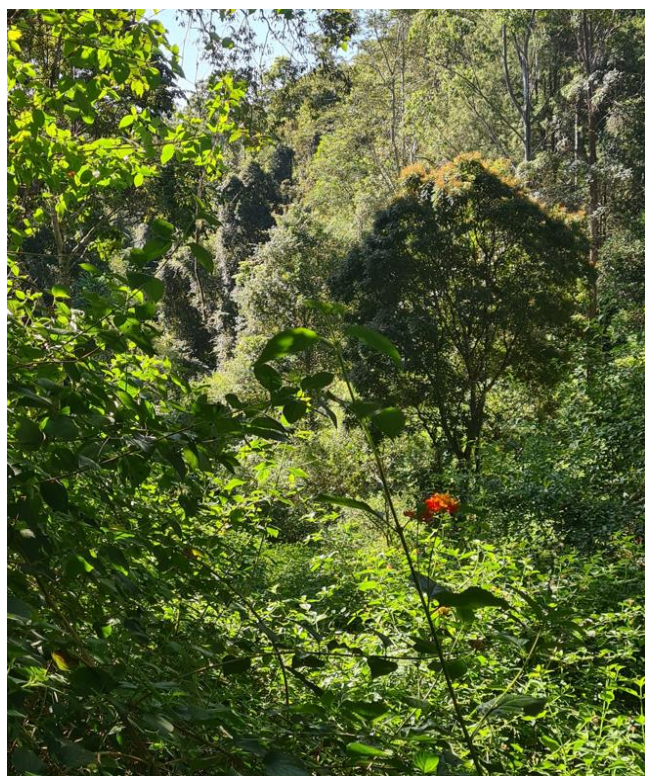


Figure 29. View across Lowland Rainforest TEC, showing dense thickets of Lantana & vine covered trees.

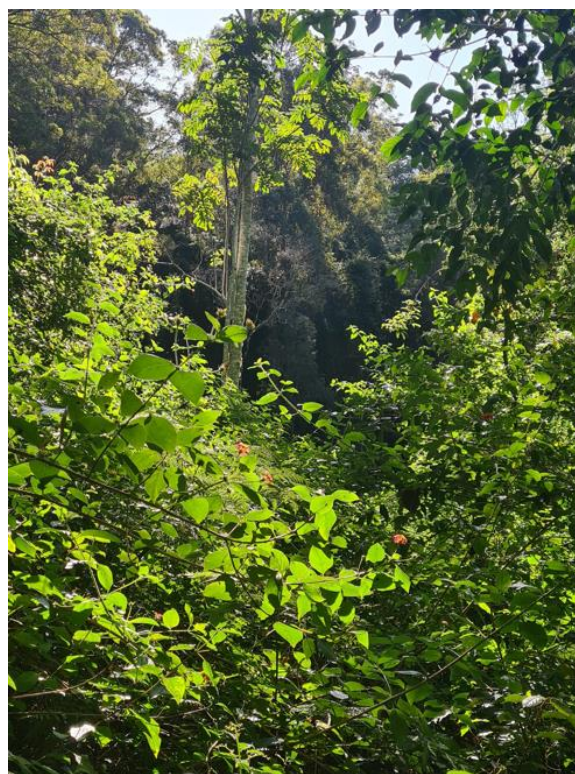


Figure 30. View across Lowland Rainforest TEC, showing dense thickets of Lantana & vine covered trees.



Figure 31. Mapped TEC Lowland Rainforest in Comp. 27 (Harvest Plan 20000852)



Figure 32. Aerial image of TEC in Comp. 27 showing a homogenous cover of Lantana (source Six Maps).

Further disturbance of Newry SF through logging and failure to implement a Lantana management plan will exacerbate the spread and degradation of habitats by invasion of Lantana.

There was no sign of Bell Miners in the areas surveyed. However, BMAD is known locally and could be exacerbated by further disturbance and invasion by Lantana.

Bell Miners were present in the heavily modified plantations located on the far western extent of Newry SF. These areas are heavily infested with Lantana and Small-leaved Privet *Ligustrum sinense*. Small-leaved Privet should also be actively controlled throughout Newry SF as it can persist in low light conditions and modify rainforest habitats.

