

Northern Rivers Regional Koala Activity Assessment



February 2023



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Abbreviations

Abbreviation	Description
ANOVA	Analysis of Variance
<i>BC Act</i>	<i>NSW Biodiversity Conservation Act 2016</i>
CI	Confidence Interval
CKPoM	Comprehensive Koala Plan of Management
DBH	Diameter and Breast Height
DPE	NSW Department of Planning and Environment
<i>EPBC Act</i>	<i>Environmental Protection and Biodiversity Conservation Act 1999</i>
FET	Forest Ecosystem Type
GEEBAM	Google Earth Engine Burnt Area Map
HSD	Honestly Significant Difference (Tukey's <i>post hoc</i> comparisons)
IBRA	Interim Biogeographic Regionalisation for Australia
KMA	Koala Management Area
LALC	Local Aboriginal Land Council
LGA	Local Government Area
NPWS	NSW National Parks and Wildlife Service
NSW	New South Wales
PCT	Plant Community Type
PKFT	Preferred Koala Food Tree
PKH	Preferred Koala Habitat
PMP	Permanent Monitoring Point
RG-b SAT	Regularized Grid-based Spot Assessment Technique
SAT	Spot Assessment Technique
SE	Standard Error
WWF	World Wildlife Fund

Biolink

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Photo credit

Kirsten Wallis. Koala sighted in a Swamp mahogany (*Eucalyptus robusta*) during field survey on 7/6/2022.

Scientific Permits

Survey in State Forests were conducted according to Forest Permit – Research, Permit No. RE100149. All survey work is conducted according to the approval of the NSW Animal Care and Ethics Committee, Research title: Fauna Survey and Koala Management Studies.

Executive Summary

Koalas (*Phascolarctos cinereus*) are an enduring presence across the northern rivers region of NSW and their importance has been recognised by various Local Council policies and strategies with the intent of retaining healthy and viable koala populations. The conservation status of koalas has undergone recent change with the Commonwealth's up-listing of koala populations in Queensland, New South Wales (NSW) and the Australian Capital Territory from Vulnerable to Endangered, as announced in February of 2022 (*EPBC Act 1999*) and an associated change to Endangered under the *NSW BC Act 2016*. This report describes the results of a field assessment of koala populations and habitat across six NSW northern rivers Local Government Areas (LGAs): Ballina, Byron, Kyogle, Lismore, Richmond Valley and Tweed, to understand the distribution and abundance of koalas across the region.

Koala activity was assessed using the Spot Assessment Technique (SAT) at 350 points regularly distributed at 5 km intervals across the study area in order to representatively sample all land tenures and vegetation types. Areas which had been subject to recent Council surveys using the same methods were also incorporated into the study ($n = 33$) and, where possible, survey points were located to repeat sites from a similar regional survey undertaken in 2018. The outcomes of survey confirm the widespread persistence of koalas and highlight the importance of the Richmond River floodplain as supporting a significant population within the study area. The estimated naïve occupancy from survey was $30.29\% \pm 2.35\%$ (SE), adjusted to $36.57\% \pm 2.94\%$ (SE) when considering only those sites which contained Preferred Koala Food Trees (PKFTs) in their 30-tree sample – a measure indicative of occupancy across areas of koala habitat. This occupancy rate is extremely variable across the study area, a broad landscape (1,030,144 ha) which is highly diverse in terms of topography, vegetation and current and historical land uses. Habitat occupancy (PKFT sites only) ranges from $12.50\% \pm 11.69\%$ (SE) in Byron Shire to $61.11\% \pm 8.13\%$ (SE) in Lismore Shire. Survey outcomes reveal an approximately even split between the number of sites evidencing medium/high (residential) occupancy and low (transient) occupancy overall, with 48.65% of all occupied sites falling within the medium/high category. Again, there is a large amount of variability in this metric with residential occupancy ranging from 0% of occupied sites in Byron Shire to > 60% of occupied sites in Lismore. Koala occupancy and activity levels were compared at 25 sites which were surveyed in both 2018 and in the current survey, revealing no overall differences in these measures over the preceding three-year period though there were site-based changes, most likely due to metapopulation dynamics. A density estimate of 0.087 ± 0.033 (SE) koalas ha^{-1} was derived by dividing the number of koalas sighted during 25 m fixed-radius transects ($n = 6$) by the total area searched (68.6 ha). This estimate is not used to produce a population

estimate as potential errors in vegetation mapping, when compounded over an area as large as the study area (1,030,144 ha), will be misleading.

Three consolidated vegetation maps of the study area were created using two underlying mapping sources which were then coded according to different systems of koala habitat classification. These koala habitat maps were relatively consistent in the total amount of koala habitat identified across the study area, ranging from 304,014 ha - 338,337 ha and accounting for 29.51% - 32.84% of the total land surface area. All approaches to habitat mapping identified Richmond Valley as supporting the largest amount of koala habitat proportional to LGA size (40.30% - 43.04%) and Ballina LGA as having the smallest (3.74% - 11.32%). The three versions of habitat mapping had substantive differences between them in terms of the proportional areas covered by each of the habitat categories. While none of these maps are likely to present a perfect description of koala habitat across the study area, we suggest that the map identifying the majority of koala habitat as Secondary B / C (as opposed to Primary / Secondary A), is more representative of the landscape-scale vegetation and associated koala carrying capacity. This approach is also consistent with the majority of local Council's koala habitat classification systems.

Recommendations stemming from this study emphasise the importance of maintaining an adequate amount of habitat, particularly in coastal areas, to support existing koala populations and provide for future metapopulation dynamics. Landscape scale habitat connectivity from the coast to the hinterland is relevant in this context. The highest occupancy and activity levels of koalas in this survey were on private lands and as such koala conservation on these lands should inform future management strategy. A coherent regional approach to measuring gains and losses in the amount and distribution of koala habitat will inform on threats associated with habitat fragmentation and loss. Specific recommendations are made with regard to individual LGA's and the requirements of their respective Comprehensive Koala Plans of Management and other LGA-wide strategies, as well as specific recommendations relating to future survey events.

1. Introduction

This report was prepared for the six Northern Rivers Councils; Ballina, Byron, Kyogle, Lismore, Richmond Valley and Tweed, and administered by Tweed Shire Council. Funding was received from the World Wildlife Fund (WWF) Australia and the New South Wales (NSW) Department of Planning and Environment (DPE).

1.1. Koala ecology and conservation status

The koala (*Phascolarctos cinereus*) is Australia's largest arboreal marsupial folivore with a distribution that is restricted to eucalypt woodlands and forests in the east of the continent. Within this area koalas exhibit strong preferences for individual tree species within the Genus *Eucalyptus* (Martin & Handasyde 1999; Phillips *et al.* 2000; Callaghan *et al.* 2011; Wu *et al.* 2012). Other non-preferred eucalypts and genera such as *Corymbia*, *Angophora*, *Callitris* and *Lophostemon* may also be incorporated into their diet as supplementary browse or used for other purposes including shelter (Lee & Martin 1988; Phillips 1990; Hasegawa 1995; Phillips 1999; Phillips *et al.* 2000). To obtain the greatest amount of nutrients from their otherwise nutrient-poor browse, koalas preferentially choose trees with high nitrogen levels and low toxin levels (Stalenberg *et al.* 2014), the underlying nutrient levels of the soils ultimately affecting leaf palatability (Reed *et al.* 1988; Moore *et al.* 2004). Because of this highly specialised diet, food availability is considered a key determinant of koala distribution, however forest area and landscape configuration also play a role (McAlpine *et al.* 2006) as do aspects of koala socio-biology (Phillips 2000).

Though frequently overlooked in population management and conservation planning, koalas have a highly defined social structure. Studies of free-ranging koalas have established that those in local populations at demographic equilibrium arrange themselves in stable breeding aggregations which comprise a matrix of overlapping home range areas, typically with a dominant male and several females (Lee & Martin 1988; Faulks 1990; Mitchell 1990; Kavanagh *et al.* 2007). Home range sizes vary according to koala sex and size, with larger males maintaining the largest home ranges (White 1999; Phillips 1999). Habitat quality also determines home range size with a sparser distribution of preferred food trees necessitating a larger home range area to meet the metabolic needs of individuals (Callaghan *et al.* 2011). Koalas do not have a high reproductive output; females reach sexual maturity between 18 months and two years of age and can theoretically produce one offspring each year, though on average females in wild populations breed every second year during the prime of their reproductive lives (McLean and Handasyde 2006). The longevity of individuals in the wild appears to average 8 – 10 years for most mainland populations and the generation time for koalas has been

determined as 6.02 ± 1.93 (SD) years (Phillips 2000), a measure which is now applied to all koala populations in eastern Australia (TSSC 2012). Juveniles of both sexes disperse at around 18 – 36 months, ideally attaching themselves to another unrelated breeding aggregation and thereby maintaining the genetic integrity of the local population (Dique *et al.* 2004). Long-term fidelity to the home range area is typically maintained by all adult koalas in a resident local population that is at demographic equilibrium and dissolution of the existing social fabric of such resident populations may contribute to population declines (Mitchell 1990, Phillips 2000). Maintenance of existing social structure must therefore be a consideration in the development of conservation management strategies.

The conservation status of koalas across their broader distribution has been subject to recent change. Koala populations in Queensland, New South Wales (NSW) and the Australian Capital Territory (ACT) were formerly listed as Vulnerable under the Federal *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) but were upgraded to Endangered status in 2022 due to widespread population declines across this range, inclusive of the impacts of the 2019/20 fire season among other threatening processes. Koalas are further listed as Endangered at the State level in NSW under the *Biodiversity Conservation 2016* (BC Act). It has been estimated that koala populations in NSW have declined by 29% - 66% over the preceding three koala generations (Lane *et al.* 2020), the primary threats being those associated with increasing urbanisation including habitat loss and fragmentation, fire, vehicle strike, dog attack and disease (DECC 2008; OEH 2017; OEH 2018; Phillips *et al.* 2021). The Parliamentary inquiry into Koala Populations and Habitat in NSW also highlighted the cumulative impacts of logging in both private and public native forests and the compounding impacts of climate change on the severity of other threats (NSW Parliament 2020).

1.2. Previous koala studies in northern NSW

Northern NSW supports a significant koala population which has been the focus of a number of scientific studies. The portion of the South East Queensland (SEQ) IBRA bioregion which is located in northern NSW, stretching from the Queensland border south to Coffs Harbour, has been estimated to support 29.02% of the NSW koala population (Rennison and Fisher 2019) with the majority of koala sighting records in this bioregion occurring in the coastal area from Tweed Heads, south to Evans Head (Lane *et al.* 2020). As part of the NSW Governments' Saving our Species (SoS) Iconic Koala initiative, Rennison and Fisher (2019) identified ten Areas of Regional Koala Significance (ARKS) across the SEQ bioregion in NSW: Southern Clarence, North Grafton, Banyabba, Mt Pikapene, Woodenbong, Broadwater, Far north-east Hinterland, Tweed Coast, Tweed Ranges and Far north-east. In collaboration with the NSW Department of Planning and Environment (DPE), the ARKS process has

been iteratively modified by Biolink to incorporate international genetic standards, habitat considerations and the processes by which koala records are analysed (Biolink 2021). Based on the most recent ARKS update (incorporates data until the end of 2021) 55.85% of the total land area of the Northern Rivers¹ meets criteria for inclusion. In light of population declines in koalas across their range, and in the Northern Rivers region specifically, Councils have instigated programs to monitor and conserve koala populations within their Local Government Area (LGA) boundaries.

The Tweed – Brunswick Population of the koala was listed as Endangered in 2016 (*Threatened Species Conservation Act 1995*). The Tweed Shire Council has implemented 3-yearly monitoring of this population as part of the Tweed Coast Comprehensive Koala Plan of Management (CKPoM) (TSC 2020). Following on from the initial baseline assessment (Phillips *et al.* 2011), ongoing monitoring of the population in 2015, 2018 and 2021 indicates that the decline in the Tweed Coast component of area inhabited by the endangered population has yet to be reversed (TSC 2019, TSC unpub data). Regular monitoring of koalas is not enacted across the western portion of Tweed Shire however koala sightings across western Tweed are regularly reported to the NSW fauna records database (BioNet).

Population monitoring is also regularly enacted along the coastal portion of Byron Shire, which adjoins Tweed Shire to the south and includes part of the area covered by the endangered population listing. An analysis of historic records across Byron Shire conducted in 2012 revealed a likely population expansion in this LGA, expanding from the west to the south and east, whilst a contraction had occurred to the north (Biolink 2012). Low occupancy along with substantial habitat fragmentation suggests Byron's coastal populations may be unsustainable in the long term in the absence of improved connectivity options and increased habitat cover (Biolink 2012, BSC 2015). A CKPoM for the Shire directs koala monitoring in areas of known koala occupancy at 2-yearly intervals, with these having so far occurred in 2012, 2015, 2018 and 2021. Thus far, surveys have indicated that while occupancy remains low Shire-wide, koala populations are persisting, particularly in the vicinities of Bangalow, Wilsons Creek, Broken Head and Brunswick Heads.

Ballina Shire, to the south of Byron Shire is also known to have undergone a koala population expansion since the 1990's, in terms of both the geographic extent of koalas across the Shire and in occupancy levels. Historic records analysis in 2013 imply an expansion from a major source population in southern parts of the LGA, coinciding with the localities of Bagotville, Meerschaum Vale, Coolgardie and Wardell (Biolink 2013a). Koala populations within this portion of the Shire have been found to

¹ Northern NSW in this context comprises the Local Government Areas of Ballina Shire, Byron Shire, Kyogle, Lismore, Richmond Valley and Tweed Shire.

meet the criteria for an 'Important Population' for the purposes of the *Environment Planning and Biodiversity Conservation Act 1999 (EPBC Act)*. The northward expansion of koalas from this area is considered to have now slowed or halted, with occupancy levels falling and the greater proportion of the population still concentrated in the southern portion of the LGA (Biolink 2013a), an area which was heavily impacted by bushfires in 2019/20 (Phillips *et al.* 2021). There are a small number of koalas east of the Pacific Highway (M1) in Ballina though their capacity to persist as a viable population is yet to be determined (BSC 2017). Koala management is currently undertaken under the umbrella of the Ballina Shire Koala Management Strategy which does not define a monitoring schedule (BSC 2017).

The Lismore LGA supports a significant koala population, particularly in its south-east (Biolink 2011). The fertile soils of the Richmond River floodplain dominate the central and southern parts of the Lismore LGA sustaining high carrying capacity habitats which are known to support high densities of koalas (0.31 – 0.36 koalas ha⁻¹: Biolink 2017). Though it appears to be demographically robust with high occupancy rates of 50 - 70% of the available habitat in the southern part of the LGA, the Lismore koala population, counterintuitively, also has one of the highest known disease-mediated koala mortality rates in eastern Australia (Biolink 2017). A CKPoM covers the south-eastern portion of the LGA (LCC 2013) and subsequent koala survey events occurred in 2017 and 2021. These surveys indicate the continuing high occupancy of habitat by koalas, particularly in the south-east CKPoM planning area but also around Ruthven to the west and in the vicinity of Dorrroughby-Dunoon (known to be a genetically different population; Norman and Christidis 2021), with much sparser distribution further north.

An analysis of historic records in 2015 indicated long-term stability in the geographic extent of koala populations across the Richmond Valley LGA but a recent drop in the area within this extent to which the amount of available habitat is occupied (Biolink 2015). On the coast, records and field survey collectively indicate the presence of likely source populations between the Richmond and Evans Rivers and the presence of other resident koala populations to the west of Casino, in Camira State Forest and in Royal Camp State Forest.

Koala populations across northern NSW are interconnected, inhabiting a diverse landscape without regard to LGA boundaries. As such, an integrated regional approach to koala conservation is warranted. An assessment of koalas across four LGAs of Ballina, Byron, Lismore and Tweed was completed in 2018 through an Australian Research Council Linkage Grant project led by the University of Queensland, the four far north coast Councils, Friends of the Koala Inc. and Southern Cross University. An objective of this regional survey was to establish how the spatial configuration of habitat resources impacts koala distribution, with a view to inform the prioritisation of habitat areas

for protection, restoration and strategic planning. The outputs of this study are currently in review (McAlpine *et al.* unpub). The aforementioned 2018 regional koala activity monitoring was anticipated to be implemented on a 3-yearly cycle, using standardised methods which would allow the tracking of regional population trends over time. At the landscape scale, such long-term monitoring of koala populations can inform on changes in koala distribution and abundance and inform broad regional approaches to conservation.

1.3. **Objectives**

The purpose of the current project, being undertaken on behalf of the World Wildlife Fund (WWF) and six Northern Rivers Local Councils (Ballina, Byron, Kyogle, Lismore, Richmond Valley, Tweed) is to:

- Independently assess koala distribution and habitat use at 350 Permanent Monitoring Points (PMPs) across the six Northern Rivers LGAs to determine koala occupancy and activity levels.
- Compare these measures, where possible, to previous studies including the 2018 regional koala survey and relevant Council surveys.
- Prepare a consolidated regional vegetation map categorised in terms of koala habitat.

2. Methodology

2.1. **Study Area**

The study area is situated entirely in the South-east Queensland bioregion (Biogeographic Regionalisation for Australia – IBRA v7), extending from the Queensland border at Tweed Heads, south to Whiporie in Richmond Valley and west as far as Yabba in Kyogle, encompassing a total land surface area of 1,030,144 ha. This project thus assesses koala activity across a broad section of the Northern Rivers district of NSW, specifically the following six adjoining LGA's: Ballina Shire, Byron Shire, Kyogle, Richmond Valley and Lismore – a region which is hereafter referred to as the study area (**Figure 1**).

Across the study area the climate is warm temperate to sub-tropical with a pronounced summer wet season and traditionally drier winters and springs. The average number of rain days per year is 125, with a mean annual maximum of 25°C (December to March) and mean annual minimum of 12°C (July to August) (BoM 2022). The study area includes the Tweed, Richmond and Brunswick River catchments as well as several smaller coastal catchments. It is geologically diverse with Pliocene/Miocene Tweed Shield Volcano centred on Wollumbin flanking the coast, and the Richmond Range at the western boundary. Quaternary events associated with global glaciation and sea level changes have resulted in

the formation of extensive barrier sand deposits and the creation of fertile alluvial plains. Immediately to the south of the Tweed Volcano lies the area which was formerly the Big Scrub, an extensive subtropical rainforest which has since been largely cleared. The study area now supports a diverse array of vegetation communities including cool temperate and littoral rainforests, coastal heathlands, wetlands and extensive areas of eucalypt forests and woodlands. National Parks comprise 14.31% of the study area, including UNESCO World Heritage listed Gondwana Rainforests. State Forests which are dominated by eucalypt woodlands and plantations comprise a further 8.89% of the land surface area. Other major land uses include agriculture and urban development, particularly along the coast. Major urban centres throughout the study area include Lismore, Ballina, Murwillumbah, Tweed Heads, Byron Bay, Kyogle, Casino, Woodburn and Evans Head. The region is home to the Bundjalung First Nations people.

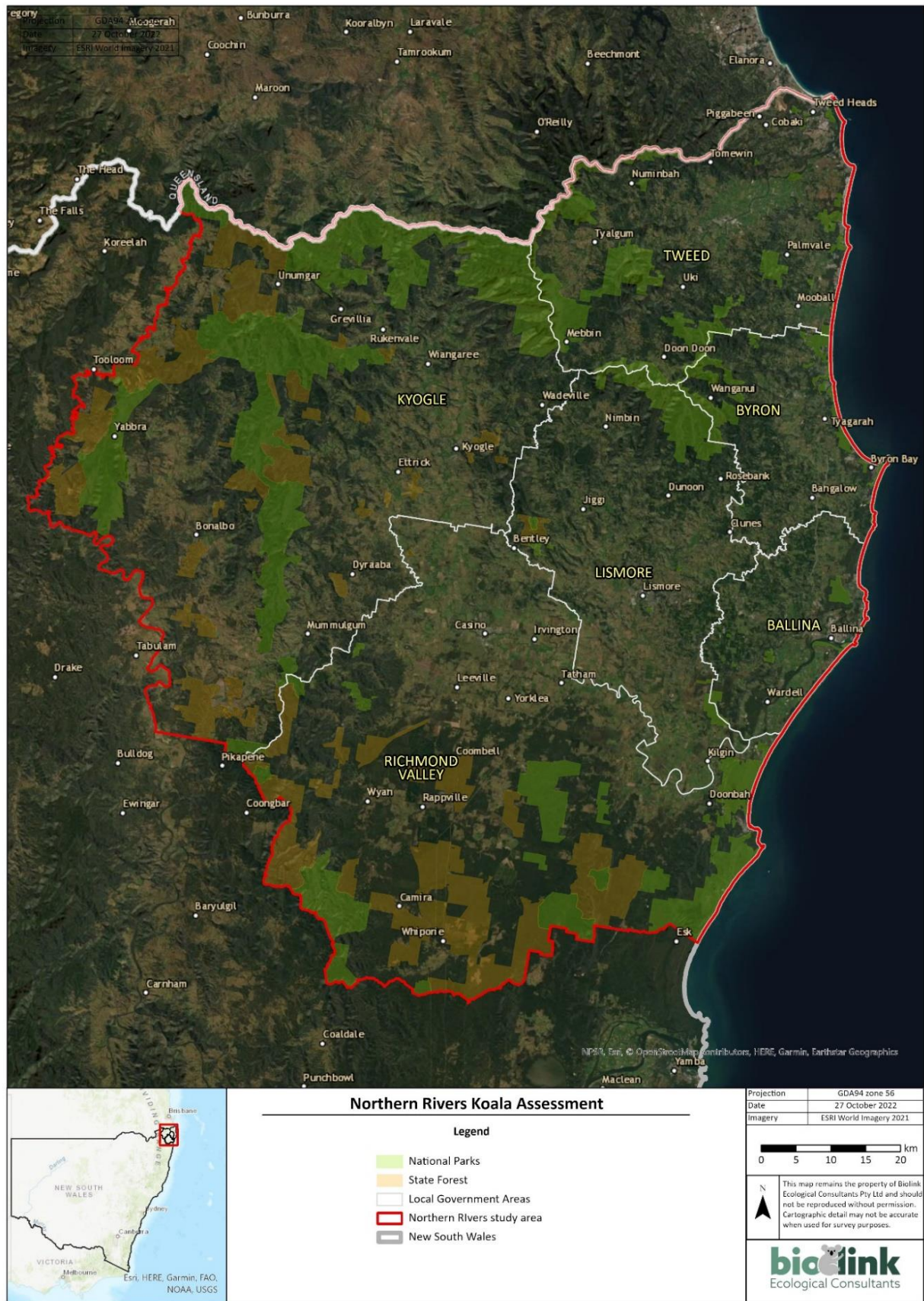


Figure 1. The study area (red outline) comprising six Local Government Areas (LGAs) in the Northern Rivers district of NSW: Ballina, Byron, Kyogle, Lismore, Richmond Valley and Tweed, delineated by white outlines. National Parks are shown in green and State Forests in orange. Inset shows the location in NSW.

2.2. Field survey site selection

This project aimed to conduct an unbiased and tenure-blind koala survey across the study area and we have therefore applied Regularised, Grid-based Spot Assessment Technique (RG-bSAT) survey. Field sites for koala survey were selected by overlaying the study area with a 5km x 5km grid generated by ArcGIS 10.5, as per McAlpine *et al.* (unpub), expanded to cover two additional LGAs (Kyogle and Richmond Valley). Survey sites were located at the centre-point of each grid cell. In the case that a grid cell had been previously sampled by McAlpine *et al.* in 2018 (unpub), there was a need for continuity between 2018 survey and 2021/2022 survey. Due to differences in the spatial scale and objectives of these two projects, some 5km grid cells had multiple survey sites from 2018 while others had none. In the case of grid cells which had multiple sites surveyed in 2018, the site closest to the grid cell centre-point became the survey location for this project. Similarly, for grid cells which contained recent Council surveys², the survey site closest to the grid cell centre-point was selected for inclusion in the current data set. Using Council data augmented the 350 PMPs surveyed by this project with additional data, providing a consistent spatial scale for analysis while avoiding the repetition of survey effort (**Figure 2**).

The tenure of sites was determined using the SEED spatial database (<https://datasets.seed.nsw.gov.au/dataset/>) to ascertain the boundaries of National Parks and State Forests. Each of the six Local Councils provided shapefiles of lands that were Council managed, with all other areas being considered as private lands, unless established otherwise in the field. Local Councils also provided landholder contact information where required. When it was established that land tenure was private, a letter was sent out to request permission to conduct a SAT survey, as an opt-in system. In the field, door-knocking private properties to request permission to survey also occurred. Road reserves were surveyed when sufficient trees were located in these reserves and no other options were available close to the pre-defined survey location. While the aim was always to survey at the centre-point of each grid cell, there was some flexibility when utilising Council data and 2018 points as the points *closest* to the grid cell centre were considered sufficient. When the pre-determined site location was inaccessible the closest accessible location to the grid cell centre-point was surveyed while maintaining a measure of spatial separation between sites. The exception to this was 2018 repeat sites which were done at the exact location to allow for direct comparisons over time.