Forestry Corporation should implement a Lantana management plan, which will work to protect key priority ecological assets, recovers impacted TECs and ensures BMAD is not exacerbated.

14.0 Recommendations

Ultimate Outcome/Recommendation

- The compartments searched in this report possess ecological values that warrant consideration to be protected through a formal conservation reserve. This is required to prevent the impact of native forest harvesting and the related disturbances that simplify habitat structure and species diversity, impact ecological processes, and exacerbate weed invasion.

Intermediate Outcome/Recommendation

- Overall increase the level of survey effort to ensure the areas ecological values and species habitats are identified and provided adequate protection from harvesting.
- Comprehensive survey for threatened plant species to enable the protection / buffering of individual plants and their adjacent habitats.
- Protection of mature forest. Stands of Giant Trees and forest with habitat attributes of exceptional value for hollow dependent species require protection due to the high numbers of hollow-bearing trees and large recruitment trees.
- Identify and protect koala home ranges. Schedule koala surveys for Spring during the Koala breeding/rutting season.
- Protect all mature Tallowwood, Grey Gum and Red Mahogany (greater than 30cm DBH) due to their regional to high use value as koala feed trees.
- Undertake surveys for key arboreal mammals (Southern Greater Glider, Yellow-bellied Glider) including the use of detection dogs and drones with thermal cameras to ensure adequate protection of den trees.
- Exclude log dumps from proximity of den trees and home ranges of hollow dependent fauna.
- Comprehensive survey to identify and protect Glossy Black Cockatoo nesting trees.
- Protection of Glossy Black Cockatoo food resources. Undertake surveys when Forest Oak is fruiting heavily to identify and protect all feed trees.
- Protect all Critically Endangered rainforest plants that are susceptible to Myrtle Rust should they have some genetic resistance to Myrtle Rust (Scrub Turpentine, Native Guava), regardless of size.
- Monitor Myrtle Rust impacts on Rose Myrtle and minimise disturbance to Rose Myrtle.
- Narrow sections of areas mapped 'Available to Harvest' on the southern flanks of Comp. 22 & 26 should be excluded from harvest.
- Implement a Lantana management plan to address impacts to native forest, noting key rainforest habitats require a dedicated rehabilitation strategy. and to reduce spread from plantations. * To include control of Small-leaved Privet that is spreading from plantation areas located in the western portion of Newry SF.

15.0 References

2018 A review of koala tree use across NSW. Published Report. Office of Environment and Heritage, Sydney NSW 2000

2022 Harvest and Haul Plan. Newry State Forest. Plan name: HP_NEWRY_21_22_26_27_28_2020. Plan number: 20000852 Version 1. Approved date 21.09.2022

<https://glossyblack.org.au/about-glossy/> Glossy Black Cockatoo

<https://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10044> Rusty Plum

<https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10587> Milky Silkpod

<file:///North-Coast-Regional-Strategic-Weed-Management-Plan-2023-2027.pdf>. NCLLS Weed Plan

<https://www.environment.nsw.gov.au/key-threatening-processes.pdf> Lantana

<https://www.agriculture.gov.au/AusWeedsStrategy.pdf> Australian Weeds Strategy

<https://www.environment.nsw.gov.au/southerngreaterglider/profile> DEP Southern Greater Glider Profile

<https://www.forestrycorporation.com.au/weeds> Forestry Corporation - Weeds

Appendix 1 Known and Potential Threatened Species – Newry SF

Scientific Name	Common Name	Species Type	NSW Status	Commonwealth Status
<i>Acacia chrysotricha</i>	Newry Golden Wattle	Plant	Endangered	
<i>Calyptorhynchus lathami</i>	Glossy Black-Cockatoo	Animal - Bird	Vulnerable	Vulnerable
<i>Cynanchum elegans</i>	White Wax Plant	Plant	Endangered	Endangered
<i>Daphoenositta chrysoptera</i>	Varied Sittella	Animal - Bird	Vulnerable	
<i>Dendrobium melaleucaphilum</i>	Spider Orchid	Plant	Endangered	
<i>Hicksbeachia pinnatifolia</i>	Red Bopple Nut	Plant	Vulnerable	Vulnerable
<i>Marsdenia longiloba</i>	Slender Marsdenia	Plant	Endangered	Vulnerable
<i>Mixophyese iteratus</i>	Giant Barred Frog	Animal - Amphibian	Endangered	Endangered
<i>Ninox strenua</i>	Powerful Owl	Animal - Bird	Vulnerable	
<i>Petauroides volans</i>	Southern Greater Glider	Animal - Marsupial	Endangered	Endangered
<i>Petaurus australis</i>	Yellow-bellied Glider	Animal - Marsupial	Vulnerable	Vulnerable
<i>Petrogale penicillata</i>	Brush-tailed Rock-wallaby	Animal - Marsupial	Endangered	Vulnerable
<i>Phascolarctos cinereus</i>	Koala	Animal - Marsupial	Endangered	Endangered
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	Animal - Bat	Vulnerable	Vulnerable
<i>Ptilinopus magnificus</i>	Wompoo Fruit-dove	Animal - Bird	Vulnerable	
<i>Rhodamnia rubescens</i>	Scrub Turpentine	Plant	Critically Endangered	Critically Endangered
<i>Rhodomyrtus psidioides</i>	Native Guava	Plant	Critically Endangered	Critically Endangered
<i>Senna acclinis</i>	Rainforest Senna	Plant	Endangered	
<i>Tyto novaehollandiae</i>	Masked Owl	Animal - Bird	Vulnerable	
<i>Tyto tenebricosa</i>	Sooty Owl	Animal - Bird	Vulnerable	

Appendix 2 List of Threatened Flora & Habitat Resources – Newry SF

E – Endangered Fauna
 TP – Threatened Plants
 GT – Giant Tree
 HF – Habitat Feature

Threatened Entity	Date	Easting	Northing	Entity	Elevation
Southern Greater Glider	20203-07-15 18:32	4889007	6620324	Endangered Fauna	227.64
TP_Milky Silkpod	2023-06-03T14:29:40+10:00	488679.375	6620973.11	Threatened Plant	117.00
TP_Milky Silkpod	2023-06-03T14:27:18+10:00	488680.864	6620960.82	Threatened Plant	116.7218
TP_Milky Silkpod	2023-06-03T14:30:28+10:00	488679.485	6620973.1	Threatened Plant	117.0284
TP_Milky Silkpod	2023-06-03T14:33:01+10:00	488686.817	6620992.11	Threatened Plant	115.1132