² Recent Council surveys qualify for inclusion if they were conducted in 2020/2021.

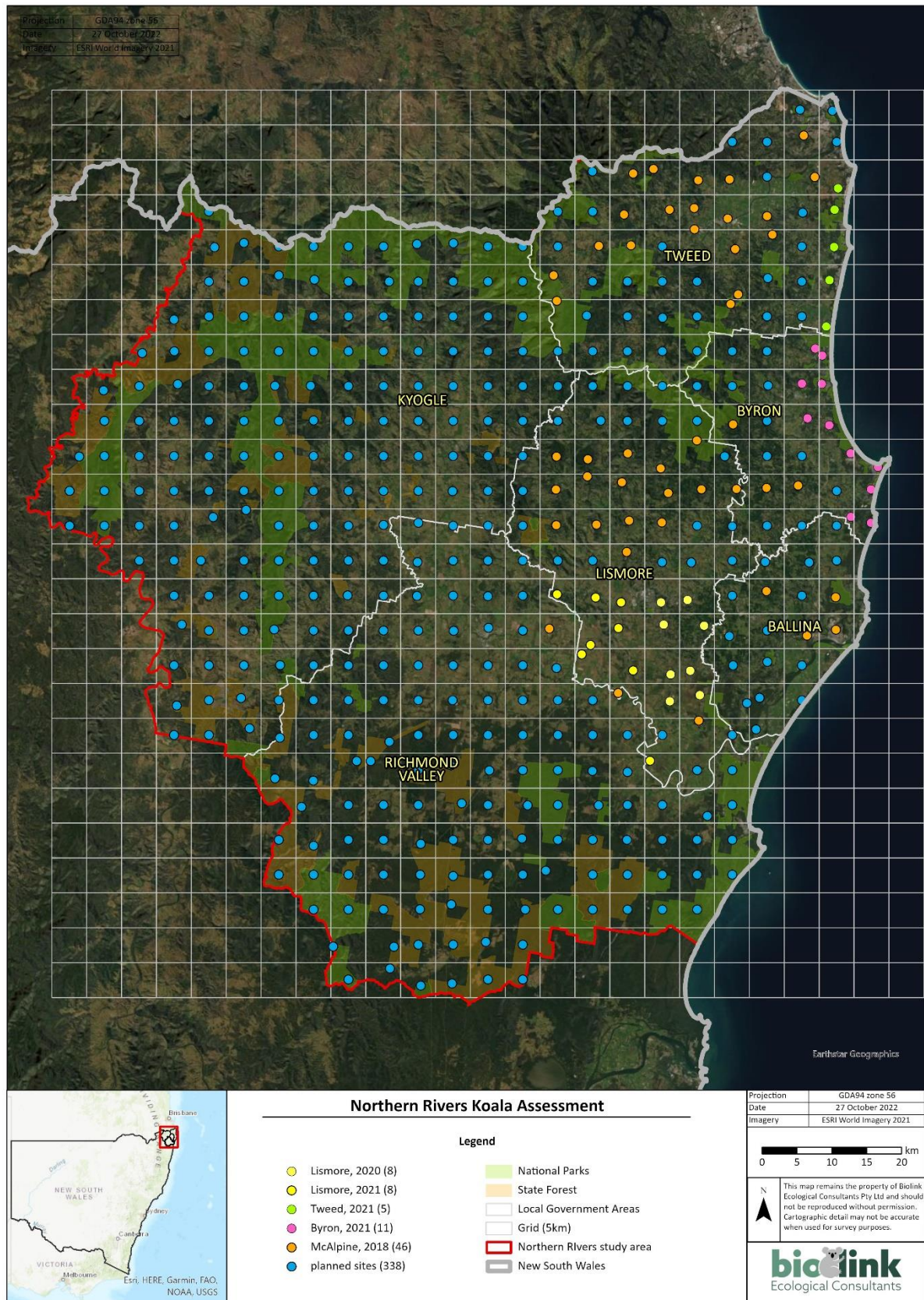


Figure 2. The study area overlain by a 5km x 5km grid, with proposed survey points at the centre of each grid cell. Blue dots mark the location of new survey sites, orange dots are repeat 2018 sites, yellow, green and pink dots show the location of recent Council surveys (Lismore, Tweed and Byron respectively), the results of which are incorporated into this project. Inset shows the location of the study area in NSW.

2.3. Spot Assessment Technique (SAT) survey

Universal Transverse Mercator (UTM) coordinates for each of the field sites to be surveyed were uploaded into Garmin GPS 64s hand-held receivers, navigating on a GDA94 datum to assist in site location in the field. Once located, field sites were assessed for koala activity using the Spot Assessment Technique (SAT) of Phillips & Callaghan (2011), whereby a 30-tree nearest-neighbour sample of all live trees with a Diameter at Breast Height (DBH) of ≥ 100 mm proximal to the centre tree / site coordinates were systematically assessed for the presence of koala faecal pellets within a 1m radius from the base of the trunk for a maximum period of 2 person-minutes if a koala scat was not detected. In the case that the field site was moved for logistical reasons (primarily access) UTM co-ordinates for the new centre tree were recorded.

To enable a koala density / population estimate, a direct count of koalas was conducted within a 25m (0.196 ha) fixed-radius area, focused on the centre tree at each field site. Fixed radius searches were undertaken using two observers who walked the boundary of the 25m radial and lines internal to the radial, viewing the canopy from a range of angles for a minimum period of 15 person-minutes. Trees that formed part of the 30-tree sample were also individually searched during the course of SAT survey.

GPS coordinates were recorded for all koala sightings throughout the course of field work, including opportunistic sightings of koalas during survey, outside of established transects. Where possible these observations included details of koala's age class, sex, health and the presence of pouch and/or back young as well as the tree species and DBH.

At sites where fresh (< 24 hours old) koala scat was found, scats were collected according to the protocols of Cristescu and Levengood (unpub) and transported in cooled eskies back to the Biolink office. They were then stored at -20°C until they were transported on dry ice to the University of Southern Queensland for genetic analysis. This aspect of the project is being administered by the DPE and the outcomes of this analysis will not form part of the current report.

2.4. Data analysis and spatial modelling

2.4.1. Occupancy

Occupancy was calculated according to the number of active sites divided by the total number of sites surveyed. These data are typically distributed binomially. Hence and unless otherwise specified, the Standard Error (SE) was estimated using the following term:

$$SE = \sqrt{pq/n} \quad (\text{Equation 1})$$

Where:

SE = standard error of the sample

p = the sample proportion

$q = 1 - p$

n = total sample size

The associated 95% confidence interval (CI) for the sample could then be estimated as $SE * 1.96$ (product of the Z-value for the required CI).

Occupancy data was analysed for heterogeneity using Log-likelihood ratios across LGAs, with the same analytic approach used to test for differences between land tenures. This non-parametric method is suitable for binomial data sets which contains scores of either '0' or '1'. Any significant variation was followed by unplanned tests for homogeneity using simultaneous test procedures in Biomstat 4.11 in order to identify the basis of these differences.

We use two terms when referring to measures of occupancy; naïve occupancy and habitat occupancy. Naïve occupancy refers to the overall proportion of sites which are positive for koala faecal pellets. Habitat occupancy limits consideration only to sites which contain PKFTs.

2.4.2. Activity levels

Activity levels are the proportion of the 30-tree SAT sample which were scored positive for koala faecal pellets and these koala activity levels were interpreted in the context of the relevant activity level thresholds. Underlying soil fertility and associated mapped vegetation implies the presence of two distinct koala carrying capacity landscapes across the study area, referred to as East Coast (low) and East Coast (high) respectively (**Table 1**). The East Coast (low) landscape is widespread across the study area, with the Richmond River floodplain and other localised areas including the Evans River and Alstonville Plateau, considered according to East Coast (high) activity thresholds (**Appendix 1**).

Table 1. Categorisations of koala activity based on use of mean activity level \pm 99% CI. Activity levels in the medium (normal) and high use range for East Coast (low) and East Coast (high) activity categories indicates occupancy by resident koala populations (Source: modified from Table 2 in Phillips & Callaghan 2011).

Activity category	Low use	Medium (normal) use	High use
East Coast (low)	< 9.97%	$\geq 9.97\%$ but $\leq 12.59\%$	> 12.59%
East Coast (high)	< 22.52%	$\geq 22.52\%$ but $\leq 32.84\%$	> 32.84%

Activity data from all SAT field sites was interpolated using regularised, thin-plate splining techniques using the spatial analyst extension in ArcGIS 10.5. Output from the splining process was utilized to produce an activity contour model to delineate areas occupied by resident koala populations by identifying contours greater than 9.97% for East Coast (low) and 22.52% for East Coast (high) indicating significant activity thresholds of Phillips & Callaghan (2011) as detailed in **Table 1**. Lower activity contours were included in the activity model to assist with interpretation of connectivity. This process produces a meta-population model (or contour map) that delineates important “source” areas supporting established resident koala populations. These modelled areas of significant koala activity that encapsulate most contemporary koala records including observed breeding females (Bioink 2007).

Activity levels were analysed for sites repeated from 2018 (McAlpine *et al.* unpub) using t-tests. Differences between activity levels based on land tenure and LGA were addressed via one-way Analysis of Variance (ANOVA) with *post-hoc* testing with Tukey Honestly Significant Difference (HSD).

2.4.3. Density estimate

Density estimates were calculated by summing the total number of koalas found in radial area searches then dividing by the total area searched to give the number of koalas *per* ha. The associated SE was calculated as described in **Equation 1** (pg 18). Density estimates from radial area searches at sites surveyed by local Councils were not included as not all Councils performed this search or otherwise performed the search only in areas where PKFTs were present, presenting a different methodology not easily combined with the current study.

2.4.4. 2019 / 2020 fire mapping

The Google Earth Engine Burnt Area Map (GEEBAM) v2p1 shapefile was intersected with SAT sites *post-hoc* to display results in the context of the 2019/2020 bushfires. Mapping was downloaded from SEED spatial database (<https://datasets.seed.nsw.gov.au/dataset/>).

2.5. Consolidated vegetation mapping

A consolidated vegetation map of the study area was created using two underlying mapping sources, the first being the mapping produced as part of the 2018 North Coast Koala Linkage Project (Hosking *et al.* unpub, McAlpine *et al.* unpub) which encompassed the four Far North Coast LGAs (Ballina, Byron, Lismore and Tweed) which were the subject of that project. This map was itself the result of combining a series of smaller, relatively detailed vegetation maps from Council and other sources. The second mapping source was *The Northern Rivers Catchment Authority* vegetation mapping layer (Ecological

2005) downloaded from the SEED Spatial database (<https://datasets.seed.nsw.gov.au/dataset/>). This broad scale vegetation mapping was clipped to the two LGAs of Kyogle and Richmond Valley and this was combined with the 'Zonation' mapping for Ballina, Byron, Lismore and Tweed. Once combined, this map was coded using two approaches to koala habitat classification: 1) Preferred Koala Habitat (PKH) mapping criteria of Biolink (**Section 2.5.1**); and 2) the koala habitat categorization of Hosking *et al.* (unpub) (**Section 2.5.2**). Further, the broad scale vegetation map of *The Northern Rivers Catchment Authority*, clipped to the six LGAs that form the current study area was coded according to the PKH mapping criteria of both Biolink and Hosking *et al.* (unpub).

2.5.1. Koala Habitat Classification - Biolink

A four-tiered, hierarchical koala habitat classification system assigned habitat quality classes based on the relative abundance (dominance) of Preferred Koala Food Tree (PKFT) species, the presence of which could be determined from the associated vegetation descriptions. Each of the classifications (**Table 2**) reflects differing koala carrying capacities of the associated vegetation communities, areas of 'Primary' Koala Habitat capable of sustaining high density populations (*i.e.* > 0.5 koalas ha⁻¹), whereas Secondary (Class C) / Marginal Koala Habitat can only sustain low density populations (*i.e.* < 0.1 koalas ha⁻¹). Collectively, 'Primary' and 'Secondary' habitat classifications function to identify areas of Preferred Koala Habitat (PKH).

Note 1: Preferred Koala Food Trees (PKFTs) are a discrete suite of species in the Genus *Eucalyptus* which, as the term implies, are the subject of preferential utilisation (*i.e.* statistically significant levels of use by koalas when compared to the relative abundance of that tree species in the landscape being assessed). Techniques for identifying PKFTs include replicated Goodness of Fit tests that compare the proportion of tree species 'x' occupied by radio-tracked koalas to that of the relative abundance of tree species 'x' in the same study area (Phillips 1999) and/or statistical analyses of tree species / faecal pellet presence/absence data (Phillips *et al.* 2000; Phillips & Callaghan 2000; Phillips & Callaghan 2011). While casual observations of feeding behaviour and techniques such as cuticle-scale analyses can provide information about tree species being used by koalas in a given area, such data when presented in isolation (*e.g.* Woodward *et al.* 2008; Cristescu *et al.* 2011; Melzer *et al.* 2014) cannot readily be partitioned in terms of those tree species being preferentially utilised (as defined above) and those being the subject of more opportunistic levels of use.

The need to distinguish between PKFTs and other tree species used by koalas is critically important for effective koala conservation. The term PKFT is often promoted and/or mis-communicated in the absence of statistical support; vegetation communities without PKFTs simply cannot permanently

sustain free-ranging koala populations, while the removal of PKFTs from within areas being utilised by koalas can result in nutritional stress, elevated levels of disease and a reduced reproductive output.

Note 2: The terms “Primary” and “Secondary” koala food tree species³ as used in the classifications outlined in Table 3 below are based on the mathematical models of PKFT utilisation described by Phillips (2000). Ongoing analyses of koala activity data from low nutrient substrates (Phillips and Allen 2014) has provided the basis for further partitioning of lower carrying capacity habitat types based on differences in the abundance of secondary food tree species. Specifically, vegetation communities wherein secondary food tree species are a dominant or co-dominant component of the tallest stratum support significantly higher koala activity levels (and hence a higher koala carrying capacity) than do vegetation communities wherein secondary food tree species occur at lower densities (Phillips and Allen 2014). This knowledge has informed the need to recognise a further habitat category - Secondary (Class C) Koala Habitat - as described below.

Table 2. Four-tiered koala habitat classification hierarchy criteria as applied to vegetation mapped within Northern Rivers. The terms Plant Community Type (PCT) and Forest Ecosystem Type (FET) are interchangeable in this context.

Koala habitat type	Classification criteria
Primary koala habitat	Forest and/or woodland PCTs occurring on soils of medium to high nutrient value whereupon <u>primary</u> PKFTs are dominant or co-dominant components of the tallest stratum.
Secondary (Class A) koala habitat	Forest and/or woodland PCTs occurring on soils of medium to high nutrient value whereupon <u>primary</u> PKFTs are sub-dominant components of the tallest stratum.
Secondary (Class B) koala habitat	Forest and/or woodland PCTs occurring on soils of low to medium nutrient value whereupon primary PKFTs are absent, the tallest stratum instead dominated or co-dominated by <u>secondary</u> food tree species only.
Secondary (Class C) / marginal koala habitat	Forest and/or woodland PCTs occurring on soils of low to medium nutrient value whereupon primary food tree species are absent and <u>secondary</u> food tree species are sub-dominant components of the tallest stratum.
Other	Forest and/or woodland PCTs that do not contain PKFTs.
Unknown	Vegetation not currently mapped or described.

³ Primary Food Tree requires preferential use by koalas to be significantly higher than other congeners with utilisation that is independent of size class (Phillips *et al.* (2000) refers) whereas a Secondary Food Tree also requires a level of use that is significantly higher than other congeners but with a utilisation model that is typically size-class dependent (Phillips and Callaghan (2000) refers).

Biolink Ecological Consultants maintains a large⁴ koala tree use database (Koala_SAT) that can inform on PKFTs on a State, regional or LGA basis. Habitat categorisations as proposed above are based on considerations relating to the presence/absence of both Primary and Secondary PKFTs, which for the study area comprised the following species:

- *Eucalyptus robusta* (swamp mahogany)*
- *E. tereticornis* (forest red gum),
- *E. microcorys* (tallowwood),
- *E. moluccana* (grey box), and
- *E. propinqua* and allied species

* Includes the naturally occurring *E. robusta* x *E. tereticornis* hybrid.

2.5.2. Koala Habitat Classification – North Coast Koala Linkage Project

As part of the North Coast Koala Linkage Project which was associated with the 2018 round of regional koala survey (Hosking *et al.* unpub, McAlpine *et al.* unpub) a vegetation map was produced for the four Far North Coast LGAs of Ballina, Byron, Lismore and Tweed. This map was coded for categories of koala habitat as outlined in **Table 3** below.

Table 3. Koala habitat coding, modified from Table 1 of Hosking *et al.* (unpub).

BIODIVERSITY FEATURE / THREAT 50 x 50 m	Weight (-1-8)	SCEN 1 All variables (weighted) (DS)	SCEN 2 All variables (weighted) (NO DS)	SCEN 3 Habitat only (weighted) (DS)	SCEN 4 Koalas/ habitat only (weighted) (DS)	SCEN 5 Koalas/ habitat only (EQUAL WEIGHT=1) (DS)	SCEN 6 SEED veg only (High/V High quality habitat) (weighted) (DS)
P (PKFTs dominant)	8	X	X	X	X	X	
2A (PKFTs co-dominant)	8	X	X	X	X	X	
S (Social: Want More koalas)	7	X	X				
Koalas (SEED n = 1620* & (Activity n = 302)	7	X	X		X	X	
2B (PKFTs occasional to common associate)	6	X	X	X	X	X	
2C (PKFTs present but uncommon)	5	X	X	X	X	X	
M (PKFTs absent-other eucs present)	4	X	X	X	X	X	
PossKH (Potential Koala Habitat-Tree cover >2 m*)	4	X	X	X	X	X	
WATER (Rivers, dams, lakes)	4	X	X				
O (Other forest/woodland-no eucalypts present)	3	X	X				
NKH (Not koala habitat)	2	X	X				
U (Unknown communities)	2	X	X				
SEED (High/V High quality habitat)	1						X
Roads (Major and minor) Proxy for urban/dogs/cars	-1.0	X	X				

* NSW state-wide Koala Habitat Information Base Sharing and Enabling Environmental Data (SEED, 2019)

⁴ Currently 130,600 trees from more than 5,000 field sites.

2.5.3. Mapping accuracy

Mapping accuracy of *The Northern Rivers Catchment Authority* mapping layer (Ecological 2005), was determined by comparing the floristic data recorded at each SAT field survey site with the vegetation descriptions that apply to the mapped polygon in which the site is located. To derive an overall accuracy estimate, polygons were scored as follows:

- '100%' (*i.e.* correctly typed) where there was agreement between the tallest stratum tree species recorded at field sites and descriptions for the mapped polygons as they appear in DEC (2004),
- '50%' when the polygon appeared incorrectly typed but a corresponding community appeared within 100 m, or
- '0%' (*i.e.* not correctly typed) when no conformity was apparent.

Agreement was considered to be when ≥ 15 trees from the 30-tree sample at each SAT site conformed with species listed in the Forest Ecosystem Type (FET) description. An estimate of mapping accuracy along with an associated 95% CI was then determined by dividing the sum of scores by the number of contributing field sites. It was not possible to determine the accuracy of the North Coast Koala Linkage Project vegetation mapping as vegetation descriptors were present for only 10.23% of mapped polygons.

3. Results

3.1. Spot Assessment Technique (SAT) survey

Field survey assessments were undertaken at 350 PMPs across the study area from 29th November 2021 to 27th July 2022. Augmenting with data collected by Councils added 17 sites in Lismore, 11 sites in Byron and five sites in Tweed, for a total of 383 sites used for analysis purposes (**Figure 3, Figure 4**).

Considering the 350 sites surveyed by this project for which land tenure information was available, sites were distributed across all land tenures including National Parks ($n = 67$), State Forests ($n = 67$), Council lands ($n = 18$) and Indigenous lands ($n = 2$). The land tenures with the highest number of sites were private ($n = 95$) and road reserves ($n = 101$) (**Table 4**).

Table 4: Distribution of 350 field sites surveyed for this project, categorised by LGA and land tenure. Note that additional sites, not listed here, were considered in the analysis where recent Council survey had occurred (Lismore n = 17; Byron n = 11; Tweed n = 5), though not all had land tenure information.

Local Government Area	Land tenure						
	National Park	State Forest	Council	Indigenous land	private	roadside	Total
Ballina	4		3	2	5	4	18
Byron	3				5	5	13
Kyogle	30	36	3		27	34	130
Lismore	2	1	1		16	15	35
Richmond Valley	15	30	2		22	38	107
Tweed	13		9		20	5	47
Total	67 (19.14%)	67 (19.14%)	18 (5.14%)	2 (0.57%)	95 (27.14%)	101 (28.87%)	350

The objective was to survey as close to the grid-cell centre-point as possible, with some flexibility to account for the location of the nearest vegetation and issues of site access. The median distance of actual sites from grid-cell centre-points was 775 m. All 2018 repeat sites were done at the exact location, though site 52 (surveyed by Lismore Council) was 16 m from the 2018 UTM coordinates and TC313 and TC73 (surveyed by Tweed Council) were 1.5 and 5.3m from 2018 points respectively – all of which may be within GPS error.

3.2. Occupancy

The distribution and occupancy of surveyed field sites is illustrated in **Figure 3**. Evidence of koalas in the form of diagnostic faecal pellets was recorded at 94 of the 350 sampled field sites resulting in a naïve occupancy estimate of $26.86\% \pm 2.37\%$ (SE). Considering the entire dataset, inclusive of recent Council survey, evidence of koalas in the form of diagnostic faecal pellets was recorded at 116 of the 383 sampled field sites resulting in a naïve occupancy estimate of $30.29\% \pm 2.35\%$ (SE) across the study area. These results do not differ significantly [$t(df = 382) = -1.03, p = 0.31$]. When the dataset is partitioned by LGAs, the LGA with the highest naïve occupancy estimate is Lismore with $46.15\% \pm 6.91\%$ (SE) and the lowest rate is Byron with $8.33\% \pm 5.64\%$ (SE). The remaining estimates can be seen in **Table 5**.

These results can be further presented in terms of the number of field sites which contained PKFTs, which is a useful proxy for the presence of habitat actively utilised by koalas. Considering only sites with PKFTs present in the 30-tree sample; 268 of the total 383 field sites contained PKFTs, of which 98 were positive for koala faecal pellets (**Appendix 2**). This results in an adjusted habitat utilisation /

occupancy estimate of $36.57\% \pm 2.94\%$ (SE) (**Table 5**). When the data is partitioned into LGAs, the largest difference when considering only sites with PKFTs is in Ballina, where the estimate more than doubles from $22.22\% \pm 9.80\%$ to $50.00\% \pm 20.41\%$, with the large SE due to the overall small number of sites with PKFTs in that LGA ($n = 6$). This difference is not significant as there are very broad error margins.

Table 5. The number of sites which were positive for diagnostic koala faecal pellets (occupied sites), compared to unoccupied sites, categorised by LGA. Cells shaded green show occupancy rates when considering only those sites which contained PKFTs (habitat occupancy), whereas unshaded cells show data for all sites (naïve occupancy).

LGA	active sites	sites	Occupancy \pm SE
Ballina	4	18	22.22 ± 9.80
	3	6	50.00 ± 20.41
Byron	2	24	8.33 ± 5.64
	1	8	12.50 ± 11.69
Kyogle	39	130	30.00 ± 4.02
	35	103	33.98 ± 4.67
Lismore	24	52	46.15 ± 6.91
	22	36	61.11 ± 8.13
Richmond Valley	28	107	26.17 ± 4.25
	25	83	30.15 ± 5.04
Tweed	19	52	36.54 ± 6.68
	12	32	37.50 ± 8.56
TOTAL	116	383	30.29 ± 2.35
	98	268	36.57 ± 2.94

Log-likelihood tests revealed significant variation in naïve occupancy rates between LGA's ($G=15.049$, $df = 5$, $p = 0.01$) which is accounted for by the difference between Lismore and Byron Shires. When occupancy estimates by LGA's are further partitioned to include only sites that contained PKFTs (habitat occupancy), the estimate increased across all LGA's and log-likelihood tests again revealed a significant difference ($G=13.545$, $df = 5$, $p = 0.02$), though in this case the variation is due to differences between Lismore and all other LGA's.