TP_Milky Silkpod	2023-06-03T14:28:08+10:00	488674.94	6620968.81	Threatened Plant	118.0675
TP_Milky Silkpod	2023-06-03T15:04:29+10:00	488756.214	6621086.43	Threatened Plant	97.6016
TP_Milky Silkpod	2023-06-03T15:07:27+10:00	488753.411	6621093.01	Threatened Plant	97.90649
TP_Milky Silkpod x 3 juv to mat	2023-06-03T14:22:25+10:00	488667.824	6620965.67	Threatened Plant	118.6525
TP_Rusty Plum	2023-05-21T12:55:45+10:00	491547.863	6620074.71	Threatened Plant	109.7386
TP_Rusty Plum	2023-05-21T12:59:37+10:00	491533.369	6620038.23	Threatened Plant	101.9705
TP_Rusty Plum	2023-06-03T14:30:25+10:00	488689.127	6621017.09	Threatened Plant	109.8136
TP_Rusty Plum	2023-06-03T14:44:56+10:00	488746.468	6621084.04	Threatened Plant	97.4223
TP_Rusty plum	2023-05-21T12:02:18+10:00	491419.2	6620228.71	Threatened Plant	150.0312
TP_Rusty Plum	2023-05-21T12:25:45+10:00	491422.304	6620197.52	Threatened Plant	139.6756
TP_Rusty Plum dbh 7.5 ht 10m x 3 plants	2023-05-21T12:34:21+10:00	491442.88	6620137.71	Threatened Plant	117.3355
TP_Rusty Plum - Juv 1m	2023-05-22T11:28:32+10:00	487765.026	6620513.53	Threatened Plant	175.8232
TP_Rusty Plum 3.5m tall	2023-06-03T14:34:00+10:00	488690.86	6620983.38	Threatened Plant	114.0548
TP_Rusty Plum 6m tall	2023-06-03T14:50:01+10:00	488741.096	6621073.47	Threatened Plant	97.24188
TP_Rusty Plum 6m tall - multi stemmed	2023-05-21T13:07:14+10:00	491445.711	6620004.86	Threatened Plant	104.8878
TP_Rusty Plum juv	2023-06-03T14:17:32+10:00	488659.436	6620962.45	Threatened Plant	119.4694
TP_Rusty plum x 2. 7-20m Hey DBH >5cm	2023-05-21T12:22:14+10:00	491421.012	6620209.54	Threatened Plant	143.6816
TP_Rusty Plum X 4	2023-06-03T14:38:27+10:00	488702.913	6621064.07	Threatened Plant	97.78071
TP_Rusty Plum X 5	2023-06-03T14:33:22+10:00	488706.996	6621032.29	Threatened Plant	103.9808
TP_Rusty Plum X 5	2023-06-03T14:53:34+10:00	488770.565	6621126.49	Threatened Plant	96.99368
TP_Rusty Plum x2	2023-05-21T12:57:49+10:00	491547.863	6620074.71	Threatened Plant	0
TP_Scrub Turpentine	2023-05-22T14:01:07+10:00	487623.649	6621022.04	Threatened Plant	142.2783
TP_Scrub Turpentine	2023-05-21T11:17:24+10:00	491283.815	6620256.22	Threatened Plant	193.4876
TP_Scrub Turpentine	2023-05-21T11:26:31+10:00	491293.389	6620231.12	Threatened Plant	185.1164
TP_Scrub Turpentine	2023-05-21T11:16:55+10:00	491287.141	6620256.86	Threatened Plant	192.7568