Comparing the 25 field sites which were surveyed in 2018 and re-surveyed in 2021/22, 10 sites were occupied in 2018, compared to 11 in 2022, implying no change in this measure over the preceding three-year period. While the overall occupancy rates were very similar across the two survey events there were site-based differences. Of the 15 sites which were unoccupied in 2018, eight were unoccupied in 2021/22, the remaining seven becoming occupied. Of the ten sites that were occupied

in 2018, four were occupied in 2021/22, with six no longer occupied (see Activity level data summary in **Table 7, Section 3.3**).

Utilising data from all sources including sites surveyed by Councils where the land tenure was known ($n = 362$) the dataset comprised five tenures: National Parks ($n = 71$), State Forest ($n = 67$), private ($n = 101$), Council ($n = 19$), road reserves ($n = 102$) and Indigenous lands ($n = 2$) with private lands having the highest naïve occupancy levels ($38.61\% \pm 4.84\%$ SE) and Council having the lowest ($15.79\% \pm 8.37\%$ SE) (**Table 6**). As only two sites were located on Indigenous lands, these were not considered in the analysis of land tenure (see **Appendix 2** for these activity levels). Log-likelihood tests revealed significant variation in naïve occupancy rates between land tenures ($G=15.309$, $df = 4$, $p = 0.004$) which is accounted for by the difference between private sites and road reserves. When occupancy estimates of land tenures are further partitioned to include only sites that contained PKFTs (habitat occupancy), the measure increased across all tenures and log-likelihood tests revealed no significant difference ($G=8.769$, $df = 4$, $p = 0.07$), though this may be impacted by smaller sample sizes (**Table 6**).

Table 6. Koala occupancy across land tenures. Note that Indigenous lands are not included due to small sample size ($n = 2$) and smaller overall sample size due to not all land tenures being known. Cells shaded green show occupancy rates considering only sites which contained PKFTs (habitat occupancy), whereas unshaded cells show data for all sites (naïve occupancy).

Tenure	active sites	sites	Occupancy \pm SE
Private	39	101	38.61 ± 4.84
	33	81	40.74 ± 5.46
State Forest	20	67	31.34 ± 5.66
	17	47	36.17 ± 6.90
National Park	15	71	21.13 ± 4.84
	12	37	32.43 ± 7.69
Road Reserve	17	102	16.67 ± 3.69
	15	74	20.27 ± 4.67
Council	3	19	15.79 ± 8.37
	2	10	20.00 ± 12.65
TOTAL	94	360	26.11 ± 2.32
	79	249	31.72 ± 2.95

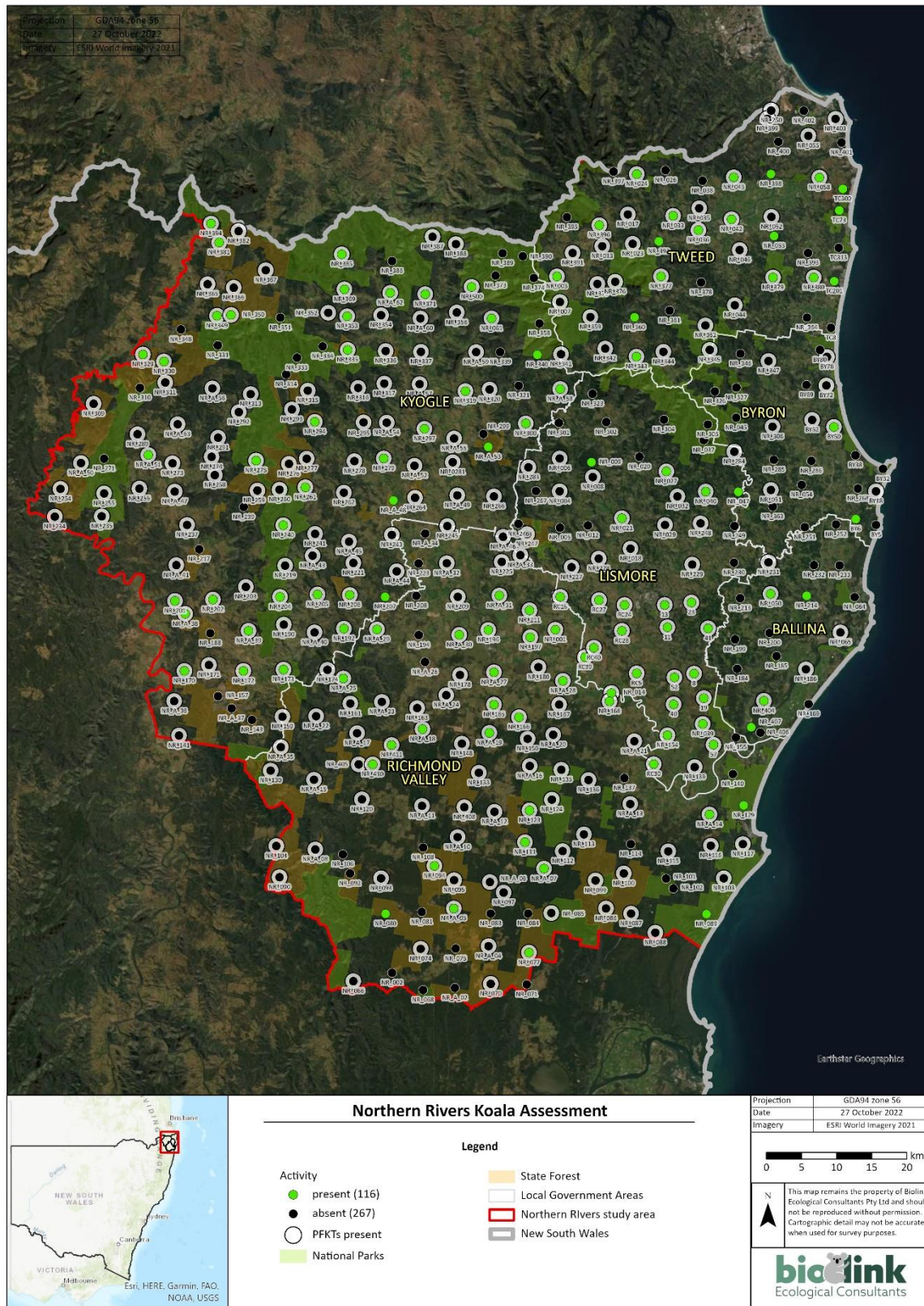


Figure 3. The distribution of 383 koala survey points across the Northern Rivers study area (red outline), showing sites where scats are present (green dots) or absent (black dots). Sites where PKFTs are present are denoted by large white circles around the green or black dots.

3.3. Activity levels

Of the 116 sites with koala activity, activity levels ranged from 3.33% to 100% (mean = 19.45% \pm 2.01% (SE)) (**Figure 4, Appendix 2**). Considering all sites, 77 were categorised as East Coast (high) according to their underlying soil fertility and tree species assemblage (**Appendix 1**). Twenty-six (26) of these sites recorded evidence of koalas, 13 of which were low use, five were medium use and eight were high use. Of the remaining 289 surveyed sites classified as East Coast (low), 42 were low activity, seven medium activity and 25 high activity. Note that 'no' and 'low' activity are statistically indistinguishable and both represent areas where koalas are non-resident / transient⁵. The activity contours shown in yellow, orange and red in **Figure 4** show the location of known breeding aggregates of koalas, with blue contours showing low activity, indicative of transient koalas. The broadscale area supporting the greatest significant (medium and high) koala activity is located across southern Lismore LGA, extending from south Ballina LGA to the east, through-out the entirety of south Lismore LGA and into the Richmond Valley LGA to the south and west, an area which is generally reflective of the location of the fertile Richmond River Floodplain. Numerous other areas of significant koala activity are distributed broadly across the study area, as discussed in Section 4.1 of this report.

⁵ No and low koala activity are statistically indistinguishable for the purposes of activity level analysis, though no and low activity are considered separately in occupancy analysis which scores presence/absence only.

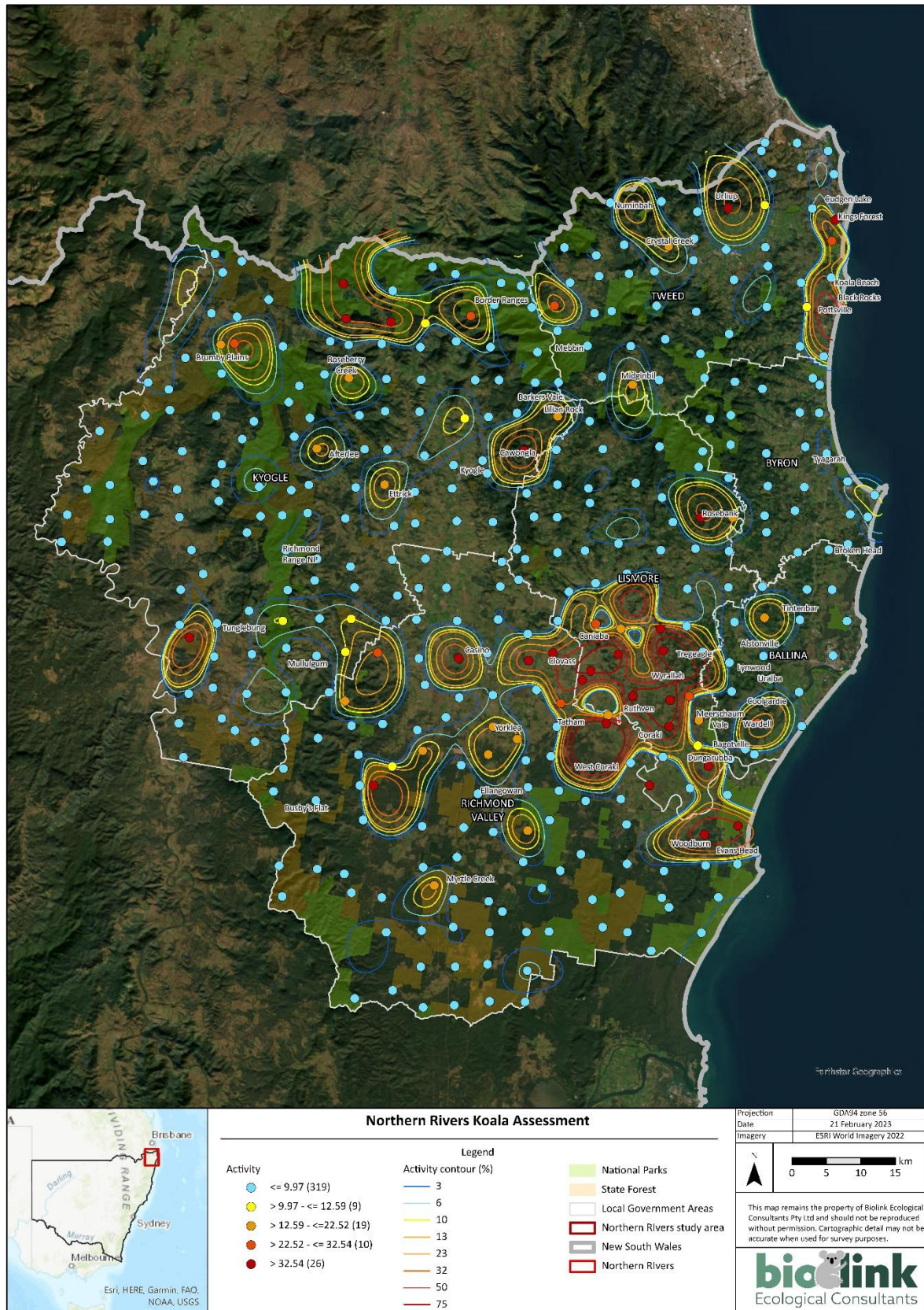


Figure 4. The distribution of 383 koala survey points across the Northern Rivers study area (red outline), showing the location of koala activity with significant (medium and high) koala activity shown in yellow, orange and red and insignificant / transient activity shown in blue. Localities referred to in the discussion are displayed.

It can be informative to explore the proportion of koala activity which is considered ‘significant’ *i.e.* medium and high activity indicating resident individuals *versus* low activity levels revealing transient movement. For those sites which have information regarding East Coast (high) / East Coast (low) classification, koala activity level categorisation is shown for each LGA in **Figure 5**.

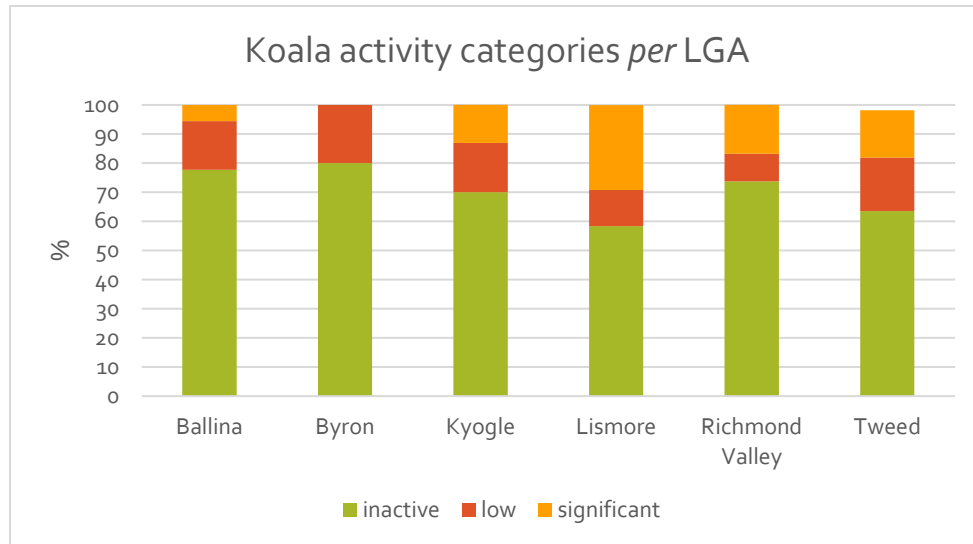


Figure 5. Comparison of koala activity levels across LGA's.

Of the subset of 25 field sites which were surveyed in 2018, 15 had no activity, three had low, two had medium and five had high activity. When re-surveyed in 2021/22, 14 had no activity, four had low activity, three had medium activity and four had high activity (**Table 7**). Overall, there was no significant difference in activity levels when comparing the two rounds of survey (Mann Whitney U test: $U = 294.5$, $z = -0.34$, $p = 0.727$), though there were site-based differences with categorical changes at 16 of the 25 sites.

Table 7. The 25 sites which were surveyed as part of the North Coast Koala Linkage Project in 2018 (Hosking *et al.* unpub, McAlpine *et al.* unpub) which were re-surveyed as part of the current project. Note that site names were not available for every 2018 site.

	Site name (2021/22)	Site name (2018)	Activity (%)			Categorical change
			Activity threshold	2018	2021/22	
1	NR_003		East Coast (low)	0.00	26.67	no to high
2	NR_004	85	East Coast (low)	0.00	0.00	
3	NR_005	73	East Coast (low)	0.00	0.00	
4	NR_006	99	East Coast (low)	0.00	0.00	
5	NR_007		East Coast (low)	20.00	0.00	high to no
6	NR_013		East Coast (low)	12.90	0.00	high to no
7	NR_024		East Coast (high)	25.81	30.00	medium to high
8	NR_029	219	East Coast (high)	0.00	0.00	
9	NR_033		East Coast (low)	0.00	13.33	no to medium
10	NR_036		East Coast (low)	6.67	3.33	
11	NR_038		East Coast (low)	29.03	0.00	high to no
12	NR_039	123	East Coast (low)	6.67	10.00	low to medium
13	NR_040	210	East Coast (high)	6.67	33.33	low to high
14	NR_042		East Coast (low)	0.00	3.33	no to low
15	NR_044		East Coast (low)	10.00	0.00	medium to no
16	NR_046		East Coast (low)	0.00	0.00	
17	NR_050	332	East Coast (high)	0.00	20.00	no to low
18	NR_051	406	East Coast (high)	46.67	0.00	high to no
19	NR_052		East Coast (low)	24.24	0.00	high to no
20	NR_055		East Coast (low)	0.00	0.00	
21	NR_058		East Coast (low)	0.00	6.67	no to low
22	NR_065	309	East Coast (high)	0.00	0.00	
23	52	10	n/a	0.00	100.00	no to high
24	TC313		East Coast (high)	0.00	0.00	
25	TC73		East Coast (high)	0.00	30.00	no to medium

To quantify potential differences between each of the six LGA's that form the study area, activity levels were compared using a one-way ANOVA with Tukey's Honestly Significant Difference (HSD) *post hoc*, revealing a statistically significant difference in koala activity levels between at least two LGA's ($F(382, 5) = 6.735, p < 0.0001$). Tukey's HSD test for multiple comparisons found that the mean activity level was significantly different between Lismore and all other LGA's (Ballina: $Q = 5.25, p = 0.002$; Byron: $Q = 6.27, p = 0.001$; Kyogle: $Q = 4.94, p = 0.005$; Richmond Valley: $Q = 4.42, p = 0.017$; Tweed: $Q = 4.21, p = 0.026$).

Utilising data from all sources, including sites surveyed by Councils where the land tenure was known, activity levels were pooled across all LGA's and potential differences between land tenures were

compared using a one-way ANOVA with Tukey's HSD *post hoc*, revealing a significant difference between at least two land tenures ($F(357, 4) = 3.071, p = 0.017$). Tukey's HSD test for multiple comparisons found that the mean activity levels were significantly different between private sites and roadside sites ($Q = 4.08, p = 0.034$).

3.4. Density estimate

Six koalas were sighted within the 68.6 ha sampled by 350 x 25m (0.196 ha) fixed-radius searches conducted by Biolink. Details on these koalas are given in **Table 8** with images in **Figure 5**. There were three koalas sighted in Kyogle, two in Richmond Valley and one in Lismore. This gives a density estimate of $0.087 \text{ koalas ha}^{-1} \pm 0.033$ (SE) across those parts of the study area that were surveyed by this project. This does not include sites surveyed by Councils *i.e.* the high koala density Lismore CKPoM planning area, in addition to Tweed Coast and Byron Coast. There were two incidental koala sightings during the course of Biolink survey (**Table 9**).

A reliable koala population estimate, based on the density of koalas and the known amount of koala habitat across the study area is not possible given the low accuracy of the vegetation mapping (see Section 3.6). Potential errors, when compounded over an area as large as the study area (1,030,144 ha), will be misleading. Further, radial transects covered <0.01% of the total study area and ideally population estimates are based on a greater proportional coverage of the landscape.

Table 8: Koalas sighted within 25m fixed-radius surveys during the course of Biolink SAT surveys.

No.	SAT site	Age class	Sex	Health	Tree (DBH in mm)
1	NR_300	adult	unknown	no observed signs of disease	<i>E. tereticornis</i> (390)
2	NR_340	adult	unknown	no observed signs of disease	<i>E. carnea</i> (700)
3	NR_039	adult	male	no observed signs of disease	<i>E. tereticornis</i> (1,110)
4	NR_A_58	adult	male	no observed signs of disease	<i>E. tereticornis</i> (600)
5	NR_129	adult	female	dirty bottom	<i>E. robusta</i> (310)
6	NR_A_14	adult	female	no observed signs of disease	<i>E. tereticornis</i> (680)

Table 9: Koalas sighted incidentally during the course of Biolink SAT surveys (outside of radial area searches).

No.	SAT site	Age class	Sex	Health	Tree (incl DBH)	Easting	Northing
1		adult	male	no observed signs of disease	<i>E. robusta</i> (170)	529953	6793333
2		adult	unknown	no observed signs of disease		523518	6824099

**Figure 5.** Photos of six koalas sighted during the course of 25m fixed-radius surveys at each of the 350 SAT sites surveyed by Biolink.

3.5. 2019 / 2020 fire mapping

The intersection of GEEBAM fire mapping from the 2019/2020 bushfire season with the results of SAT survey is presented in **Figure 6**. Of the 383 surveyed sites, 22 intersect with the 2019/2020 bushfire season mapping layer; 12 are considered 'canopy fully burnt' and 10 'canopy partially burnt' according to the mapping layer classification system. All but two of these sites are located in State Forests. Of the 12 fully burnt sites, nine had no koala activity, two had low (transient) koala activity and one had medium activity. Of the ten partially burnt sites, six had no koala activity, two had low (transient) activity and two had high koala activity. The intersection was performed with the exact site centre-points and additional sites are situated in a matrix of fine-scale fire mapping but did not directly intersect it, particularly in Richmond Valley LGA (**Figure 6**). These results are for illustrative purposes as statistical analysis is inappropriate in the absence of reliable *pre* and *post* fire data for each site.

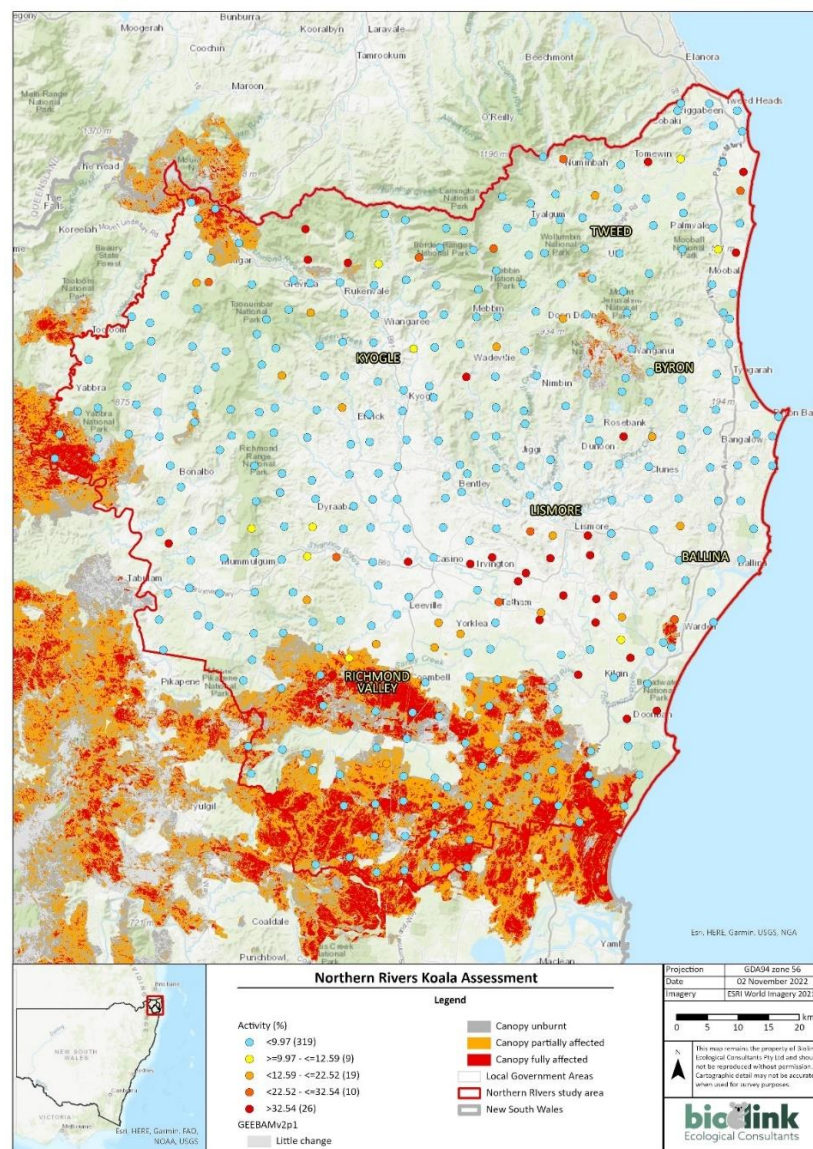


Figure 6. Intersect of GEEBAM v2p1 fire mapping from 2019/2020 bushfire season with koala activity levels as detected by SAT survey.

3.6. Consolidated vegetation mapping

Three maps were generated by using a combination of two source maps and applying the koala habitat criterion of Biolink (described in **Section 2.5.1**) and Hosking *et al.* (unpub) (described in **Section 2.5.2**) as below:

- 1) Vegetation mapping for Ballina, Byron, Lismore and Tweed from the North Coast Koala Linkage Project (Hosking *et al.* unpub), combined with *Northern Rivers Catchment Authority* mapping for Kyogle and Richmond Valley, coded according to the koala habitat classification system of Hosking *et al.* (unpub) (**Figure 7**). Described later in this report as Method 1.
- 2) *Northern Rivers Catchment Authority* mapping (Ecological 2005) for all six LGAS, coded according to the koala habitat classification system of Hosking *et al.* (unpub) (**Figure 8**). Described later in this report as Method 2.
- 3) *Northern Rivers Catchment Authority* mapping for all six LGAS, coded according to the koala habitat classification system of Biolink (**Figure 9**). Described later in this report as Method 3.

With reference to the map shown in **Figure 7** (Method 1) there is 338,337 ha of koala habitat across the study area, accounting for 32.84% of the total land surface area. Within each of the LGAs the percentage of koala habitat ranges from 11.32% in Ballina to 43.04% in Richmond Valley (**Table 10**). The koala habitat category with the greatest coverage across the study area is Primary accounting for 11.87% of the land surface area, followed by Secondary B (10.56%), Secondary A (9.53%) and Secondary C (0.79%).

Table 10. North Coast Koala Linkage Project vegetation mapping combined with Northern Rivers Catchment Authority mapping (Method 1 in Section 3.6; coding method of Hosking *et al*, upub), showing the area in hectares and percentage of koala habitat categories in each LGA and the total of the Northern Rivers study area, with the collated amounts of koala habitat. See Section 2.5.2 for descriptions of each of the koala habitat categories.

			Ballina	Byron	Kyogle	Lismore	Richmond Valley	Tweed	Study area
LGA (ha)			49,226	56,758	358,640	128,823	304,851	131,845	1,030,143
Total koala habitat		Area (ha)	5,573	9,243	130,429	20,864	131,195	41,033	338,337
		%	11.32	16.29	36.37	16.20	43.04	31.12	32.84
Koala Habitat categories Method 1	P	Area (ha)	135	501	58,780	4,310	55,490	4,083	123,299
		%	0.27	0.88	16.39	3.35	18.20	3.10	11.87
	2A	Area (ha)	991	3,756	31,809	9,590	22,352	29,662	98,160
		%	2.01	6.62	8.87	7.44	7.33	22.50	9.53
	2B	Area (ha)	2,920	2,575	39,839	4,154	53,354	5,940	108,782
		%	5.93	4.54	11.11	3.22	17.50	4.51	10.56
	2C	Area (ha)	1,526	2,411		2,811		1,348	8,096
		%	3.10	4.25		2.18		1.02	0.79
	PossKH	Area (ha)	912	460		2,509		1,869	5,750
		%	1.85	0.81		1.95		1.42	0.56
	M	Area (ha)	253	989	2,714	3,486	39,567	3,999	51,008
		%	0.51	1.74	0.76	2.71	12.98	3.03	4.95
	O	Area (ha)	4,031	15,304	63,234	18,211	16,437	17,591	134,808
		%	8.19	26.96	17.63	14.14	5.39	13.34	13.07
	NKH	Area (ha)	1,496	2,356		2,323		1,354	7,529
		%	3.04	4.15		1.80		1.03	0.73
	CLEARED	Area (ha)	12	2				58,487	58,501
		%	0.02	0.00				44.36	5.68
	ROCK	Area (ha)				10			10
		%				0.01			0
	U	Area (ha)	2,934	3,073		5,374		4,543	15,924
		%	5.96	5.41		4.17		3.45	1.55
	WATER	Area (ha)	2	800		649		2,756	4,207
		%	0.00	1.41		0.50		2.09	0.41

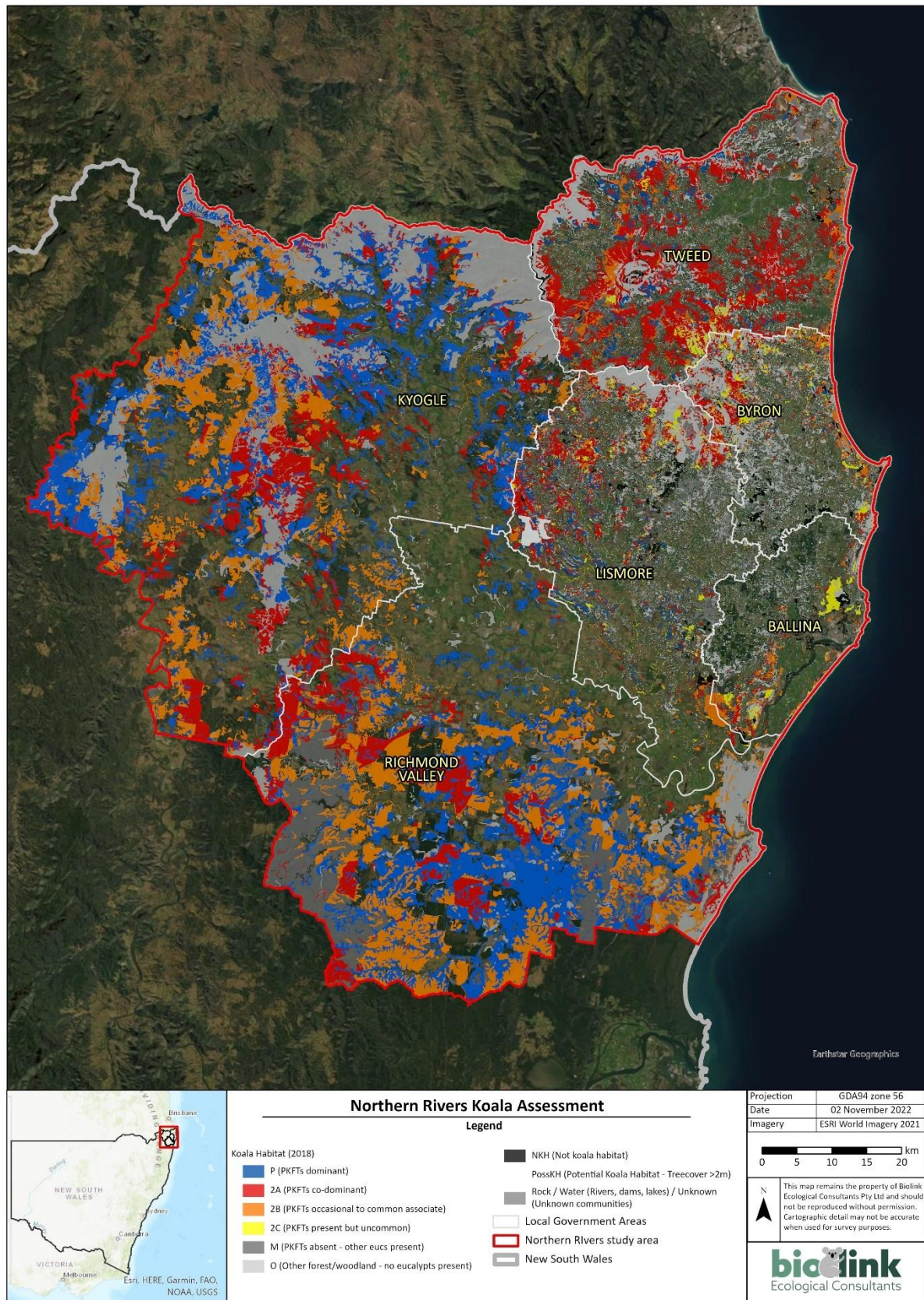


Figure 7. North Coast Koala Linkage Project vegetation mapping for Ballina, Byron, Lismore and Tweed, combined with Northern Rivers Catchment Authority mapping for Kyogle and Richmond Valley, coded according to the koala habitat classification system of Hosking *et al.* (unpub).

With reference to the map shown in **Figure 8** (Method 2) there is 320,610 ha of koala habitat across the study area, accounting for 31.12% of the total land surface area. Across each of the LGAs the percentage of koala habitat ranges from 10.57% in Ballina to 43.04% in Richmond Valley (**Table 11**). The koala habitat category with the greatest coverage across the study area is Primary accounting for 12.08% of the land surface area, followed by Secondary B (11.63%) and Secondary A (7.41%).

Table 11. Northern Rivers Catchment Authority mapping (Method 2 in Section 3.6; coding method of Hosking *et al.* unpub) showing the area in hectares and percentage of koala habitat categories in each LGA and the total of the Northern Rivers study area, with the collated amounts of koala habitat. See Section 2.5.2 for descriptions of each of the koala habitat categories.

			Ballina	Byron	Kyogle	Lismore	Richmond Valley	Tweed	Study area
LGA (ha)			49,226	56,758	358,640	128,823	304,851	131,845	1,030,143
Total koala habitat	Area (ha)	%	5,203	7,746	130,429	17,782	131,195	28,255	320,610
			10.57	13.65	36.37	13.80	43.04	21.43	31.12
Koala habitat categories Method 2	P	Area (ha)	273	474	58,780	7,485	55,490	1,930	124,431
		%	0.55	0.83	16.39	5.81	18.20	1.46	12.08
	2A	Area (ha)	670	5,129	31,809	6,038	22,352	10,346	76,343
		%	1.36	9.04	8.87	4.69	7.33	7.85	7.41
	2B	Area (ha)	4,261	2,143	39,839	4,260	53,354	15,978	119,835
		%	8.66	3.78	11.11	3.31	17.50	12.12	11.63
	M	Area (ha)	74	566	2,714	115	39,567	220	43,256
		%	0.15	1.00	0.76	0.09	12.98	0.17	4.20
	O	Area (ha)	7,043	16,818	63,234	17,046	16,437	39,296	159,873
		%	14.31	29.63	17.63	13.23	5.39	29.80	15.52

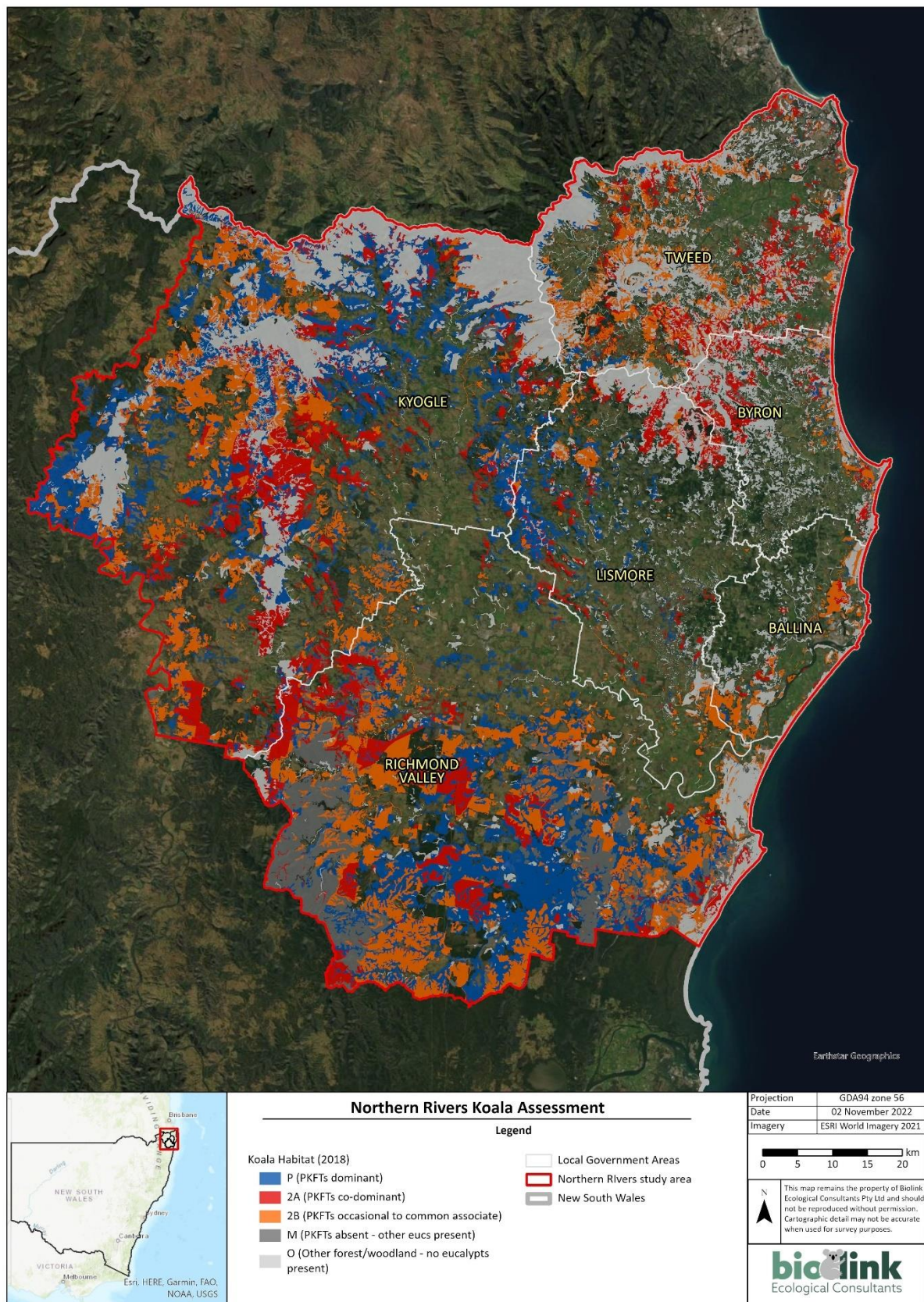


Figure 8. Northern Rivers Catchment Authority mapping for Ballina, Byron, Kyogle, Lismore, Richmond Valley and Tweed, coded according to the koala habitat classification system of Hosking *et al.* (unpub).

With reference to the map shown in **Figure 9** (Method 3) there is 304,014 ha of koala habitat across the study area, accounting for 29.51% of the total land surface area. Across each of the LGAs the percentage of koala habitat ranges from 3.74% in Ballina to 40.30% in Richmond Valley (**Table 12**). The koala habitat category with the greatest coverage across the study area is Secondary C, accounting for 15.22% of the land surface area, followed by Primary (6.32%), Secondary B (5.38%) and Secondary A (2.59%).

Table 12. Northern Rivers Catchment Authority mapping (Method 3 in Section 3.6; Biolink coding method) showing the area in hectares and percentage of koala habitat categories in each LGA and the total of the Northern Rivers study area, with the collated amounts of koala habitat. See Section 2.5.1 for descriptions of each of the koala habitat categories.

			Ballina	Byron	Kyogle	Lismore	Richmond Valley	Tweed	Study area
LGA (ha)			49,226	56,758	358,640	128,823	304,851	131,845	1,030,144
Koala habitat categories		Area (ha)	1,843	6,032	130,429	15,986	122,850	26,874	304,014
		%	3.74	10.63	36.37	12.41	40.30	20.38	29.51
	P	Area (ha)	97	356	23,524	763	39,493	835	65,069
		%	0.20	0.63	6.56	0.59	12.95	0.63	6.32
	2A	Area (ha)	670	710	15,104	3,106	3,535	3,582	26,706
		%	1.36	1.25	4.21	2.41	1.16	2.72	2.59
	2B	Area (ha)	176	117	31,441	6,712	15,931	1,091	55,468
		%	0.36	0.21	8.77	5.21	5.23	0.83	5.38
	2C	Area (ha)	901	4,849	60,360	5,405	63,891	21,366	156,771
		%	1.83	8.54	16.83	4.20	20.96	16.21	15.22
	O	Area (ha)	10,477	19,098	65,948	18,956	64,350	40,896	219,725
		%	21.28	33.65	18.39	14.71	21.11	31.02	21.33
Koala habitat		Area (ha)	1,843	6,032	130,429	15,986	122,850	26,874	304,014
		%	3.74	10.63	36.37	12.41	40.30	20.38	29.51

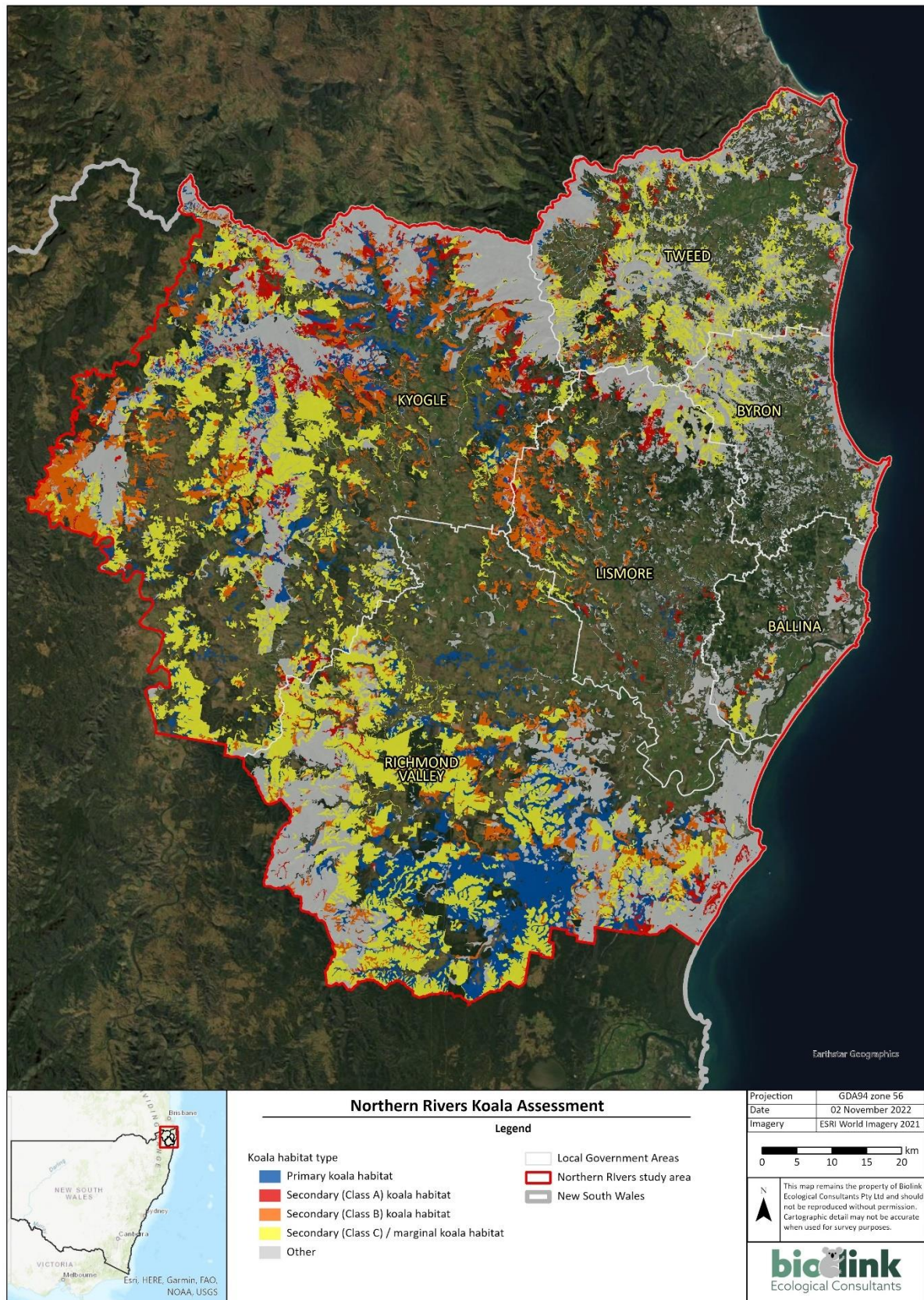


Figure 9. Northern Rivers Catchment Authority mapping for Ballina, Byron, Kyogle, Lismore, Richmond Valley and Tweed, coded according to the koala habitat classification system of Biolink.

While the total amount of koala habitat across the study area does not substantially differ according to which of the three approaches to mapping and coding koala habitat are implemented (Method 1: 338,337 ha; Method 2: 320,610 ha; Method 3: 304,014 ha), the proportional area of each of the koala habitat categories is markedly different. Methods 1 and 2 have a substantially greater proportion of Primary and Secondary A habitat (and hence an assumed higher koala carrying capacity), compared to Method 3 which has a much greater amount of Secondary C habitat (**Table 13**). Differences in the way that each FET is categorised, according to either the method of Biolink or Hosking *et al.* (unpub) as outlined in Section 2.5.1 and Section 2.5.2, and the associated land surface area accounted for by each FET is presented in **Appendix 3**.

Table 13. Comparison of three different approaches to mapping and coding koala habitat. Method 1 uses North Coast Koala Linkage Project vegetation mapping for Ballina, Byron, Lismore and Tweed and Northern Rivers Catchment Authority vegetation mapping for Kyogle and Richmond Valley, all coded for koala habitat according to the protocols of Hosking *et al.* (unpub). Method 2 uses the Northern Rivers Catchment Authority vegetation mapping for all six LGAs, coded according to Hosking *et al.* (unpub). Method 3 uses Northern Rivers Catchment Authority vegetation mapping for all six LGAs, coded according to Biolink. See Section 2.5.1 and 2.5.2 for descriptions of each of the koala habitat categories.

			Method 1 (Figure 7)	Method 2 (Figure 8)	Method 3 (Figure 9)
Total (ha)			1,030,143	1,030,143	1,030,143
Total koala habitat	Area (ha)		338,337	320,610	304,014
	%		32.84	31.12	29.51
Koala Habitat categories	P	Area (ha)	123,299	124,431	65,069
		%	11.87	12.08	6.32
	2A	Area (ha)	98,160	76,343	26,706
		%	9.53	7.41	2.59
	2B	Area (ha)	108,782	119,835	55,468
		%	10.56	11.63	5.38
	2C	Area (ha)	8,096		156,771
		%	0.79		15.22
	PossKH	Area (ha)	5,750		
		%	0.56		
	M	Area (ha)	51,008	43,256	
		%	4.95	4.20	
	O	Area (ha)	134,808	159,873	219,725
		%	13.07	15.52	21.33
	NKH	Area (ha)	7,529		
		%	0.73		
	CLEARED	Area (ha)	58,501		
		%	5.68		
	ROCK	Area (ha)	10		
		%	0		
	U	Area (ha)	15,924		
		%	1.55		
	WATER	Area (ha)	4,207		
		%	0.41		

The proportion of each LGA which comprises koala habitat does not differ substantially when comparing Methods 1 and 2, except for Tweed which is 31.12% koala habitat and 21.43% respectively. When comparing Method 3 to both the preceding methods there is generally a small decrease in the amount of koala habitat across all LGAs, which is pronounced only in Ballina which decreases from 11.32% (Method 1) and 10.57% (Method 2) koala habitat to 3.74% for Method 3 (**Table 14**).

Table 14. Comparison of three different approaches to mapping and coding koala habitat across each of the six LGA's that comprise the study area. Method 1 uses North Coast Koala Linkage Project vegetation mapping for Ballina, Byron, Lismore and Tweed and Northern Rivers Catchment Authority vegetation mapping for Kyogle and Richmond Valley, all coded for koala habitat according to the protocols of Hosking *et al.* (unpub). Method 2 uses the Northern Rivers Catchment Authority vegetation mapping for all six LGAs, coded according to Hosking *et al.* (unpub). Method 3 uses Northern Rivers Catchment Authority vegetation mapping for all six LGAs, coded according to Biolink.

			Ballina	Byron	Kyogle	Lismore	Richmond Valley	Tweed	Study area
LGA (ha)			49,226	56,758	358,640	128,823	304,851	131,845	1,030,144
Amount of koala habitat	Method 1 (Figure 7)	Area (ha)	5,573	9,243	130,429	20,864	131,195	41,033	338,337
		%	11.32	16.29	36.37	16.20	43.04	31.12	32.84
	Method 2 (Figure 8)	Area (ha)	5,203	7,746	130,429	17,782	131,195	28,255	320,610
		%	10.57	13.65	36.37	13.80	43.04	21.43	31.12
	Method 3 (Figure 9)	Area (ha)	1,843	6,032	130,429	15,986	122,850	26,874	304,014
		%	3.74	10.63	36.37	12.41	40.30	20.38	29.51

3.6.1. Mapping accuracy

The 30-tree sample obtained from the 350 SAT sites surveyed by Biolink was used to ground truth the accuracy of the *Northern Rivers Catchment Authority* vegetation mapping (Ecological 2005), resulting in an overall accuracy estimate of 44.29% \pm 2.33% (SE) **Appendix 4**. Of the 350 vegetation polygons which intersected a SAT site, 115 scored '1' meaning that they were correctly typed (agreement between the tallest stratum tree species recorded at field sites and descriptions for the mapped polygons as they appear in DEC (2004)); 80 scored '0.5' meaning that they were in partial agreeance (incorrectly typed but a corresponding FET appeared within 100m); and 155 scored '0' meaning that they were incorrectly typed (no conformity was apparent).