TP_Scrub Turpentine - poor	2023-06-03T15:14:12+10:00	488752.015	6621077.03	Threatened Plant	97.11321
TP_Scrub Turpentine 10m tall dbh 10cm - Mod	2023-05-21T12:25:20+10:00	491419.946	6620210.2	Threatened Plant	143.9616
TP_Scrub Turpentine 2m Mod	2023-05-21T12:18:49+10:00	491400.806	6620202.57	Threatened Plant	142.9176
TP_Scrub Turpentine 2m tall dbh 2cm Mod	2023-05-21T13:12:12+10:00	491399.27	6619982.81	Threatened Plant	112.1745
TP_Scrub Turpentine 5.5 dbh poor multi stem	2023-06-03T14:18:15+10:00	488655.51	6620967.26	Threatened Plant	119.5785
TP_Scrub Turpentine dbh 2.5 ht 2m + juv mod	2023-06-03T15:00:27+10:00	488773.42	6621115.46	Threatened Plant	97.03661
TP_Scrub Turpentine dbh 5.5cm	2023-05-21T12:05:58+10:00	491372.8	6620233.34	Threatened Plant	159.0384
TP_Scrub Turpentine juv poor	2023-06-03T15:21:17+10:00	488588.248	6620858.37	Threatened Plant	138.1736
TP_Senna acclinis x 2 juv	2023-05-21T13:42:16+10:00	491261.222	6620178.03	Threatened Plant	171.6868
TP_Slender Marsdenia 1.6cm tall	2023-05-22T11:37:42+10:00	487767.36	6620535.64	Threatened Plant	187.257
TP_Slender Marsdenia x 2 juv	2023-06-03T13:36:57+10:00	488596.008	6620806.68	Threatened Plant	147.2346
TP_Slender Marsdenia x 2 juv	2023-05-22T11:56:14+10:00	487768.434	6620588.45	Threatened Plant	209.3004
Forest Oak _dbh@1.3m > 35cm	2023-06-03T14:51:23+10:00	488748.367	6621077.09	Habitat Feature	97.17421
Forest Oak _dbh@1.3m >35cm	2023-05-21T12:14:30+10:00	491371.245	6620219.11	Habitat Feature	154.8332
GT_140cm	2023-05-21T12:39:46+10:00	491466.521	6620137.71	Habitat Feature	119.4833
GT_Black Butt > 160 cm	2023-05-30T15:32:37+10:00	490107.612	6619890.05	Habitat Feature	279.488
GT_Blackbutt 160cm@30cm	2023-05-22T14:21:09+10:00	488103.402	6620601.25	Habitat Feature	263.164
GT_Blackbutt 165cm@30cm	2023-05-22T11:01:53+10:00	487707.838	6620617.29	Habitat Feature	198.2686
GT_Blackbutt 168 cm@30cm	2023-05-21T13:33:12+10:00	491299.325	6620074.94	Habitat Feature	137.1381
GT_Blackbutt 259cm@30cm	2023-06-03T14:04:12+10:00	488642.015	6620950.91	Habitat Feature	121.702
GT_Blackbutt 260cm@30cm	2023-06-03T13:38:52+10:00	488605.077	6620812.58	Habitat Feature	143.8284
GT_Blackbutt 300cm@30cm	2023-05-21T11:53:07+10:00	491358.22	6620240.7	Habitat Feature	165.9464
GT_Brush box 189cm@30cm	2023-05-21T12:14:26+10:00	491403.989	6620214.2	Habitat Feature	146.4528
GT_Grey Gum 143cm@30cm Scratches	2023-06-03T13:50:33+10:00	488605.389	6620893.91	Habitat Feature	132.5201
GT_Grey Gum 150cm	2023-05-21T11:37:38+10:00	491343.121	6620214.19	Habitat Feature	162.4616
GT_Grey Gum 156cm@30cm	2023-06-03T14:11:29+10:00	488660.64	6620969.88	Habitat Feature	119.1118
GT_Grey Gum 159 cm@30cm	2023-05-21T11:29:44+10:00	491314.304	6620213.43	Habitat Feature	172.1225
GT_Grey Gum 163cm@30cm + features	2023-05-22T12:36:18+10:00	487640.978	6620840.11	Habitat Feature	185.1567
GT_Iron bark 146cm@30cm	2023-06-03T13:37:25+10:00	488596.78	6620847.59	Habitat Feature	138.7503
GT_Ironbark base 159cm @ 30cm	2023-05-21T12:53:07+10:00	491530.634	6620095.42	Habitat Feature	114.3436
GT_Pink Bloodwood > 140cm @ 30cm	2023-05-22T13:52:34+10:00	487633.795	6621091.9	Habitat Feature	108.663
GT_Red Mahogany 170cm@30cm	2023-06-03T13:55:15+10:00	488594.708	6620932.45	Habitat Feature	128.4838
GT_Red mahogany 221.5cm at base 30cm	2023-05-21T13:46:49+10:00	491263.099	6620183.28	Habitat Feature	173.156
GT_Syncarpia 140 cm at base 30cm	2023-06-03T14:50:50+10:00	488767.593	6621131.27	Habitat Feature	96.48264