4. Discussion

This report represents the first comprehensive field assessment of koalas across the Northern Rivers⁶ confirming their widespread persistence and highlighting the importance of the Richmond River floodplain as supporting a significant population within the study area. Field survey using SAT methodology at 350 regularly spaced sites (5 km grid) resulted in an estimated naïve occupancy rate of $30.29\% \pm 2.35\%$ (SE). This is adjusted to $36.57 \pm 2.94\%$ (SE) when considering only those sites which contained PKFTs in their 30-tree sample – a measure indicative of occupancy across areas of koala habitat, as opposed to all vegetated areas. This occupancy rate is extremely variable across the study area, a broad landscape (1,030,144 ha) which is highly diverse in terms of topography, vegetation and current and historical land uses. Habitat occupancy (PKFT sites only) ranges from $12.50\% \pm 11.69\%$ (SE) in Byron Shire to $61.11\% \pm 8.13\%$ (SE) in Lismore Shire. From a conservation perspective, an optimal occupancy rate is not one which sees all available habitat occupied, but in which there is allowance for population expansion and contraction in response to stochastic events and meta-population dynamics. Occupancy levels of ~50% of the available habitat are considered to be ecologically optimal for a demographically stable, reproducing koala population as this allows expansion of high-occupancy cells into vacant areas of habitat and/or population extirpation in response to stochastic events such as fires (Phillips *et al.* 2011; Hopkins & Phillips 2012). With this in mind, outcomes of this survey show Lismore, particularly the southern portion of the LGA, trending higher than these levels and likely at peak occupancy, while the smaller coastal LGAs are falling below this benchmark.

Another way to understand occupancy is to consider the concept of residential occupancy. Naïve occupancy is defined as the proportion of sites that record at least one koala faecal pellet across all sites, whereas residential occupancy delineates significant (medium and high) activity sites which are considered to represent koala home range areas. This distinction can be revealing, as was the case in the 2015 Tweed Coast koala study in which naïve occupancy was relatively stable from the preceding survey period however there was a precipitous decline in the area of habitat occupied by resident populations and an associated increase in sites evidencing transient koalas (TSC 2019). Survey outcomes reveal an approximately even split between the number of sites evidencing medium/high (residential) occupancy and low (transient) occupancy overall, with 48.65% of all occupied sites falling within the medium/high category. Again, there is a large amount of variability in this metric across the

⁶ Northern NSW in this context comprises the Local Government Areas of Ballina Shire, Byron Shire, Kyogle, Lismore, Richmond Valley and Tweed Shire.

study area with residential occupancy ranging from 0% of occupied sites in Byron Shire to 60% of occupied sites in Lismore.

A density estimate of 0.087 koalas ha⁻¹ was derived by dividing the number of koalas sighted during 25 m fixed-radius transects ($n = 6$) by the total area searched (68.6 ha). This applies to the study area minus the Lismore, Byron and Tweed CKPoM planning areas, for which density estimates have been previously derived (0.34 koalas ha⁻¹, 0.07 koalas ha⁻¹ and 0.14 koalas ha⁻¹ respectively: Biolink 2017, Biolink 2012, Biolink 2011). While it is common to use density estimates in combination with koala habitat mapping to derive a population estimate for an area, we feel it would be inappropriate in this case due to issues with vegetation mapping accuracy, particularly as the large geographic extent of the study area means that any errors will be compounded. The topographically diverse study area likely supports a heterogeneous density of koalas and such measures may be better applied at a local scale.

Three consolidated vegetation maps of the study area were created using two underlying mapping sources which were then coded according to different systems of koala habitat classification. One habitat classification system was previously implemented by McAlpine and Hoskins (unpub), while the other is the Primary and Secondary habitat categories currently in use by local Councils (Ballina, Byron, Lismore, Tweed and Richmond Valley). The three resulting koala habitat maps were relatively consistent in the total amount of koala habitat identified across the study area, ranging from 304,014 ha - 338,337 ha and accounting for 29.51% - 32.84% of the total land surface area. All approaches to habitat mapping identified Richmond Valley LGA as having the proportionally largest amount of koala habitat (40.30% - 43.04%) and Ballina LGA as having the smallest (3.74% - 11.32%). The maps were distinguished by substantive differences in the proportional areas covered by each of the koala habitat categories, *i.e.* the combined proportion of Primary and Secondary A habitat was 65.46%, 62.62% and 30.19% for each of the three mapping approaches. While none of these maps are likely to present a perfect description of koala habitat across the study area and each has its limitations, we suggest that the map identifying the majority of koala habitat as Secondary B / C is more representative of the landscape-scale vegetation and associated koala carrying capacity of the study area. This approach is also consistent with the majority of local Council's koala habitat classification systems. Considering koala habitat in its broad sense for planning and protection purposes, rather than breaking it into finer categories, also presents itself as a solution.

4.1. Local Government Areas: comparisons with previous survey

Please see **Figure 4** for activity contour map with the town / place names referred to in this section.

Comparing the outcomes of the current survey to the regional survey from 2018 revealed relative stability in koala occupancy and activity levels across the four LGA's that formed part of the 2018 study area, with $40\% \pm 9.80\%$ (SE) occupancy for 2018 sites and $44\% \pm 9.93\%$ (SE) occupancy when these same sites were repeated in 2021/2022. There were more site-based changes than might be expected, with categorical changes in koala activity levels at 16 of 25 repeated sites (nine trending upwards, seven trending downward), showing distributional shifts in koala occupancy. While we cannot offer an explanation for this other than active meta-population dynamics, it emphasizes the importance of returning to all previously surveyed sites (where feasible) rather than focusing on sites which were formerly occupied in order to detect change. We promote the continued use of an unbiased sampling grid in order to reveal gains, as well as losses, in areas of koala occupancy across the region. Focusing solely on areas of previous known occupancy will only allow detection of losses, with no accounting for potential gains made elsewhere.

Previous survey information is available for the coastal portion of **Tweed Shire** LGA as covered by the Tweed CKPoM planning area. In the most recent round of Council survey in 2018, koala activity was found to be concentrated in the areas of Kings Forest, Cudgen Lake, Koala Beach, Pottsville and Black Rocks (TSC 2019). This is broadly reflective of the outcomes of the current survey with a cell of koala activity focused on Kings Forest and Cudgen Lake and another cell of koala activity somewhat to the south, centered on Pottsville. Significant koala activity, indicative of resident populations, was 15% in 2015 and 17% in 2018, subsequent to much high levels in 2010 (27%) (TSC 2019). The current study revealed four out of nine sites within the CKPoM planning area had levels of activity indicative of resident animals though it must be acknowledged that this is a much smaller sample size than Council surveys ($n = 9$ versus $n = 56$) with an associated large error margin. This population remains small and fragmented with resident populations concentrated around the Pottsville / Black Rocks and Cudgen / Kings Forest areas making Tweed Coast koalas particularly susceptible to stochastic events such as fire and vehicle related mortality, especially along the urbanized coastal strip. Outside of the Tweed CKPoM area there are several significant activity cells, namely in the north of the Shire in the vicinity of Urliup and Numinbah/Crystal Creek, to the west near the border with Kyogle Shire in the vicinity of Mebbin and to the south along the border with the Lismore LGA near Midginbil. This provides valuable baseline information about the status of Tweed Shire's western koala populations. Overall, koala occupancy in Tweed Shire was the second highest across the study area after Lismore with $36.54\% \pm (6.68\% \text{ SE})$ naïve occupancy and $37.50\% \pm (8.56\% \text{ SE})$ habitat occupancy (PKFT sites only).

To the west of Tweed Shire in **Kyogle**, naïve occupancy was $30.00\% \pm 4.02\%$ (SE) and habitat occupancy was $33.98\% \pm (4.67\% \text{ SE})$. A substantive proportion (53.13%) of these occupied sites displayed activity levels indicative of the resident koalas (medium and high activity levels), indicating the presence of a

resident population. Cells of koala activity are distributed broadly across the LGA, the largest of which was centered in the Border Ranges National Park stretching across most of the northern border of the LGA where it adjoins Queensland. Another activity cell is to the south-east, near the border with Tweed and Lismore Shires, from Lillian Rock, Barkers Vale to Cawongla. To the west of this there is an activity cell from Ettrock to north of Kyogle town, albeit with transient activity levels in between these locations. Two smaller activity cells are located to the west near Afterlee and Roseberry Creek. Further to the west near the LGA border with Tenterfield there is an activity cell near Brumby Plains. To the far south-west of the LGA there is an activity cell near Tunglebung and finally a large activity cell which stretches from southern Richmond Range National Park to the border of Lismore LGA near Mummulgum. There has not been comprehensive koala survey in Kyogle previously and this project provides a background against which long term koala population monitoring can be implemented. A review of historical records would contextualize the current patterns of koala distribution across the LGA and ascertain if this population is declining, expanding or stable.

Byron Shire to the south of Tweed Shire is periodically surveyed by Byron Shire Council across two Koala Management Areas (KMAs) which are focused in the coastal east of the LGA. Of these, the North Byron Coast KMA includes the southern portion of the Tweed-Brunswick koala population and is bordered by the Brunswick River. This area was heavily impacted by bushfire in 2004 and 2009 and one of the aims of the Byron CKPoM is to recover this small population (BSC 2015). The current study provides no evidence to support the recovery of this population, though admittedly there were only a small number of survey locations ($n = 2$) therein. The larger South Byron Coast KMA supports the bulk of Byron's koala population though current survey detected only two areas of low koala activity in the vicinities of Tyagarah and Brocken Head. In terms of the locations of koala populations this parallels previous survey showing active sites clustered in two main localities; between Myocum and Tyagarah and to the south-west of Byron Bay (Biolink 2012). The current survey differs in that it did not detect significant levels of koala activity indicative of resident populations at any sites, where-as previously 10 of 18 sites in the South Byron Coast KMA returned significant levels of koala activity (Biolink 2012). Despite a much coarser scale of survey than that which is implemented by Council, the results presented here remain worrisome. The Byron CKPoM sets a benchmark of 40% occupancy within the South Byron Coast KMA which this survey suggests is not being achieved. The current survey did not detect the presence of any additional populations not currently known to Council through their survey program, though the broad scale of sampling did not aim to detect every breeding aggregate. At this broad scale the current study detected low koala activity in the two known locations of koala activity in the South Byron Coast KMA. Naïve occupancy across the entire LGA was $8.33\% \pm 5.64\%$ (SE) and habitat occupancy (PKFT sites only) was $12.50\% \pm 11.69\%$ (SE). This is down from 28%

naïve occupancy detected in the most recent LGA-wide survey (Biolink 2012). Occupancy is below that which would be considered optimal and appears to be decreasing. Byron's coastal koalas survive in a highly fragmented habitat matrix that contains some areas of high-quality habitat but which is largely disconnected. It is of note that a low proportion of survey sites (33.33%) contained PKFTs - the same proportion of sites supporting PKFTs as Ballina Shire which had the second lowest levels of koala occupancy across the study area after Byron Shire. The amount of habitat required to sustain a viable population of koalas should be considered as should the on-going impacts of vehicle-strike, especially in the vicinity of Broken Head where a known blackspot remains unmanaged.

To the south of Byron Shire in **Ballina**, naïve and habitat occupancy were $22.22\% \pm 9.80\%$ (SE) and $50.00\% \pm 20.41\%$ (SE) respectively. The large discrepancy between these two figures is due to the small number of sites supporting PKFTs ($n = 6$) compared to those without ($n = 12$). A previous naïve occupancy estimate of $31.58\% \pm 12.07\%$ (95% CI) was reported in 2013, with koala activity concentrated in the area between Bagotville, Meerschaum Vale, Coolgardie and Wardell, as well as Uralba and Lynwood (Biolink 2013). This 2013 occupancy estimate based on field survey was lower than one derived from records analysis ($58.68\% \pm 2.18\%$ (95% CI) which can be indicative either of a population that is cycling around the optimum of ~50% occupancy or a population in real decline. Given the outcomes of this round of survey, we suggest the latter explanation to be more likely. Activity contours derived from the current survey are very similar to those reported previously with the largest activity cell in the south of LGA from Meerschaum Vale to Bagotville, likely indicating the location of a large source population. There is another activity cell to the north near Alstonville which was not detected in 2013, though there were no survey points at that location in that round of survey, which did detect koala activity in Tintenbar somewhat to the south. While the geographic extent of koala distribution is largely consistent with 2013 survey, the levels of occupancy within these areas seems to have declined. Ballina Shire has the lowest proportional area of mapped koala habitat across the study area and is equal with Byron Shire for the lowest proportion of sites with PKFT (33.33%). The largest contiguous area of koala habitat in Ballina Shire is around the Blackall Range, from Uralba to Coolgardie and down to Wardell. Outside of this area, habitat is highly fragmented.

Lismore Shire, which lies to the west of the coastal LGA's of Ballina and Byron, displayed the highest naïve and habitat occupancy rate (PKFT sites only) of $46.15\% \pm 6.91\%$ and $61.11\% \pm 8.13\%$ respectively across the study area, as well as the greatest proportion of occupancy which fell into the significant activity (resident koalas) category. High koala activity dominates the southern portion of the LGA with a large activity cell stretching from Lismore city across to Tregear in the east, where it extends into Meerschaum Vale in Ballina Shire, and south all the way through Wyrallah,

Dungarubba and to Woodburn at the southern border of Lismore LGA. The same large activity cell also stretches to the west through Caniaba, Ruthven and Coraki where it extends into Richmond Valley LGA. This area of koala activity reflects the high carrying capacity landscape of the Lismore CKPoM planning area, though extending further to the west. The current CKPoM planning area is bounded by the Wilsons River to the west and current patterns of koala activity suggest that it is either not acting as a barrier to koala movement, or koalas are expanding into this area from a different direction. A second, much smaller activity cell is located around Rosebank in the north-east. These areas of activity broadly mirror those detected by Council survey, as well as the areas of Generational Persistence identified based on analysis of historical records (Biolink 2017). The exception to this is that koala activity now extends further to the south and west, as mentioned above, suggesting that this regional source population may be continuing to expand. A periodic historical records analysis, which is due in 2023, will reveal if areas of Generational Persistence are indeed extending. Such a population expansion would run counter to expectations given Lismore's well-documented high disease mediated mortality. New genetic material is hypothesized as a potential antidote for this situation, assuming that a history of inbreeding has impacted the immunological responses of these koalas. It was thought that new genetic material may come in via northern koala populations, however it is feasible that it may also come from the west if the Lismore population expands to have greater contact with western koala populations and the Wilsons River is not acting as a barrier. Monitoring of disease loads in adjacent Richmond Valley and examination of associated wildlife carer records (*i.e.* Friends of the Koala) would assist in examining this situation.

To the south and west of Lismore Shire is **Richmond Valley** LGA, which had a naïve occupancy rate of $26.17\% \pm 4.25\%$ and habitat occupancy rate (PKFT sites only) of $30.15\% \pm 5.04\%$, higher than only Byron and Ballina Shires, but with the majority of occupancy falling in the significant (resident koalas) category. The large cell of significant koala activity in southern Lismore bleeds across the LGA boundary into Richmond Valley, encompassing the area from Clovass, through Tatham and down to West Coraki. Slightly further south is another large area of significant koala activity around Woodburn and Evans Head. Six smaller activity cells are distributed through the central and western parts of the LGA. An activity cell is slightly north-west of Casino, another is just south of Casino near Yorklea and another is further south in the vicinity of Ellangowan. From here the activity moves west to Myrtle Creek with another activity cell north-east to Busby Flat and another north to Hogarth Range where this activity cell crosses the boundary with Kyogle LGA near Mummulgum. This distribution of koala activity is generally in accord with a more geographically limited field survey program conducted in 2015 (Biolink 2015), particularly in terms of the large activity cell near the boundary with Lismore LGA and populations to the west of Casino in the vicinity of Myrtle Creek and Busby Flats. Based on

sightings records alone, it was considered that the central part of the LGA was devoid of koalas (Biolink 2015), though areas of significant koala activity near Casino controvert this notion and illustrate the widespread presence of resident koala populations across all but the southern part of the LGA, an area which incidentally was heavily impacted by fire in the 2019 / 2020 bushfire season.

4.2. February / March 2022 flood event

In late February and March of 2022 a series of low pressure systems and weeks of heavy rains culminated in a succession of extreme flood events across the study area, with levels surpassing the 2017, 1974 and 1954 flood maximums. All six LGA's which comprise the study area were impacted to varying degrees, with low lying alluvial plains surrounding the Tweed, Wilsons and Richmond Rivers being the most heavily affected. The survey component of this project was paused in the aftermath for three reasons; 1) lack of access many areas due to road infrastructure damage and the closure of National Parks, 2) sensitivity to landholders, and 3) potential impacts of flooding on the SAT methodology. Survey was paused from 23rd February – 4th April at which time survey slowly recommenced in elevated, well-draining portions of the study area, dependent on access. Progressively, low lying areas were accessed for survey, the rationale being that sufficient time had elapsed for scat deposits to be replenished within home range areas. A comparison of the results of SAT survey *pre* and *post* the flood events revealed no significant impacts on measures of either koala occupancy (pre-flood occupancy 27.5% *versus* post-flood occupancy 26.63%) or activity levels as detected by Mann-Whitney U tests (Mann Whitney U test: $U = 13,603$, $z = 0.1519$, $p = 0.881$). The number sites falling into each koala activity level category *pre* and *post* the flood events is shown in **Table 15**. We anecdotally report that two survey locations which were submerged in > 2m water for over one week yielded both old and fresh scats during SAT survey, suggesting that *pre*-flood scats had persisted in these landscapes.

Table 15. Koala activity level categories *pre* and *post* flooding events of February – March 2022.

	no koala activity	low koala activity	medium koala activity	high koala activity
pre-flood	72.50%	16.67%	3.33%	7.50%
post-flood	73.36%	11.79%	2.18%	12.66%

4.3. Limitations

This project aimed to determine broad scale patterns of koala occupancy and activity across the study area, however it did not aim to determine the location of all koala populations. Such an aim would be

best met by a fine scale of sampling (500 m grid), something which was beyond the scope of the landscape-scale approach represented by this report. There are undoubtedly breeding aggregates of koalas across the Northern Rivers which are not reported by this project. This matter of the scale of survey may also be relevant in light of the results from Byron and Ballina Shires. These LGA's had the lowest measures of occupancy and koala activity and are also the LGA's with the lowest number of survey sites due to their small geographic size (Ballina: $n = 18$; Byron: $n = 24$). We acknowledge that a greater number of survey sites in these LGA's may reveal areas of high activity, though the broad-scale patterns presented here are, in themselves, a cause for concern.

The approach to koala survey taken by this project was an unbiased sampling regime (RG-b SAT) which aimed to representatively capture all land tenures and forest types. This aim was achieved to varying degrees of success with one limitation being access to private property. Though 101 private properties were included in the analysis, we acknowledge that this is an under-representation of this tenure across the study area. This was compensated for by sampling nearby roadside reserves when access to privately held lands was not possible. Areas of roadside reserves had significantly lower levels of naïve occupancy ($16.67\% \pm 3.69\%$) than did private sites ($38.61\% \pm 4.84\%$) (χ^2 (df = 1, $N = 203$) = 12.2369, $p = 0.004$), though this significance disappeared when only PKFT sites were considered, most likely as a lower proportion of sites supported PKFT in roadsides. The issue of land tenure is also complicated by the fact that tenure is not a fixed category and can change over time. By way of example, several areas which are currently National Parks were founded relatively recently (Wollumbin State Conservation Area was converted from State Forest in 2003, Mebbin, Yabba and Mooball National Parks were all founded in 1999). Consequently, the outcomes of koala survey, and indeed the suitability of koala habitat, reflects not only the management practises of their current classification, but also the legacy of previous management practices and historical context.

4.4. Recommendations

A primary recommendation stemming from this landscape-scale study is the need to create and maintain meaningful habitat corridors from hinterland areas to coastal koala habitat in order to support the long-term persistence of populations. Small isolated populations, as are present in some coastal areas, tend to suffer higher extinction risks and the survival of koala meta-populations relies on the ability of individuals to recolonize habitat patches where a sub-population has become locally extinct. This recolonization process can operate in both direction - koalas in smaller habitat patches on private lands tend to be better protected from wildfire and can re-establish populations in larger areas of consolidated habitat that have been heavily impacted by fire events, a situation documented in Kiwarrack in central eastern NSW (Biolink 2019). An effective strategy for supporting connectivity

should be guided by an objective analysis of existing koala habitat connectivity across the study area, with the capacity to model potential future scenarios and taking into account the specific ecological needs and ranging behaviours of koalas.

In addition to considerations of habitat connectivity, the influence of habitat patch size is a key factor in supporting viable populations. The total amount of available koala habitat is of concern in several areas, especially Ballina and Byron Shires which have the lowest proportion of koala habitat and of vegetated cover more generally. Maintenance of habitat patches of sufficient size to support existing populations and provide for future metapopulation dynamics is fundamental to koala conservation management across the northern rivers, particularly along the urbanized coast. Coded habitat mapping provided by this project informs on the current estimated extent of koala habitat across the region, however it does not account for potential future changes, either habitat gains or losses. This matter may be approached by periodically updating vegetation extent *e.g.* using the outputs of Light Detection and Ranging (LiDAR) overlaid on existing maps of koala habitat (*as per* Campbelltown LGA, NSW). Any measure of gains in koala habitat should be mindful of forest maturity and when a re-vegetated area can be considered as meeting PCT condition thresholds.

Further specific recommendations are as follows;

- The highest occupancy and activity levels of koalas were detected on private lands. As such, the conservation of koalas on these lands should be prioritized as a management strategy by encouraging Voluntary Conservation Agreements on private lands and land acquisition projects. We promote a regionally coordinated approach to protecting koala habitat on private lands with a prioritization process informed by measures of habitat connectivity value. Private property conservation programs currently running in the northern rivers include the 'Koala Friendly Carbon' partnership of NSW state government and WWF Australia and Saving our Species (SoS) program in the north-east hinterland (Ballina, Byron, Lismore, Tweed).
- Local Government Areas in the northern rivers which do not currently have a CKPoM should aim to develop such a plan in line with Recommendation 27 of the NSW Parliamentary Inquiry *Koala populations and habitat in New South Wales* (NSW Parliament 2020). Given the financial burden of developing a CKPoM, NSW state government funding should be sought to support Local Councils in this endeavor (see also Recommendation 24 of the same Inquiry). This also applies to Councils seeking to expand current CKPoMs which cover only a portion of their LGA.
- An analysis of historical records across Kyogle LGA should be carried out to determine if this population is stable, increasing or decreasing.

- Lismore LGA is due for historic records analysis in 2023 according to the requirements of their CKPoM, which will further inform whether this important population is expanding to the south and west as implied by field survey outcomes.
- Results of the current project suggests that koala occupancy levels are dropping across Ballina LGA which requires a finer scale field survey across the Koala Planning Area and a review of historical records in order to determine whether active threat management is required, in line with the activities of the Ballina Shire Koala Management Strategy.
- Dependent on the results of recent Council survey, a review of Performance Indicators in the Byron Coast CKPoM may be required in light of the outcomes of this survey.
- Koala habitat mapping should use the Primary and Secondary categories currently applied by Ballina, Byron, Lismore, Tweed and Richmond Valley Councils. We further suggest applying an understanding of koala habitat in a broad sense (all PKH), for planning and protection purposes. This takes an appropriately inclusive perspective to the wide variety of habitat types and species compositions which support koalas across the landscape.

4.5. Survey Design

This regional survey should continue on an intra-generational (3-yearly) basis with the next survey event due in 2025, to inform on changes in koala distribution and abundance. We promote the continued use of an unbiased sampling grid in order to reveal gains, as well as losses, in areas of koala occupancy across the region. Focusing solely on areas of previous known occupancy will only allow detection of losses, with no accounting for potential gains made elsewhere. Future survey events should aim to increase the proportion of private sites (rather than nearby roadside reserves) where possible, to more accurately represent the geographic coverage of this land tenure.

The current project was successful in determining broad landscape patterns of koala distribution and abundance across the study area and there are now opportunities to refine the monitoring protocol in order to increase detection probability, while retaining the capacity to make temporal comparisons in koala occupancy. Sites supporting PKFT had a greater detection probability than did non-PKFT sites ($36.57\% \pm 2.94\%$ (SE) occupancy *versus* $16.38\% \pm 3.44\%$ respectively). Future SAT survey of PKFT sites only will increase the statistical power to detect change, however this occupancy measure will not reveal the overall occupancy of the landscape, but occupancy of areas of habitat only (habitat occupancy is defined in **Section 2.4.1**). If the intent is to measure occupancy by koalas across the entire vegetated landscape, then the same 350 sites (or a random sub-set thereof, with adequate statistical power to detect change) should be returned to at future survey events. If the intent is to measure occupancy by koalas in areas of known habitat, then only PKFT sites should be re-surveyed and

compared to habitat occupancy measures as determined by the current study. This would reduce the number of SAT sites to 268. Assuming that there is the budgetary capacity to return to a total of 350 sites, the remaining 82 sites could be redistributed within LGAs to increase the capacity of survey to detect change. By way of example, six of the 18 SAT sites within Ballina LGA supported PKFTs, giving low statistical power to measures of habitat occupancy. Using the same grid with infills (*e.g.* reducing the grid size to 2.5 km) would increase statistical power, assuming that sites were selected from within mapped koala habitat (**Addendum 1** of this report: 83.33% of SAT sites in mapped PKH supported PKFTs). Given the limited utility of the radial surveys, we would recommend against this approach at future monitoring events.

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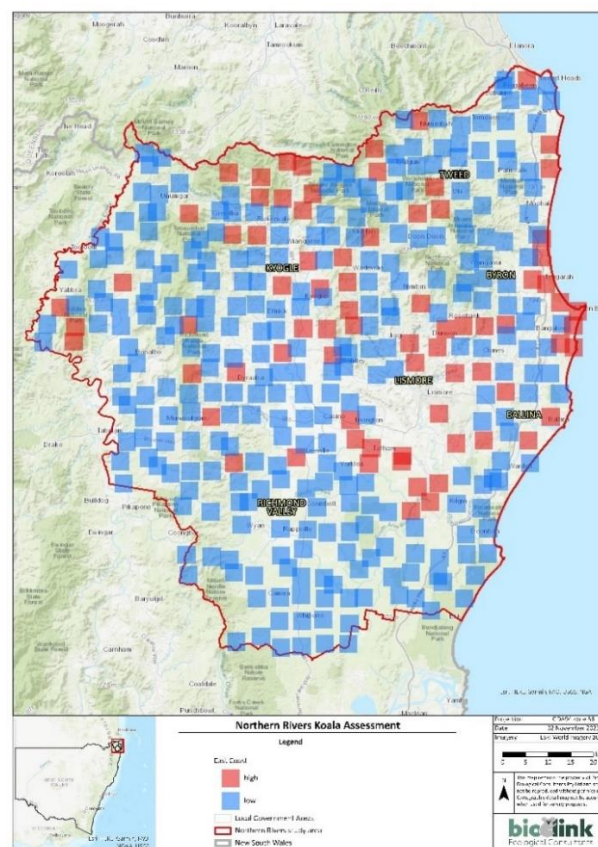
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Appendix 1 – Koala activity level thresholds

Koala activity levels were interpreted in the context of the relevant activity level thresholds [East Coast (high) or East Coast (low)] as described in **Table 1** of this report. To determine the carrying capacity of each site we relied on a combination of soil mapping and knowledge of canopy vegetation, as collected by the 30-tree sample at each SAT site. Soil mapping was obtained from the SEED Spatial database (soiltype_asc_nsw_v4_5_210429) with sites falling on Alluvial soils (rudosols and dermosols), Chocolate soils (ferosols), Humic gleys (hyrodsols), Black earth / brown and red clays (vertosols) and Krasnozems being considered according to East Coast (high) carrying capacity, but only in the case that they also supported canopy vegetation that included Swamp mahogany (*E. robusta*), Swamp box (*L. saueolens*), *Melaleuca spp.*, Brushbox (*L. confertus*) or Flooded gum (*E. grandis*). The caveat to this is if the canopy contained a proportionally higher number of trees that are typically seen on low nutrient soils, those being Ironbark (*E. crebra* and *E. siderophloia*), Blackbutt (*E. pilularis*), Scribbly gum (*E. racemosa*), Spotted gum (*C. citriodora*), Grey gum (*E. propinqua*), Grey box (*E. moluccana*) *Allocasuarina spp.* or White mahoganies. The resulting map of East Coast (high) versus East Coast (low) sites is shown in the figure below. East Coast (low) sites are blue, East Coast (high) sites are red and areas which are blank did not have sufficient information to make a designation. This information is presented for every site in **Appendix 2**.



Appendix 2 – Field sites

Summary of field results organised by Local Government Area (LGA), inclusive of site reference code, location, land tenure and koala activity level as determined by SAT survey. All sites used for analysis are displayed whether surveyed by Biolink or by Local Council: Biolink = 350 sites; Tweed Shire Council = 5 sites; Byron Shire Council = 1 sites; Lismore City Council = 17 sites.

LGA	Surveyed by	no	Site name	Easting	Northing	Tenure	East Coast	PKFT	Activity (%)
Tweed	Biolink	1	NR_003	514233	6858583	National Park	low	PKFT	26.67
		2	NR_007	514674	6854936	National Park	low	PKFT	0
		3	NR_013	520705	6862873	council	low	PKFT	0
		4	NR_017	524340	6867418	private	low	PKFT	0
		5	NR_023	525050	6863213	National Park	low	PKFT	0
		6	NR_024	525634	6873178	private	high	PKFT	30
		7	NR_026	529742	6873691	private	low	-	0
		8	NR_033	530799	6867194	private	low	PKFT	13.33
		9	NR_035	534513	6868297	private	low	PKFT	0
		10	NR_036	534396	6865161	private	low	PKFT	3.33
		11	NR_038	534973	6872205	private	low	-	0
		12	NR_042	539135	6866722	private	low	PKFT	3.33
		13	NR_043	539448	6872710	private	low	PKFT	33.33
		14	NR_044	539587	6854481	National Park	low	PKFT	0
		15	NR_046	540296	6862332	private	low	PKFT	0
		16	NR_052	544833	6867062	private	low	PKFT	0
		17	NR_053	545210	6864332	private	low	-	3.33
		18	NR_055	550075	6878612	council	low	PKFT	0
		19	NR_058	551647	6872678	private	low	PKFT	6.67
		20	NR_250	544795	6882230	road	low	PKFT	0
		21	NR_342	521129	6848299	road	low	PKFT	0
		22	NR_343	525586	6847138	private	low	PKFT	13.33
		23	NR_344	529420	6847809	road	low	PKFT	0
		24	NR_345	536010	6848087	National Park	low	PKFT	0
		25	NR_359	519013	6852765	National Park	low	PKFT	0
		26	NR_360	525293	6852719	private	high	-	3.33
		27	NR_361	530309	6853696	council	high	-	0
		28	NR_362	535423	6851597	National Park	low	PKFT	0
		29	NR_364	549866	6852688	private	low	-	0
		30	NR_375	520027	6857498	private	low	PKFT	0
		31	NR_376	522527	6857796	National Park	low	PKFT	0
		32	NR_377	529064	6858564	council	high	PKFT	3.33
		33	NR_378	534806	6857711	private	low	-	0

LGA	Surveyed by	no	Site name	Easting	Northing	Tenure	East Coast	PKFT	Activity (%)
Tweed	Biolink	34	NR_379	545040	6858412	National Park	low	PKFT	3.33
		35	NR_380	550853	6858409	private	low	PKFT	10
		36	NR_391	516486	6861926	council	high	PKFT	0
		37	NR_392	528762	6863551	council	low	-	3.33
		38	NR_393	550030	6861915	road	low	-	0
		39	NR_395	515680	6867022	National Park	high	-	0
		40	NR_396	520278	6865882	National Park	low	PKFT	3.33
		41	NR_397	522317	6873510	National Park	low	-	0
		42	NR_398	544741	6873163	road	low	-	10
		43	NR_399	544252	6881038	private	low	PKFT	0
		44	NR_400	545831	6877773	council	low	-	0
		45	NR_401	554793	6877665	council	low	-	0
		46	NR_402	549428	6882175	National Park	high	-	0
		47	NR_403	553937	6881027	council	low	PKFT	0
	council	48	TC201	553777	6857887		low	-	43.3
		49	TC300	554996	6871038		low	-	43.3
		50	TC313	554400	6862657	National Park	high	-	0
		51	TC73	554483	6867985		high	-	30
		52	TC8	553299	6851227	National Park	low	-	0
Byron	Biolink	53	NR_045	539789	6838429	National Park	low	-	0
		54	NR_051	544734	6828131	private	high	PKFT	0
		55	NR_054	549129	6828848	road	low	-	0
		56	NR_251	549561	6822806	road	low	-	0
		57	NR_268	557154	6828327	National Park	low	-	0
		58	NR_285	545178	6832414	road	low	-	0
		59	NR_286	550490	6832260	private	low	-	0
		60	NR_306	544985	6837149	private	low	PKFT	0
		61	NR_326	536769	6842167	road	low	-	0
		62	NR_327	539816	6842705	National Park	low	-	0
		63	NR_346	540413	6847547	road	low	-	0
		64	NR_347	544408	6846521	private	low	PKFT	0
		65	NR_363	544989	6825738	private	low	-	0
	council	66	BY5	559729	6823113	private	high	-	0
		67	BY6	556816	6823995	private	high	-	3.33
		68	BY18	559697	6827944	private	high	PKFT	0
		69	BY32	560711	6831119	Crown	high	-	0
		70	BY38	556784	6833088	council	high	-	0
		71	BY50	553731	6837118	private	high	PKFT	6.67
		72	BY52	550621	6838120	private	high	PKFT	0
		73	BY69	549826	6843097	private	low	-	0

LGA	Surveyed by	no	Site name	Easting	Northing	Tenure	East Coast	PKFT	Activity (%)
Byron	council	74	BY72	552644	6843029	road	high	PKFT	0
		75	BY78	552720	6847097	National Park	high	PKFT	0
		76	BY80	551727	6848081	National Park	low	-	0
Ballina	Biolink	77	NR_050	544716	6813316	road	high	PKFT	20
		78	NR_064	556682	6812855	National Park	low	-	0
		79	NR_065	554664	6807828	council	high	PKFT	0
		80	NR_169	550123	6797606	council	low	-	0
		81	NR_184	539946	6802635	National Park	high	-	0
		82	NR_185	545564	6804440	National Park	low	-	0
		83	NR_186	549723	6802549	road	high	PKFT	0
		84	NR_199	539615	6806813	National Park	low	-	0
		85	NR_200	544557	6807752	private	low	-	0
		86	NR_213	540350	6812698	road	low	-	0
		87	NR_214	549832	6813024	private	low	-	3.33
		88	NR_231	544396	6817813	private	low	PKFT	0
		89	NR_232	550882	6817403	council	low	-	0
		90	NR_233	554536	6817390	private	low	-	0
		91	NR_252	554028	6823192	road	low	-	0
		92	NR_404	543722	6798041	indigenous land	low	PKFT	26.67
		93	NR_406	543239	6793514	private	low	-	0
		94	NR_407	541921	6794277	indigenous land	low	-	6.67
Lismore	Biolink	95	NR_004	514630	6827915	road	low	PKFT	0
		96	NR_005	514673	6822761	road	low	-	0
		97	NR_006	514653	6832628	private	low	PKFT	0
		98	NR_008	519369	6829978	private	low	PKFT	0
		99	NR_009	519163	6832092	road	low	-	3.33
		100	NR_012	518650	6823052	private	low	-	0
		101	NR_018	524751	6819747	road	high	PKFT	0
		102	NR_020	526015	6832840	road	high	-	0
		103	NR_021	523507	6824072	private	high	PKFT	3.33
		104	NR_027	529824	6830756	private	low	PKFT	3.33
		105	NR_029	529646	6823114	private	high	PKFT	0
		106	NR_032	531427	6827203	private	high	PKFT	0
		107	NR_037	535160	6835208	National Park	low	-	0
		108	NR_039	535031	6794765	road	low	PKFT	10
		109	NR_040	535444	6827890	private	high	PKFT	33.33
		110	NR_047	540110	6827868	private	high	-	13.33
		111	NR_139	533881	6788603	private	low	PKFT	0
		112	NR_154	529984	6793142	private	high	PKFT	6.67
		113	NR_155	539744	6792841	road	low	-	0

LGA	Surveyed by	no	Site name	Easting	Northing	Tenure	East Coast	PKFT	Activity (%)
Lismore	Biolink	114	NR_227	516319	6817094	private	low	PKFT	0
		115	NR_228	520188	6818329	private	low	PKFT	0
		116	NR_229	533527	6817496	council	high	PKFT	0
		117	NR_230	539475	6817744	road	high	-	0
		118	NR_246	508771	6823267	private	low	PKFT	0
		119	NR_247	509977	6821842	State Forest	low	-	0
		120	NR_248	534707	6823348	private	low	PKFT	0
		121	NR_249	539551	6822991	road	low	-	0
		122	NR_267	511256	6827967	private	high	-	0
		123	NR_283	510191	6831348	road	high	PKFT	0
		124	NR_284	539518	6833589	road	low	PKFT	0
		125	NR_301	514506	6837692	road	low	-	0
		126	NR_302	521261	6837786	road	low	-	0
		127	NR_304	529484	6838148	road	low	-	0
		128	NR_305	535749	6837453	National Park	low	-	0
		129	NR_323	519324	6841822	road	low	-	0
	council	130	8	533783	6801931		high	PKFT	23
		131	11	529994	6808541		high	PKFT	67
		132	13	529592	6811734		low	PKFT	33
		133	19	535185	6798454		low	PKFT	20
		134	23	533416	6812091		low	PKFT	3
		135	40	530889	6797554		low	PKFT	57
		136	41	535783	6808391		low	PKFT	7
		137	52	531003	6801385		low	PKFT	100
		138	57	536558	6791785		low	PKFT	43
		139	RC16	514726	6812879		low	PKFT	3
		140	RC24	523874	6811720		low	PKFT	17
		141	RC27	520242	6812421		low	PKFT	30
		142	RC28	523493	6808025		low	PKFT	87
		143	RC30	528037	6789032		high	PKFT	87
		144	RC39	518244	6804293		low	PKFT	63
		145	RC40	519497	6805606		low	PKFT	37
		146	RC5	525604	6801979		low	PKFT	87
Kyogle	Biolink	147	NR_061	504940	6852567	private	low	PKFT	6.67
		148	NR_141	460376	6793109	road	low	PKFT	0
		149	NR_143	470786	6795345	State Forest	low	-	0
		150	NR_157	465935	6798719	State Forest	low	-	0
		151	NR_159	475136	6795808	State Forest	low	PKFT	0
		152	NR_170	461132	6802326	State Forest	low	PKFT	3.33
		153	NR_171	464658	6803175	road	low	PKFT	0
		154	NR_172	469572	6802303	private	low	PKFT	6.67
		155	NR_173	475262	6802530	National Park	low	PKFT	6.67
		156	NR_188	464830	6807692	State Forest	low	-	0

LGA	Surveyed by	no	Site name	Easting	Northing	Tenure	East Coast	PKFT	Activity (%)
Kyogle	Biolink	157	NR_190	475309	6808923	National Park	low	PKFT	0
		158	NR_192	483876	6808350	road	low	PKFT	10
		159	NR_201	459823	6812291	private	low	PKFT	6.67
		160	NR_202	465218	6812514	road	low	PKFT	3.33
		161	NR_203	469889	6814317	private	low	PKFT	0
		162	NR_204	474794	6812870	National Park	low	PKFT	10
		163	NR_205	480134	6813209	private	low	PKFT	6.67
		164	NR_206	484709	6813144	State Forest	low	PKFT	10
		165	NR_207	489759	6812898	private	low	-	3.33
		166	NR_217	463252	6819665	State Forest	low	-	0
		167	NR_219	475497	6817346	National Park	high	PKFT	0
		168	NR_221	485212	6817713	road	high	PKFT	0
		169	NR_234	442671	6824315	State Forest	low	PKFT	0
		170	NR_235	449364	6824374	National Park	high	PKFT	0
		171	NR_237	461542	6823148	road	low	PKFT	0
		172	NR_239	469587	6825685	State Forest	low	-	0
		173	NR_240	475229	6823099	National Park	low	PKFT	3.33
		174	NR_241	479763	6821874	road	low	PKFT	0
		175	NR_243	490698	6821718	road	low	PKFT	0
		176	NR_254	443497	6828267	road	low	PKFT	0
		177	NR_255	449714	6827618	National Park	high	PKFT	0
		178	NR_256	454730	6828316	road	low	PKFT	0
		179	NR_258	465506	6830248	private	low	PKFT	0
		180	NR_259	471566	6828049	State Forest	low	PKFT	0
		181	NR_260	474712	6828180	National Park	high	PKFT	0
		182	NR_261	478390	6828517	State Forest	low	PKFT	3.33
		183	NR_262	483886	6827732	road	low	PKFT	0
		184	NR_264	494022	6826996	State Forest	low	PKFT	0
		185	NR_266	505282	6827197	road	high	PKFT	0
		186	NR_271	449714	6832580	National Park	low	-	0
		187	NR_273	459458	6831918	private	low	PKFT	0
		188	NR_274	465030	6832832	road	low	PKFT	0
		189	NR_275	471359	6832325	National Park	low	PKFT	6.67
		190	NR_276	476030	6831830	State Forest	low	PKFT	0
		191	NR_277	478567	6832589	State Forest	low	PKFT	0
		192	NR_278	485381	6832225	road	low	PKFT	0
		193	NR_279	489572	6832630	private	low	PKFT	16.67
		194	NR_281	499380	6832093	council	low	PKFT	0
		195	NR_289	454478	6836069	road	low	PKFT	0
		196	NR_291	465947	6835568	private	low	PKFT	0

LGA	Surveyed by	no	Site name	Easting	Northing	Tenure	East Coast	PKFT	Activity (%)
Kyogle	Biolink	197	NR_292	468904	6839235	road	low	PKFT	0
		198	NR_293	476462	6839597	private	low	PKFT	0
		199	NR_294	479741	6837852	State Forest	low	PKFT	13.33
		200	NR_295	486666	6837763	State Forest	low	PKFT	0
		201	NR_297	495371	6836839	private	high	PKFT	6.67
		202	NR_299	503780	6836120	State Forest	high	-	0
		203	NR_300	509785	6837595	private	high	PKFT	45.16
		204	NR_309	448225	6840399	State Forest	low	PKFT	0
		205	NR_310	454816	6842694	State Forest	low	-	0
		206	NR_311	458403	6843430	State Forest	low	PKFT	0
		207	NR_313	470594	6841810	road	low	PKFT	0
		208	NR_314	475659	6844596	National Park	low	-	0
		209	NR_315	478724	6842308	State Forest	low	PKFT	0
		210	NR_316	485912	6842686	private	low	PKFT	0
		211	NR_317	489654	6843286	road	low	PKFT	0
		212	NR_319	501195	6842231	road	high	PKFT	10
		213	NR_320	504647	6842447	road	low	PKFT	0
		214	NR_321	508797	6842999	road	high	-	0
		215	NR_329	455244	6847455	State Forest	low	PKFT	3.33
		216	NR_330	458242	6846447	State Forest	low	PKFT	3.33
		217	NR_331	465904	6848742	National Park	low	-	0
		218	NR_333	477188	6846961	National Park	low	-	0
		219	NR_334	480840	6848605	National Park	low	-	0
		220	NR_335	484404	6848102	National Park	high	PKFT	16.67
		221	NR_336	489841	6847951	State Forest	high	PKFT	0
		222	NR_337	494875	6847833	road	low	PKFT	0
		223	NR_339	506161	6847793	council	low	-	0
		224	NR_340	511432	6847417	National Park	low	-	3.33
		225	NR_341	514813	6847474	private	high	PKFT	0
		226	NR_348	460643	6851015	State Forest	low	-	0
		227	NR_349	465780	6852956	State Forest	low	PKFT	13.33
		228	NR_350	467778	6853093	State Forest	low	PKFT	30
		229	NR_351	474824	6852679	National Park	high	-	0
		230	NR_352	481670	6853404	private	low	PKFT	0
		231	NR_353	484359	6852896	private	low	PKFT	3.33
		232	NR_354	489167	6853054	road	low	PKFT	0
		233	NR_356	499953	6853410	private	high	PKFT	0
		234	NR_358	511748	6851868	National Park	low	-	0
		235	NR_365	464437	6857472	road	low	PKFT	0
		236	NR_366	468168	6856963	State Forest	low	PKFT	0
		237	NR_367	472757	6859448	State Forest	low	PKFT	0

LGA	Surveyed by	no	Site name	Easting	Northing	Tenure	East Coast	PKFT	Activity (%)
Kyogle	Biolink	238	NR_369	483972	6856716	National Park	low	PKFT	33.33
		239	NR_371	495471	6856022	private	high	PKFT	10
		240	NR_373	505505	6858677	National Park	low	-	0
		241	NR_374	510933	6858345	National Park	low	-	0
		242	NR_381	466089	6863413	State Forest	low	PKFT	3.33
		243	NR_382	468860	6865031	State Forest	low	PKFT	0
		244	NR_385	483589	6861739	National Park	high	PKFT	40
		245	NR_386	490748	6860760	National Park	high	-	0
		246	NR_387	496529	6864223	National Park	high	PKFT	0
		247	NR_388	499843	6863171	National Park	high	PKFT	0
		248	NR_389	506489	6861881	National Park	low	-	0
		249	NR_390	509365	6861438	National Park	low	-	0
		250	NR_394	464958	6866087	private	low	PKFT	3.33
		251	NR_500	502096	6857083	National Park	high	PKFT	30
		252	NR_A_36	459703	6798006	road	low	PKFT	0
		253	NR_A_37	467857	6796971	State Forest	low	-	0
		254	NR_A_38	461274	6810441	State Forest	low	PKFT	43.33
		255	NR_A_39	470306	6808047	road	low	PKFT	3.33
		256	NR_A_40	479694	6807808	road	high	PKFT	0
		257	NR_A_41	459990	6817392	private	low	PKFT	0
		258	NR_A_43	479417	6818741	private	low	PKFT	0
		259	NR_A_44	491414	6816528	private	low	PKFT	0
		260	NR_A_45	484625	6820751	road	low	PKFT	0
		261	NR_A_47	459779	6827904	road	low	PKFT	0
		262	NR_A_48	490942	6826632	State Forest	low	-	3.33
		263	NR_A_49	500050	6827348	road	high	PKFT	0
		264	NR_A_50	446407	6831967	National Park	high	PKFT	0
		265	NR_A_51	455999	6833102	road	low	PKFT	3.33
		266	NR_A_52	493954	6831595	State Forest	low	PKFT	0
		267	NR_A_53	504450	6834258	State Forest	low	-	3.33
		268	NR_A_54	489972	6837717	private	low	PKFT	0
		269	NR_A_55	499589	6835466	private	low	PKFT	0
		270	NR_A_56	465145	6842592	private	low	PKFT	0
		271	NR_A_57	494653	6843205	road	low	PKFT	0
		272	NR_A_58	514700	6842531	private	low	PKFT	16.67
		273	NR_A_59	502729	6847788	road	low	PKFT	0
		274	NR_A_60	494771	6852574	council	low	PKFT	0
		275	NR_A_62	490492	6856237	National Park	high	PKFT	36.67
		276	NR_A_63	460198	6837487	road	high	PKFT	0

LGA	Surveyed by	no	Site name	Easting	Northing	Tenure	East Coast	PKFT	Activity (%)
Richmond Valley	Biolink	277	NR_001	514004	6808201	private	low	PKFT	33.33
		278	NR_002	490751	6759286	road	low	-	0
		279	NR_014	522000	6799183	road	high	PKFT	16.67
		280	NR_066	485231	6758096	National Park	low	PKFT	0
		281	NR_068	495162	6756817	National Park	low	-	0
		282	NR_070	504811	6757700	State Forest	low	PKFT	0
		283	NR_071	509954	6757610	State Forest	low	-	0
		284	NR_074	494812	6762703	State Forest	low	PKFT	0
		285	NR_075	499815	6762713	State Forest	low	-	0
		286	NR_077	510272	6762141	State Forest	low	PKFT	6.67
		287	NR_080	489812	6767703	State Forest	low	-	3.33
		288	NR_081	494967	6767950	council	low	-	0
		289	NR_083	504808	6767709	State Forest	low	-	0
		290	NR_084	510155	6767735	State Forest	low	-	0
		291	NR_085	513443	6767817	National Park	low	PKFT	0
		292	NR_086	521229	6768436	State Forest	low	PKFT	0
		293	NR_087	524812	6767712	State Forest	low	PKFT	0
		294	NR_088	528269	6765015	National Park	low	PKFT	0
		295	NR_089	535558	6767645	National Park	low	-	3.33
		296	NR_090	474700	6772905	State Forest	low	PKFT	0
		297	NR_092	484750	6773434	State Forest	low	-	0
		298	NR_093	489183	6772744	road	low	PKFT	0
		299	NR_094	496784	6774509	State Forest	low	PKFT	13.33
		300	NR_095	499589	6772500	State Forest	low	PKFT	0
		301	NR_097	506660	6770713	road	low	PKFT	0
		302	NR_099	519733	6772431	National Park	low	PKFT	0
		303	NR_100	523760	6773444	State Forest	low	PKFT	0
		304	NR_101	529818	6772711	National Park	low	-	0
		305	NR_102	530841	6771312	National Park	low	-	0
		306	NR_103	538026	6772768	National Park	low	PKFT	0
		307	NR_104	474259	6777344	State Forest	low	PKFT	0
		308	NR_106	483732	6776164	road	low	-	0
		309	NR_108	495165	6777146	State Forest	low	-	0
		310	NR_111	509687	6777908	State Forest	low	PKFT	3.33
		311	NR_112	515066	6776633	National Park	low	PKFT	0
		312	NR_113	518081	6779026	private	low	PKFT	0
		313	NR_114	524765	6777625	road	low	-	0
		314	NR_115	530129	6776594	road	low	PKFT	0
		315	NR_116	536178	6777412	private	low	PKFT	0