GT_Tallowood 141.5cm at base 30cm	2023-05-21T12:48:16+10:00	491534.876	6620109.03	Habitat Feature	115.5883
GT_Tallowood 141cm at base 30cm	2023-05-21T12:09:32+10:00	491381.427	6620235.97	Habitat Feature	157.8119
GT_Tallowood 156cm at base 30cm	2023-05-21T11:22:56+10:00	491295.089	6620250.51	Habitat Feature	189.7463
GT_Tallowood 202cm at base 30cm	2023-05-21T11:46:20+10:00	491356.121	6620218.68	Habitat Feature	159.4952
GT_Tallowood mature	2023-06-03T14:00:48+10:00	488620.995	6620926.1	Habitat Feature	126.3186
GT_Tallowood 169cm @ 30cm	2023-05-22T11:30:49+10:00	487771.593	6620518.23	Habitat Feature	178.6322
GT_Tallowood 171.5cm Diameter@30cm	2023-06-03T13:07:51+10:00	488556.131	6620682.5	Habitat Feature	176.4613
GT_Tallowood 193cm Diameter @30cm	2023-06-03T13:40:21+10:00	488592.088	6620882.73	Habitat Feature	135.746
GT_White Mahog < 180cm at base 30cm	2023-05-22T11:24:09+10:00	487724.439	6620523.75	Habitat Feature	175.6895
GT_White Mahog 140cm at base 30cm	2023-06-03T14:02:18+10:00	488627.788	6620924.83	Habitat Feature	125.648
GT_White Mahog 141cm at base 30cm	2023-05-21T13:15:08+10:00	491386.326	6619975.96	Habitat Feature	111.1328
HF_Grey Gum_mapped scratch tree <140cm@30cm	2023-05-21T13:10:56+10:00	491403.732	6619980.01	Habitat Feature	111.4892
HF_Blackbutt<160cm@30cm	2023-05-22T11:49:37+10:00	487766.609	6620580.99	Habitat Feature	205.623
HF_Grey Gum - koala scratch	2023-05-22T11:03:04+10:00	487711.416	6620611.3	Habitat Feature	199.2504
HF_Grey Gum – piped<140cm@30	2023-05-22T12:16:12+10:00	487761.143	6620700.33	Habitat Feature	227.5549
HF_Grey Gum - scratch tree	2023-05-21T12:50:57+10:00	491537.076	6620110.76	Habitat Feature	115.4566
HF_Grey Gum + scratches	2023-05-22T11:14:15+10:00	487694.025	6620520.44	Habitat Feature	0
HF_Grey Gum Koala Scratch	2023-05-22T12:03:31+10:00	487805.691	6620628.48	Habitat Feature	232.2295
HF_Grey Gum_hollows,140cm@30cm	2023-05-22T12:19:38+10:00	487716.207	6620739.34	Habitat Feature	215.9566
HF_hollow – scratches<140cm@30cm	2023-05-22T12:29:42+10:00	487677.98	6620822.8	Habitat Feature	199.2637
HF_hollow recruit < 140cm@30	2023-05-21T11:14:31+10:00	491283.289	6620264.91	Habitat Feature	195.8317
HF_hollows < 140cm@30	2023-05-21T10:49:14+10:00	491219.337	6620316.48	Habitat Feature	232.8678
HF_hollows < 140cm@30	2023-05-21T13:23:27+10:00	491368.095	6620006.45	Habitat Feature	114.9954
HF_Ironbark dbh 80cm_old growth recruit tree	2023-05-21T12:21:08+10:00	491400.012	6620196.51	Habitat Feature	141.2358
HF_mature Forest Oak & Ironbark	2023-06-03T14:42:06+10:00	488729.012	6621063.69	Habitat Feature	97.9036
HF_scratch tree	2023-06-03T12:58:58+10:00	488527.01	6620601.99	Habitat Feature	206.2663
HF_scratch tree - hollow recruit	2023-05-21T13:16:26+10:00	491383.812	6619979.87	Habitat Feature	111.8198
HF_succession trees	2023-06-03T12:53:37+10:00	488521.264	6620537.42	Habitat Feature	231.5396
HF_Stand of Turpentine & Spring board tree	2023-06-03T13:53:20+10:00	488615.69	6620921.13	Habitat Feature	127.5023
HF_Syncarpia Hollows n recruit	2023-06-03T14:54:10+10:00	488768.692	6621108.79	Habitat Feature	97.07962
HF_Tallowood mature <140cm@30cm	2023-05-21T12:21:17+10:00	491413.407	6620212.44	Habitat Feature	145.1712
HF_Tallowood mature < 140cm@30cm	2023-06-03T13:15:24+10:00	488555.991	6620715.33	Habitat Feature	167.6305
HF_Tallowood mature < 140cm	2023-06-03T13:22:31+10:00	488565.671	6620725.72	Habitat Feature	164.495
HF_Tallowood mature hollows < 140cm	2023-06-03T14:39:39+10:00	488705.042	6621046.36	Habitat Feature	101.1168

HF_Turpentine – Hollows , <140cm@30cm	2023-05- 21T12:29:10+10:00	491412.098	6620200.54	Habitat Feature	141.4195
Pic - view across to GT zone	2023-05- 21T13:40:32+10:00	491299.964	6620077.53	Habitat Feature	137.926
Rainforest lower strata	2023-06- 03T14:37:03+10:00	488677.607	6620940.95	Habitat	117.5918