LGA	Surveyed by	no	Site name	Easting	Northing	Tenure	East Coast	PKFT	Activity (%)
Richmond Valley	Biolink	316	NR_117	540757	6777626	National Park	low	PKFT	0
		317	NR_120	486455	6784005	road	low	PKFT	0
		318	NR_123	510348	6782449	road	low	PKFT	16.67
		319	NR_124	513531	6783970	National Park	low	PKFT	0
		320	NR_129	540874	6783144	National Park	low	-	50
		321	NR_130	473451	6788130	State Forest	low	PKFT	0
		322	NR_133	503115	6787790	road	low	PKFT	0
		323	NR_135	514878	6788232	National Park	low	PKFT	0
		324	NR_136	518749	6786765	private	low	PKFT	0
		325	NR_137	523849	6787033	private	high	-	0
		326	NR_140	539328	6787625	National Park	low	-	0
		327	NR_148	500687	6791954	private	low	PKFT	0
		328	NR_150	510067	6792637	road	low	PKFT	0
		329	NR_161	484783	6797655	road	high	PKFT	0
		330	NR_163	494318	6797032	private	low	PKFT	0
		331	NR_165	505280	6797524	private	low	PKFT	13.33
		332	NR_166	508828	6795727	road	low	PKFT	13.33
		333	NR_167	514552	6797502	road	high	PKFT	0
		334	NR_168	521751	6797980	private	high	PKFT	90
		335	NR_174	481522	6802485	road	low	PKFT	0
		336	NR_178	500416	6801742	road	low	PKFT	0
		337	NR_180	511615	6802848	road	high	PKFT	0
		338	NR_194	494552	6807424	road	low	-	0
		339	NR_196	504464	6808173	private	low	PKFT	3.33
		340	NR_197	510467	6807120	road	high	PKFT	40
		341	NR_208	494196	6813033	road	low	-	0
		342	NR_209	500106	6812879	private	low	PKFT	0
		343	NR_211	510349	6810952	road	low	PKFT	6.67
		344	NR_223	494534	6817637	road	low	-	0
		345	NR_225	506374	6817860	private	low	PKFT	0
		346	NR_245	498641	6822978	road	low	PKFT	0
		347	NR_405	485979	6788994	State Forest	low	PKFT	0
		348	NR_408	501050	6782909	State Forest	low	PKFT	0
		349	NR_410	487977	6789007	State Forest	low	PKFT	36.67
		350	NR_411	490690	6791756	State Forest	low	PKFT	10
		351	NR_A_02	499681	6757116	State Forest	low	-	0
		352	NR_A_04	504496	6763061	State Forest	low	PKFT	0
		353	NR_A_05	499541	6768468	State Forest	low	PKFT	3.33
		354	NR_A_06	504677	6772207	road	low	PKFT	0
		355	NR_A_07	512390	6774117	council	low	PKFT	3.33
		356	NR_A_08	479794	6776874	State Forest	low	PKFT	0
		357	NR_A_10	500066	6778618	road	low	PKFT	0

LGA	Surveyed by	no	Site name	Easting	Northing	Tenure	East Coast	PKFT	Activity (%)
Richmond Valley	Biolink	358	NR_A_11	495026	6783071	road	low	PKFT	0
		359	NR_A_12	505338	6782239	road	low	PKFT	0
		360	NR_A_13	524687	6783344	private	low	PKFT	0
		361	NR_A_14	535993	6781843	private	low	PKFT	63.33
		362	NR_A_15	479602	6786826	State Forest	low	PKFT	0
		363	NR_A_16	510360	6788752	road	low	PKFT	0
		364	NR_A_17	485765	6793458	road	low	PKFT	0
		365	NR_A_18	495100	6794029	State Forest	low	PKFT	13.33
		366	NR_A_19	504621	6793479	road	low	PKFT	20
		367	NR_A_20	513713	6793227	private	low	PKFT	0
		368	NR_A_21	525283	6792281	road	high	PKFT	0
		369	NR_A_22	479915	6795870	road	low	PKFT	0
		370	NR_A_23	489290	6797916	road	low	PKFT	0
		371	NR_A_24	498468	6798878	private	high	PKFT	0
		372	NR_A_25	483814	6801233	private	low	PKFT	13.33
		373	NR_A_26	495428	6803577	road	low	-	0
		374	NR_A_27	505284	6802113	road	low	PKFT	6.67
		375	NR_A_28	515107	6800906	private	high	PKFT	30
		376	NR_A_29	488585	6808249	private	low	PKFT	23.33
		377	NR_A_30	500327	6807448	private	low	PKFT	43.33
		378	NR_A_31	506051	6813062	road	low	PKFT	3.33
		379	NR_A_32	498547	6817679	road	low	PKFT	0
		380	NR_A_33	509028	6818840	private	low	PKFT	0
		381	NR_A_34	495493	6821898	road	high	-	0
		382	NR_A_35	474882	6791438	State Forest	low	PKFT	0
		383	NR_A_46	506585	6821427	private	high	PKFT	0

* Lismore City Council 1 = data collected 2020

** Lismore City Council 2 = data collected 2021

Appendix 3 – Categorisation of Forest Ecosystem Types (FET)

Forest Ecosystem Type (FET) FE2 number and descriptions in the *Northern Rivers Catchment Authority* vegetation mapping (also referred to as CMAVis mapping; Ecological 2005), grouped by the koala habitat categories as outlined in Sections 2.5.1 and 2.5.2 of this report (Biolink method and Hosking *et al.* unpub method respectively). Differences in koala habitat categorisation is shown as either P (Primary), 2A (Secondary A), 2B (Secondary B), 2C (Secondary C), M (Other koala habitat) or O (Other) according to each method. Includes associated total land surface area for each mapped FET.

			Categorisation	
FE2 code	Forest Ecosystem Type (FET) name	Area (ha)	Hosking <i>et al</i>	Biolink
Primary				
21	Lowlands Grey Box	5,528	P	2B
46	Eastern Red Gums	1,112	P	P
47	Escarpment Redgum	17,371	P	P
52	Foothill Grey Gum-Ironbark-Spotted Gum	10,833	P	2B
54	Grey Box-Red Gum-Grey Ironbark	2,339	P	2A
62	Grey Box-Northern Grey Gum	3,984	P	2B
73	Lowland Red Gum	37,654	P	P
100	Northern Grassy Sydney Blue Gum	1,838	P	2A
102	Northern Ranges Dry Tallowwood	34,709	P	2B
104	Northern Wet Tallowwood-Blue Gum	7,998	P	P
142	Swamp Mahogany	934	P	P
319	Coastal Forest Red Gum	131	P	2B
Secondary A				
25	Coast Range Spotted Gum-Blackbutt	63	2A	2A
26	Coastal Flooded Gum	8,972	2A	2A
59	Gorge Ironbark-Grey Gum	47	2A	2B
75	Lowlands Spotted Gum-Box	8,957	2A	2C
76	Coastal Mallee	798	2A	2A
88	Moist Escarpment New England Blackbutt	1	2A	2C
95	Northern Moist Blackbutt	12,802	2A	2C
109	Open Shrubby Brushbox-Tallowwood	6,138	2A	2A
118	Richmond Range Spotted Gum	22,623	2A	2C
119	Richmond Range Spotted Gum-Box	9,384	2A	2C
143	Swamp Oak	2,668	2A	2A
154	Wet Flooded Gum-Tallowwood	3,890	2A	2A
Secondary B				
24	Clarence Lowlands Spotted Gum	55,692	2B	2C
45	Dunns White Gum	236	2B	2B
89	Moist Foothills Spotted Gum	134	2B	2C
101	Northern Open Grassy Blackbutt	3,826	2B	2C
112	Paperbark	16,596	2B	Other
122	Rough-barked Apples	1,910	2B	2C

FE2 code	Forest Ecosystem Type (FET) name	Area (ha)	Categorisation	
			Hosking <i>et al</i>	Biolink
138	Steel Box/Craven Grey Box	129	2B	2C
147	Turpentine	1,422	2B	2C
148	Very Wet New England Blackbutt-Tallowwood	611	2B	2C
152	Wet Bloodwood-Tallowwood	39,278	2B	2C
M				
2	Alpine Gum	1	M	Other
3	Baileys Stringybark	1,860	M	Other
20	Clarence Lowland Needlebark Stringybark	336	M	Other
23	Coast Range Bloodwood-Mahogany	403	M	Other
27	Coastal Sands Blackbutt	1,115	M	Other
33	Dry Foothills Spotted Gum	878	M	Other
37	Dry Heathy Blackbutt-Bloodwood	19,131	M	Other
40	Dry Heathy Sandstone Blackbutt	11,307	M	Other
65	Heathy Scribbly Gum	2,716	M	Other
74	Lowlands Scribbly Gum	1,346	M	Other
97	Needlebark Stringybark-Large Fruited Blackbutt	1,078	M	Other
117	Red Mahogany	223	M	Other
126	Sandstone Spotted Gum-Blackbutt	2,041	M	Other
139	Stringybark-Apple	821	M	Other
Other				
5	Banksia	1,464	O	Other
22	Coast Cypress Pine	88	O	Other
50	Wet Bangalow-Brushbox	7,049	O	Other
64	Heath	3,073	O	Other
77	Mangrove	1,520	O	Other
103	Northern Wet Brushbox	11,765	O	Other
120	River Oak	1,063	O	Other
125	Saltmarsh	235	O	Other
141	Swamp	1,406	O	Other
151	Wattle	2,332	O	Other
169	Scrub	165	O	Other
199	Riparian Shrubland	34	O	Other
201	Camphor Laurel	11,210	O	Other
301	Littoral Rainforest	346	O	Other
302	Sub-Tropical Rainforest	5,476	O	Other
303	Warm Temperate Rainforest	67	O	Other
304	Dry Rainforest	2,580	O	Other
306	Lowland Rainforest on Floodplain	158	O	Other
307	Sub-Tropical & Warm Temperate Rainforest	90,240	O	Other
311	Native Grasslands	704	O	Other
312	Clay Heath	40	O	Other
313	Wet Heath	9,596	O	Other
314	Wallum Heath	1,713	O	Other

FE2 code	Forest Ecosystem Type (FET) name	Area (ha)	Categorisation	
			Hosking <i>et al</i>	Biolink
315	Horsetail Casuarina	636	0	Other
316	Freshwater Wetland	714	0	Other
317	Coastal Acacia	341	0	Other
318	Coastal Swamp Box	711	0	Other
320	Sedgeland/Rushland	1,112	0	Other
322	Coastal Pink Bloodwood	222	0	Other
327	Inland Melaleuca	1,260	0	Other
800	Coastal Complex	967	0	Other
1000	Introduced	1,589	0	Other
Miscellaneous				
121	Rock	1,852		
165	Hardwood Plantations	17,898		
0		102,729		
96		19		

Appendix 4 – Scoring vegetation map accuracy

Mapping accuracy of *The Northern Rivers Catchment Authority* vegetation mapping layer (Ecological 2005) compared to the floristic data recorded at each SAT field survey site. Scores range from 1 (*i.e.* correctly typed) where there was agreement between the tallest stratum tree species recorded at field sites and descriptions for the mapped polygons as they appear in DEC (2004); 0.5 when the polygon appeared incorrectly typed but a corresponding community appeared within 100 m; or 0 (*i.e.* not correctly typed) when no conformity was apparent. In the table below “nm” means not mapped. The conforming species column in this table shows the number of trees of each conforming species. If ≥ 15 trees at the site are conforming with FET descriptions it is considered correctly typed and if ≥ 15 trees at the site conforming with a FET mapped within 100 m it is considered partially correctly typed.

Site code	Koala activity	FE code	Nearby FE	FE description	Conforming species (# trees / 30-tree sample)	Accuracy Score
NR_001	33.33	73		73: Tall to very tall forest dominated by either Forest Red Gum (<i>Eucalyptus tereticornis</i>) or Swamp Box (<i>Lophostemon suaveolens</i>) with Pink Bloodwood (<i>Corymbia intermedia</i>) and Grey Ironbark (<i>E. siderophloia</i>) sometimes present.	<i>E. tereticornis</i> (11), <i>E. siderophloia</i> (3), <i>C. intermedia</i> (2),	1
NR_002	0.00	73	24	73: as above near 24: Tall to very tall dry forest which is dominated by a Spotted Gum (<i>Corymbia henryi</i> or <i>C. variegata</i>) and Grey Ironbark (<i>Eucalyptus siderophloia</i>), and often includes Small-fruited Grey Gum (<i>E. propinqua</i>) as a sub-dominant. The ecosystem has a midstorey of Forest Oak (<i>Allocasuarina torulosa</i>) and is mostly lacking a shrub layer.	<i>E. siderophloia</i> (3), <i>C. intermedia</i> (1)	0
NR_003	26.67	1000	307	1000: Introduced, near 307: Tropical warm temperate rainforest		0
NR_004	0.00	102	26	102: Tall to very tall forest with a very mixed canopy which usually contains Tallowwood (<i>Eucalyptus microcorys</i>) in association with one or several other species which may include Narrow-leaved White Mahogany (<i>E. acmenoides</i>), Pink Bloodwood (<i>Corymbia intermedia</i>), Small-fruited Grey Gum (<i>E. propinqua</i>) or Brush Box (<i>Lophostemon confertus</i>). There is often a midstorey of Forest Oak (<i>Allocasuarina torulosa</i>) with an open understorey.	<i>C. intermedia</i> (1)	0

Site code	Koala activity	FE code	Nearby FE	FE description	Conforming species (# trees / 30-tree sample)	Accuracy Score
				near 26: "Very tall to extremely tall wet forest which is dominated by Flooded Gum (<i>Eucalyptus grandis</i>), Brush Box (<i>Lophostemon confertus</i>) and Tallowwood (<i>E. microcorys</i>). The ecosystem has a subtropical rainforest understorey which includes species such as Bangalow Palm (<i>Archontophoenix cunninghamii</i>) and Celery Wood (<i>Polyscias elegans</i>)		
NR_005	0.00	nm	102	near 102: as above	<i>E. siderophloia</i> (15), <i>L. confertus</i> (8)	0.5
NR_006	0.00	26		26: as above	<i>Archontophoenix cunninghamii</i> (14), <i>E. grandis</i> (2)	1
NR_007	0.00	152		152: Tall to extremely tall forest dominated by Pink Bloodwood (<i>Corymbia intermedia</i>) frequently in association with Tallowwood (<i>Eucalyptus microcorys</i>) and also often including Brush Box (<i>Lophostemon confertus</i>), Narrow-leaved White Mahogany (<i>E. acmenoides</i>), Small-fruited Grey Gum (<i>Eucalyptus propinqua</i>), Grey Ironbark (<i>E. siderophloia</i>)	<i>E. siderophloia</i> (7), <i>C. intermedia</i> (5), <i>E. microcorys</i> (5), <i>E. propinqua</i> (2)	1
NR_008	0.00	118	154	118: Tall to extremely tall forest in which Spotted Gum (<i>Corymbia variegata</i>) is dominant, and Small-fruited Grey Gum (<i>Eucalyptus propinqua</i>), Grey Ironbark (<i>E. siderophloia</i>) and/or Grey Box (<i>E. moluccana</i>) are usually present. Near 154: Tall to extremely tall forest dominated by Flooded Gum (<i>Eucalyptus grandis</i>) with Tallowwood (<i>E. microcorys</i>), Brush Box (<i>Lophostemon confertus</i>) and Turpentine (<i>Syncarpia glomulifera</i>) frequently present. There is usually a dense understorey of trees and shrubs such as Bangalow Palm (<i>Archontophoenix cunninghamii</i>), Rose Maple (<i>Cryptocarya rigida</i>) Narrow-leaved Palm Lily (<i>Cordyline stricta</i>) and Lilly Pilly (<i>Acmena smithii</i>). Many sites are disturbed and have a dense understorey of Lantana (<i>Lantana camara</i>).	Rainforest species (11), <i>Lophostemon confertus</i> (5), <i>Syncarpia glomulifera</i> (2), <i>Archontophoenix cunninghamii</i> (2), <i>E. microcorys</i> (1)	0.5
NR_009	3.33	152		152: as above	<i>E. acmenoides</i> (14), <i>C. intermedia</i> (10)	1
NR_012	0.00	307		307: Tropical warm temperate rainforest	<i>Aphananthe philippinensis</i> (8), Rainforest species (8), <i>Mallotus philippensis</i> (4), <i>Archontophoenix cunninghamii</i> (1)	1
NR_013	0.00	0	154	0 near 154: as above	<i>E. microcorys</i> (1), <i>Syncarpia glomulifera</i> (1)	0
NR_014	16.67	nm	313	near 313: Wet heath		0

Site code	Koala activity	FE code	Nearby FE	FE description	Conforming species (# trees / 30-tree sample)	Accuracy Score
NR_017	0.00	154		154: as above	<i>Syncarpia glomulifera</i> (10), Rainforest species (5), <i>E. microcorys</i> (4), <i>L. confertus</i> (2)	1
NR_018	0.00	nm	rf	not mapped near sub tropical and warm temperate rainforest		0
NR_020	0.00	nm	50	not mapped near 50: Very tall to extremely tall moist forest dominated by Brush Box (<i>Lophostemon confertus</i>) which is characterised by a dense understorey in which Bangalow Palm (<i>Archontophoenix cunninghamii</i>) occurs frequently, in association with a great diversity of other predominantly rainforest species.	Rainforest species (17), <i>Araucaria bidwillii</i> (1)	0.5
NR_021	3.33	nm	307	not mapped near 307: as above	Rainforest species (10), <i>Grevillia robusta</i> (2),	0
NR_023	0.00	152	50	152: as above	<i>E. acmenoides</i> (6), <i>C. intermedia</i> (3), <i>E. microcorys</i> (1)	0
NR_024	30.00	50		50: as above	-	1
NR_026	0.00	103		103: Tall to extremely tall moist forest dominated by Brush Box (<i>Lophostemon confertus</i>) which often occurs as pure stands. There is a dense, wet understorey dominated by rainforest species such as Murrogun (<i>Cryptocarya microneura</i>), Scentless Rosewood (<i>Synoum glandulosum</i>), Bolwarra (<i>Eupomatia laurina</i>) and Celery Wood (<i>Polyscias elegans</i>).	<i>L. confertus</i> (14), Rainforest species (1)	1
NR_027	3.33	nm	201	not mapped near 201: <i>C. camphora</i> and 307: subtropical rainforest	<i>C. camphora</i> (6)	0
NR_028	0.00	nm	118	not mapped near 118: as above	<i>E. propinqua</i> (28)	0.5
NR_029	0.00	307		307: as above	Rainforest species (16), <i>Archontophoenix cunninghamii</i> (1),	1

Site code	Koala activity	FE code	Nearby FE	FE description	Conforming species (# trees / 30-tree sample)	Accuracy Score
NR_032	0.00	nm	201	not mapped near 201: as above	-	0
NR_033	13.33	103		103: as above on border of 152: Wet bloodwood/tallowwood	Rainforest species (14), <i>L. confertus</i> (6), <i>Macaranga tanarius</i> (1)	1
NR_035	0.00	nm	102	not mapped near 102: as above	<i>E. microcorys</i> (1), <i>E. propinqua</i> (1)	0
NR_036	3.33	103		103: as above	Rainforest species (10), <i>L. confertus</i> (9)	1
NR_037	0.00	147	307	147: Generally very tall to extremely tall moist forest in which Turpentine (<i>Syncarpia glomulifera</i>) dominates or co-dominates the overstorey. Associates include Sydney Blue Gum (<i>Eucalyptus saligna</i>), Flooded Gum (<i>E. grandis</i>), Tallowwood (<i>E. microcorys</i>), Red Mahogany (<i>E. resinifera</i>), Narrowleaved White Mahogany (<i>E. acmenoides</i>), Small-fruited Grey Gum (<i>E. propinqua</i>), Pink Bloodwood (<i>Corymbia intermedia</i>) and Brush Box (<i>Lophostemon confertus</i>). Understorey trees, shrubs and vines include Forest Oak (<i>Allocasuarina torulosa</i>), laurels (<i>Cryptocarya spp.</i>), Crabapple (<i>Schizomeria ovata</i>), Tree Heath (<i>Trochocarpa laurina</i>), Sarsaparilla (<i>Smilax australis</i>) and Five-leaf Water Vine (<i>Cissus hypoglauca</i>). near 307: as above	Rainforest species (18), <i>Allocasuarina littoralis</i> (4), <i>C. intermedia</i> (1)	1
NR_038	0.00	307		307: as above	Rainforest species (11), <i>C. camphora</i> (5)	1
NR_039	10.00	112	322	112: Low to very tall woodland and forest in which Broad-leaved Paperbark (<i>Melaleuca quinquenervia</i>) commonly dominates the overstorey, or occasionally another paperbark (e.g. <i>M. alternifolia</i> , <i>M. sieberi</i> , <i>M. linariifolia</i> , <i>M. styphelioides</i>). Associates include Swamp Mahogany (<i>Eucalyptus robusta</i>), Swamp Oak (<i>Casuarina glauca</i>) and Swamp Box (<i>Lophostemon suaveolens</i>). near 322	<i>L. suaveolens</i> (9)	0
NR_040	33.33	nm	201	not mapped, near 201: as above	<i>C. camphora</i> (16)	0.5

Site code	Koala activity	FE code	Nearby FE	FE description	Conforming species (# trees / 30-tree sample)	Accuracy Score
NR_042	3.33	103		103: as above	Rainforest species (13), <i>L. confertus</i> (6)	1
NR_043	33.33	nm	307	not mapped, near 307: as above	<i>L. confertus</i> (14), <i>Ficus sp.</i> (1), Rainforest species (1)	0.5
NR_044	0.00	95		95: Tall to extremely tall forest dominated by Blackbutt (<i>Eucalyptus pilularis</i>) with Tallowwood (<i>E. microcorys</i>) and Brush Box (<i>Lophostemon confertus</i>) present as sub-dominants and Narrow-leaved White Mahogany (<i>E. acmenoides</i>) frequently present at lower abundances. There is a dense understorey with Forest Oak (<i>Allocasuarina torulosa</i>) and Coffee Bush (<i>Breynia oblongifolia</i>) occurring frequently along with many other moist forest species.	<i>E. microcorys</i> (10), <i>L. confertus</i> (3), <i>E. pilularis</i> (2), <i>E. acmenoides</i> (1)	1
NR_045	0.00	95	165	95: as above near 165: Hardwood Plantations - <i>Eucalyptus grandis</i> , <i>Eucalyptus pilularis</i> , <i>Araucaria cunninghamii</i> , <i>Pinus elliottii</i> , <i>Pinus radiata</i>	<i>E. pilularis</i> (1)	0
NR_046	0.00	103	152	103: as above Near 152: as above	<i>E. acmenoides</i> (13), <i>C. intermedia</i> (6), <i>E. siderophloia</i> (6), <i>L. confertus</i> (2), <i>E. microcorys</i> (1)	0.5
NR_047	13.33	nm	201	not mapped, near 201: as above	-	0
NR_050	20.00	nm	201	not mapped, near 201: as above	<i>C. camphora</i> (1)	0
NR_051	0.00	nm	201	not mapped, near 201: as above	-	0
NR_052	0.00	95	nm	95: as above	<i>E. pilularis</i> (5)	0
NR_053	3.33	307	95	307: as above,	<i>L. confertus</i> (18)	0.5

Site code	Koala activity	FE code	Nearby FE	FE description	Conforming species (# trees / 30-tree sample)	Accuracy Score
				near 95: as above		
NR_054	0.00	nm	201	Not mapped near 201: as above	<i>C. camphora</i> (23)	0.5
NR_055	0.00	95	77	95: as above, near 77: Mangroves	<i>L. confertus</i> (12)	0
NR_058	6.67	103		103: as above	<i>L. confertus</i> (13), Rainforest species (11)	1
NR_061	6.67	102	0	102: as above	<i>Allocasuarina</i> sp. (4), <i>E. acmenoides</i> (4), <i>C. intermedia</i> (3), <i>E. microcorys</i> (2)	0
NR_064	0.00	77	143	77: as above, near 143: Low to very tall woodland and forest with the overstorey clearly dominated by Swamp Oak (<i>Casuarina glauca</i>). Associates include Broad-leaved Paperbark (<i>Melaleuca quinquenervia</i>) and Forest Red Gum (<i>Eucalyptus tereticornis</i>). Composition of the understorey varies with habitat (e.g. estuarine or floodplain), and it may be poorly developed where the overstorey is dense. Examples of smaller trees, shrubs and vines include various paperbarks (e.g. <i>Melaleuca ericifolia</i> , <i>M. styphelioides</i>), Groundsel Bush (<i>Baccharis halimifolia</i>), Lantana (<i>Lantana camara</i>), Swamp Hibiscus (<i>Hibiscus diversifolius</i>), <i>Goodenia ovata</i> , Common Silkpod (<i>Parsonsia straminea</i>) and Five-leaf Morning Glory (<i>Ipomoea cairica</i>).	<i>Casuarina glauca</i> (10)	0
NR_065	0.00	nm	112	not mapped, near 112: as above	<i>M. quinquenervia</i> (9), <i>E. tereticornis</i> x <i>E. robusta</i> (2)	0
NR_066	0.00	21	119	21: Tall to very tall forest in which Grey Box (<i>Eucalyptus moluccana</i>) and Grey Ironbark (<i>E. siderophloia</i>) are generally co-dominant with Swamp Box (<i>Lophostemon suaveolens</i>) also frequently occurring as a sub-dominant species. This ecosystem an open understorey of Red Ash (<i>Alphitonia excelsa</i>) and Lantana (<i>Lantana camara</i>). near 119: Tall to very tall forest in which Spotted Gum (<i>Corymbia variegata</i>) is dominant, and Grey Box (<i>Eucalyptus moluccana</i>) and, less frequently, Small-fruited Grey Gum (<i>E. propinqua</i>) are present. This ecosystem is less likely to contain Grey Ironbark (<i>E. siderophloia</i>) than Ecosystem 118, but Broadleaved Ironbark (<i>E. fibrosa</i>) is sometimes present. The	<i>C. citrodoria</i> (18), <i>E. siderophloia</i> (1)	0.5

Site code	Koala activity	FE code	Nearby FE	FE description	Conforming species (# trees / 30-tree sample)	Accuracy Score
				understorey consists of scattered dry shrubs such as Coffee Bush (<i>Breynia oblongifolia</i>), Lantana (<i>Lantana camara</i>) and Red Ash (<i>Alphitonia excelsa</i>).		
NR_068	0.00	24		24: Tall to very tall dry forest which is dominated by a Spotted Gum (<i>Corymbia henryi</i> or <i>C. variegata</i>) and Grey Ironbark (<i>Eucalyptus siderophloia</i>), and often includes Small-fruited Grey Gum (<i>E. propinqua</i>) as a sub-dominant. The ecosystem has a midstorey of Forest Oak (<i>Allocasuarina torulosa</i>) and is mostly lacking a shrub layer.	<i>C. citrodoria</i> (16), <i>E. siderophloia</i> (9)	1
NR_070	0.00	74	24	74: Tall to very tall forest dominated by Scribbly Gum (<i>Eucalyptus signata</i>). There is often a scattered understorey of Tea-tree (<i>Leptospermum polygalifolium</i>), <i>Melaleuca sieberi</i> and <i>Banksia oblongifolia</i> . near 24: as above	<i>Melaleuca</i> species (8), <i>C. citrodoria</i> (8), <i>E. siderophloia</i> (5), <i>Allocasuarina torulosa</i> (3), <i>E. propinqua</i> (1)	0.5
NR_071	0.00	52		52: Tall to very tall dry forest which contains a mixed canopy which is usually dominated by Small-fruited Grey Gum (<i>Eucalyptus propinqua</i>), Grey Ironbark (<i>E. siderophloia</i>), Spotted Gum (<i>Corymbia variegata</i>) or a mixture of these in association with a variety of other species like Turpentine (<i>Syncarpia glomulifera</i>) or Pink Bloodwood (<i>C. intermedia</i>). There is a midstorey of Forest Oak (<i>Allocasuarina torulosa</i>)	<i>Syncarpia glomulifera</i> (19), <i>C. intermedia</i> (4), <i>E. siderophloia</i> (2), <i>C. henryi</i> (1), <i>C. citrodoria</i> (1)	1
NR_074	0.00	24		24: as above	<i>E. siderophloia</i> (6), <i>C. citrodoria</i> (5), <i>E. propinqua</i> (4)	1
NR_075	0.00	0	24	mapped as 0, near 24: as above	-	0
NR_077	6.67	24		24: as above	<i>C. citrodoria</i> (17), <i>E. siderophloia</i> (3)	1
NR_080	3.33	24		24: as above	<i>C. citrodoria</i> (9)	0
NR_081	0.00	24	73	24: as above, near 73: as above	<i>C. intermedia</i> (3), <i>L. suaveolens</i> (1)	0
NR_083	0.00	75		75: Tall to very tall forest in which Broad-leaved Spotted Gum (<i>Corymbia henryi</i>) is dominant, and Grey Box (<i>Eucalyptus moluccana</i>) and an ironbark (<i>E. siderophloia</i> or <i>E. fibrosa</i>) are usually sub-dominant. There is an open understorey with scattered shrubs of Red Ash (<i>Alphitonia excelsa</i>) and Curracabah (<i>Acacia concurrens</i>).	<i>C. citrodoria</i> (14), <i>E. siderophloia</i> (12)	1

Site code	Koala activity	FE code	Nearby FE	FE description	Conforming species (# trees / 30-tree sample)	Accuracy Score
NR_084	0.00	73		73: as above	<i>E. siderophloia</i> (30)	1
NR_085	0.00	73	141	73: as above, Near 141: This ecosystem comprises sedgeland, rushland, forbland, fernland and mossland in inundated or perpetually moist sites. It extends from sea level to the Tablelands, and floristic composition varies with locality and habitat	--	0
NR_086	0.00	52	40	52: as above, Near 40: Tall to very tall forest dominated by Blackbutt (<i>Eucalyptus pilularis</i>) usually occurring in association with Turpentine (<i>Syncarpia glomulifera</i>). There is a midstorey of Forest Oak (<i>Allocasuarina torulosa</i>) and a dry shrubby understorey which includes species such as Tree Heath (<i>Trochocarpa laurina</i>), wattles (<i>Acacia irrorata</i> and <i>A. melanoxylon</i>) and Geebung (<i>Persoonia stradbokensis</i>).	<i>Syncarpia glomulifera</i> (15), <i>E. pilularis</i> (2)	0.5
NR_087	0.00	65	24	65: Tall to very tall dry forest dominated by Scribbly Gum (<i>Eucalyptus signata</i>) with either Red or Pink Bloodwood (<i>Corymbia gummifera</i> or <i>C. intermedia</i>) usually present as sub-dominants. There is a relatively dense heathy understorey dominated by Black Oak (<i>Allocasuarina littoralis</i>), banksias (<i>Banksia oblongifolia</i> and <i>B. spinulosa</i>), egg and bacon peas (<i>Pultenaea myrtoidea</i> and <i>P. retusa</i>), and Riceflower (<i>Pimelea linifolia</i>). near 24: as above	<i>Allocasuarina</i> sp. (2), <i>C. intermedia</i> (1), <i>E. racemosa</i> (1), <i>C. citrodoria</i> (1)	0
NR_088	0.00	122	112	122: Mid-high to very tall woodland and forest in which the overstorey is dominated by a species of roughbarked Angophora (e.g. <i>Angophora bakeri</i> , <i>A. floribunda</i> , <i>A. paludosa</i> , <i>A. subvelutina</i> , <i>A. woodsiana</i>). Various species are associates, and these include Red Mahogany (<i>Eucalyptus resinifera</i>), Grey Box (<i>E. moluccana</i>), Scribbly Gum (<i>E. signata</i>), Red Bloodwood (<i>Corymbia gummifera</i>), Pink Bloodwood (<i>C. intermedia</i>) and Swamp Box (<i>Lophostemon suaveolens</i>). Sclerophyllous shrub and small tree species may be well represented in the understorey, for example banksias (e.g. <i>Banksia oblongifolia</i> , <i>B. spinulosa</i>), wattles (<i>Acacia</i> spp.), tea-trees (e.g. <i>Leptospermum polygalifolium</i>), Black Oak (<i>Allocasuarina littoralis</i>) and bush-peas (e.g. <i>Pultenaea myrtoidea</i>). Near 112: as above	<i>Melaleuca quinquernovia</i> (21), <i>L. suaveolens</i> (1)	0.5
NR_089	3.33	27		27: Tall to very tall forest dominated by Blackbutt (<i>Eucalyptus pilularis</i>) which often includes Needlebark Stringybark (<i>E. planchoniana</i>) and/or Smooth-barked Apple (<i>Angophora costata</i>) as sub-dominants. The ecosystem contains a relatively dense heathy shrub layer which includes various wattles (<i>Acacia</i> spp.), Wallum Banksia (<i>Banksia aemula</i>), Lance Beard Heath (<i>Leucopogon lanceolatus</i>) and grass trees (<i>Xanthorrhoea</i> spp.).	<i>E. pilularis</i> (7), <i>Angophora</i> sp. (4), <i>Banksia</i> sp. (4), <i>Acacia</i> sp. (1)	1

Site code	Koala activity	FE code	Nearby FE	FE description	Conforming species (# trees / 30-tree sample)	Accuracy Score
NR_090	0.00	109	40	109: Tall to very tall forest often comprised of pure Brush Box (<i>Lophostemon confertus</i>) stands or with Tallowwood (<i>Eucalyptus microcorys</i>) present as a sub-dominant. There is usually an understorey of scattered shrubs with common species including Hairy Psychotria (<i>Psychotria loniceroides</i>), Scentless Rosewood (<i>Synoum glandulosum</i>), and Tree Heath (<i>Trochocarpa laurina</i>). Near 40: as above	<i>E. pilularis</i> (13), Rainforest species (5), <i>E. microcorys</i> (4), <i>Syncarpia glomulifera</i> (1)	0.5
NR_092	0.00	119		119: Tall to very tall forest in which Spotted Gum (<i>Corymbia variegata</i>) is dominant, and Grey Box (<i>Eucalyptus moluccana</i>) and, less frequently, Small-fruited Grey Gum (<i>E. propinqua</i>) are present. This ecosystem is less likely to contain Grey Ironbark (<i>E. siderophloia</i>) than Ecosystem 118, but Broadleaved Ironbark (<i>E. fibrosa</i>) is sometimes present.	<i>E. fibrosa</i> (15), <i>C. citrodoria</i> (6), <i>E. siderophloia</i> (1)	1
NR_093	0.00	0	73	mapped as 0, near 73: as above	<i>C. intermedia</i> (9), <i>L. suaveolens</i> (4),	0
NR_094	13.33	73	75	73: as above Near 75: Tall to very tall forest in which Broad-leaved Spotted Gum (<i>Corymbia henryi</i>) is dominant, and Grey Box (<i>Eucalyptus moluccana</i>) and an ironbark (<i>E. siderophloia</i> or <i>E. fibrosa</i>) are usually sub-dominant. There is an open understorey with scattered shrubs of Red Ash (<i>Alphitonia excelsa</i>) and Curracabah (<i>Acacia concurrens</i>)	<i>E. moluccana</i> (16), Ironbark (9)	0.5
NR_095	0.00	73	37	73: as above, near 37: Tall to very tall forest in which Blackbutt (<i>Eucalyptus pilularis</i>) is dominant and Red Bloodwood (<i>Corymbia gummifera</i>) and Red Mahogany (<i>Eucalyptus resinifera</i>) occur as sub-dominants. This ecosystem has a moderately dense understorey composed of predominantly heathy shrubs elements such as banksias (<i>Banksia</i> spp.), egg and bacon peas (<i>Pultenaea</i> spp.), Rice Flower (<i>Pimelea linifolia</i>) and Geebung (<i>Persoonia stradbrokeensis</i>).	<i>E. tereticornis</i> (2), <i>C. intermedia</i> (1)	0
NR_097	0.00	73		73: as above	<i>E. tereticornis</i> (20), <i>E. siderophloia</i> (4)	1
NR_099	0.00	73	37	73: as above, near 37: as above	<i>C. intermedia</i> (11), <i>E. tereticornis</i> (6), <i>L. suaveolens</i> (1)	0.5
NR_100	0.00	24		24: as above	<i>C. citriodora</i> (14), <i>E. siderophloia</i> (8), <i>E. propinqua</i> (4)	1

Site code	Koala activity	FE code	Nearby FE	FE description	Conforming species (# trees / 30-tree sample)	Accuracy Score
NR_101	0.00	65		65: Tall to very tall dry forest dominated by Scribbly Gum (<i>Eucalyptus signata</i>) with either Red or Pink Bloodwood (<i>Corymbia gummifera</i> or <i>C. intermedia</i>) usually present as sub-dominants. There is a relatively dense heathy understorey dominated by Black Oak (<i>Allocasuarina littoralis</i>), banksias (<i>Banksia oblongifolia</i> and <i>B. spinulosa</i>), egg and bacon peas (<i>Pultenaea myrtilloides</i> and <i>P. retusa</i>), and Riceflower (<i>Pimelea linifolia</i>).	<i>C. intermedia</i> (12), <i>E. racemosa</i> (5)	1
NR_102	0.00	64	37	64: Typically low to tall heathland less than 2 m high. Species richness is generally high, and composition varies with locality (low altitude to high altitude) and habitat (e.g. coastal sand masses or hills, ranges, escarpment, tableland). Representative heath shrub families include Proteaceae (e.g. <i>Banksia</i> and <i>Hakea</i> spp.), Myrtaceae (e.g. <i>Leptospermum</i> , <i>Melaleuca</i> and <i>Kunzea</i> spp.), Epacridaceae (e.g. <i>Leucopogon</i> and <i>Epacris</i> spp.), Fabaceae (e.g. <i>Dillwynia</i> , <i>Pultenaea</i> and <i>Acacia</i> spp.), Rutaceae (e.g. <i>Boronia</i> and <i>Eriostemon</i> spp.), Xanthorrhoeaceae (<i>Xanthorrhoea</i> spp.) and Casuarinaceae (<i>Allocasuarina</i> spp.). near 37: as above	<i>C. intermedia</i> (8), <i>E. pilularis</i> (7)	0.5
NR_103	0.00	27	57	27: as above, near 57: Low to mid-high forest or woodland usually dominated by Needlebark Stringybark (<i>Eucalyptus planchoniana</i>), Bell-fruited Mallee (<i>E. codonocarpa</i>) or New England Blackbutt (<i>E. campanulata</i>) with a dense heath understorey dominated by species such as Paper-bark Tea-tree (<i>Leptospermum trinervium</i>), <i>Kunzea bracteolata</i> , <i>Bossiaea neo-anglica</i> and <i>Callistemon comboynensis</i>	-	0
NR_104	0.00	40		40: Tall to very tall forest dominated by Blackbutt (<i>Eucalyptus pilularis</i>) usually occurring in association with Turpentine (<i>Syncarpia glomulifera</i>). There is a midstorey of Forest Oak (<i>Allocasuarina torulosa</i>) and a dry shrubby understorey which includes species such as Tree Heath (<i>Trochocarpa laurina</i>), wattles (<i>Acacia irrorata</i> and <i>A. melanoxylon</i>) and Geebung (<i>Persoonia stradbrokeensis</i>).	<i>E. pilularis</i> (12), <i>Allocasuarina torulosa</i> (5)	1
NR_106	0.00	37	24	37: as above, near 24: as above	<i>Allocasuarina torulosa</i> (3), <i>C. citrodoria</i> (1), <i>C. henryii</i> (1)	0
NR_108	0.00	0	73	mapped as 0, near 73: as above	-	0
NR_111	3.33	24		24: as above	<i>C. citrodoria</i> (24), <i>E. siderophloia</i> (1)	1

Site code	Koala activity	FE code	Nearby FE	FE description	Conforming species (# trees / 30-tree sample)	Accuracy Score
NR_112	0.00	0	73	mapped as 0, near 73: as above	<i>E. tereticornis</i> (25), <i>L. suaveolens</i> (5)	0.5
NR_113	0.00	126	73	126: Tall to very tall forest which is dominated Blackbutt (<i>Eucalyptus pilularis</i>) with Large-leaved Spotted Gum (<i>Corymbia henryi</i>), Grey Ironbark (<i>E. siderophloia</i>) and/or Pink Bloodwood (<i>C. intermedia</i>) as co-dominants. There is often a midstorey of Forest Oak (<i>Allocasuarina torulosa</i>) and a sparse to moderately dense understorey of dry shrubs with more common species including Geebung (<i>Persoonia stradbokensis</i>), Curracabah (<i>Acacia concurrens</i>) and Dogwood (<i>Jacksonia scoparia</i>). near 73: as above	<i>E. tereticornis</i> (11), <i>L. suaveolens</i> (8), <i>C. intermedia</i> (1)	0.5
NR_114	0.00	52	0	52: as above	<i>E. siderophloia</i> (14)	0
NR_115	0.00	52	112	52: as above, near 112: as above	Casuarina glauca (2), <i>C. intermedia</i> (2), Ironbark (1), Melaleuca quinquernovia (1)	0.5
NR_116	0.00	52	101	52: as above, near 101: Tall to very tall forest with a mixed canopy usually dominated by Blackbutt (<i>Eucalyptus pilularis</i>) and in which one or several of Red Bloodwood (<i>Corymbia gummifera</i>), Red Mahogany (<i>E. resinifera</i>), Tallowwood (<i>E. microcorys</i>) or Turpentine (<i>Syncarpia glomulifera</i>) may be sub-dominant or occasional. There is often a Forest Oak (<i>Allocasuarina torulosa</i>) midstorey and scattered dry shrubs in the understorey of which Geebung (<i>Persoonia stradbokensis</i>) and Lance Beard Heath (<i>Leucopogon lanceolatus</i>) are the most frequent.	-	0
NR_117	0.00	318	322	318: Coastal Swamp box, near 322: Coastal Pink Bloodwood	<i>C. intermedia</i> (4)	0
NR_120	0.00	24	37	24: as above, near 37: as above	<i>C. citriodora</i> (7), <i>E. siderophloia</i> (2),	0
NR_123	16.67	73	75	73: as above	<i>E. moluccana</i> (15), <i>C. citriodora</i> (6), <i>E. siderophloia</i> (4), <i>E. tereticornis</i> (2), <i>C. intermedia</i> (1), <i>Alphitonia excelsa</i> (1)	0.5

Site code	Koala activity	FE code	Nearby FE	FE description	Conforming species (# trees / 30-tree sample)	Accuracy Score
				Near 75: Tall to very tall forest in which Broad-leaved Spotted Gum (<i>Corymbia henryi</i>) is dominant, and Grey Box (<i>Eucalyptus moluccana</i>) and an ironbark (<i>E. siderophloia</i> or <i>E. fibrosa</i>) are usually sub-dominant. There is an open understorey with scattered shrubs of Red Ash (<i>Alphitonia excelsa</i>) and Curracabah (<i>Acacia concurrens</i>)		
NR_124	0.00	24	37	24: as above, near 37: as above	<i>E. pilularis</i> (16), <i>C. intermedia</i> (5), <i>E. resinifera</i> (5)	0.5
NR_129	50.00	307		313: Wet Heath	-	0
NR_130	0.00	119	47	119: as above, near 47: Tall to very tall forest which is similar to Ecosystem 44 but occurs at lower altitudes with coastal rather than tablelands associates. The canopy is dominated by Forest Red Gum (<i>Eucalyptus tereticornis</i>) with associated species including Broad-leaved Apple (<i>Angophora subvelutina</i>), Grey Ironbark (<i>E. siderophloia</i>) and Pink Bloodwood (<i>Corymbia intermedia</i>).	<i>Angophora floribunda</i> (24), <i>E. tereticornis</i> (6)	0.5
NR_133	0.00	21	24	21: as above, Near 24: as above	<i>C. henryi</i> (6), <i>E. moluccana</i> (6), <i>E. siderophloia</i> (2), <i>Alphitonia excelsa</i> (1), <i>Allocasuarina torulosa</i> (1)	0.5
NR_135	0.00	65	73	65: as above, near 73: as above	<i>C. intermedia</i> (10), <i>E. tereticornis</i> (4), <i>E. siderophloia</i> (2),	0.5
NR_136	0.00	37	0	37: as above,	-	0
NR_137	0.00	313		313: Wet Heath	-	0
NR_139	0.00	nm	112	not mapped, near 112: as above	-	0
NR_140	0.00	112		112: as above,	<i>Melaleuca quinquernovia</i> (28)	1
NR_141	0.00	24	0	24: as above,	<i>C. citriodora</i> (8), <i>E. siderophloia</i> (2), <i>E. propinqua</i> (1)	0

Site code	Koala activity	FE code	Nearby FE	FE description	Conforming species (# trees / 30-tree sample)	Accuracy Score
NR_143	0.00	165	24	165: Forest plantings for wood production are characteristic, generally after removal of the original native vegetation. Plantation species include Flooded Gum (<i>Eucalyptus grandis</i>), Blackbutt (<i>E. pilularis</i>), Hoop Pine (<i>Araucaria cunninghamii</i>), and exotics such as Slash Pine (<i>Pinus elliottii</i>) or Radiata Pine (<i>P. radiata</i>). near 24: as above	<i>C. citriodora</i> (30)	0.5
NR_148	0.00	24	52	24: as above, near 52: as above	<i>C. henryii</i> (1)	0
NR_150	0.00	0	24	0, near 24: as above	-	0
NR_154	6.67	nm	307	not mapped, near 307: sub-tropical and warm temp rainforest	Rainforest species (9), Mallotus phillipensis (4), Psidium guajava (2)	0.5
NR_155	0.00	101		101: Tall to very tall forest with a mixed canopy usually dominated by Blackbutt (<i>Eucalyptus pilularis</i>) and in which one or several of Red Bloodwood (<i>Corymbia gummifera</i>), Red Mahogany (<i>E. resinifera</i>), Tallowwood (<i>E. microcorys</i>) or Turpentine (<i>Syncarpia glomulifera</i>) may be sub-dominant or occasional. There is often a Forest Oak (<i>Allocasuarina torulosa</i>) midstorey and scattered dry shrubs in the understorey of which Geebung (<i>Persoonia stradbokensis</i>) and Lance Beard Heath (<i>Leucopogon lanceolatus</i>) are the most frequent.	<i>E. pilularis</i> (10), <i>C. intermedia</i> (8)	1
NR_157	0.00	165	0	165: as above	-	0
NR_159	0.00	52	119	52: as above, near 119: as above	<i>C. citriodora</i> (10), <i>E. moluccana</i> (10), <i>E. propinqua</i> (3)	0.5
NR_161	0.00	0	118	0 near 118: as above	-	0
NR_163	0.00	0	313	0,	-	0

Site code	Koala activity	FE code	Nearby FE	FE description	Conforming species (# trees / 30-tree sample)	Accuracy Score
				near 313: as above		
NR_165	13.33	0	24	0, near 24: as above	-	0
NR_166	13.33	73		73: as above	<i>E. tereticornis</i> (14), <i>C. intermedia</i> (3)	1
NR_167	0.00	0	112	0, near 112: as above	<i>L. suaveolens</i> (6), <i>Casuarina glauca</i> (2)	0
NR_168	90.00	0	370	0, near 370: sub-tropical and warm temperate rainforest	Rainforest species (1)	0
NR_169	0.00	5		5: Generally low to mid-high woodland or open forest with the overstorey clearly dominated by White Banksia (<i>Banksia integrifolia</i>) or less commonly Saw Banksia (<i>B. serrata</i>). There are two variants of this ecosystem. One occurs on coastal sands and rainforest species such as Lilly Pilly (<i>Acmena smithii</i>) and Tuckeroo (<i>Cupaniopsis anacardioides</i>) as well as Broad-leaved Paperbark (<i>Melaleuca quinquenervia</i>) are sometimes present in the overstorey. The shrubby understorey includes species such as Sydney Golden Wattle (<i>Acacia longifolia</i>), Bitou Bush (<i>Chrysanthemoides monilifera</i>) and Lantana (<i>Lantana camara</i>),	<i>Banksia integrifolia</i> (12), <i>Melaleuca quinquenervia</i> (3)	1
NR_170	3.33	24		24: as above	<i>C. henryii</i> (13), Ironbark (6)	1
NR_171	0.00	nm	47	not mapped, near 47: as above	Ironbark (11), <i>E. tereticornis</i> (7), <i>A. floribunda</i> (1)	0.5
NR_172	6.67	nm	118	not mapped, near 118: as above	-	0
NR_173	6.67	118		118: as above	<i>C. citriodora</i> (24)	1
NR_174	0.00	0	118	0,	-	0

Site code	Koala activity	FE code	Nearby FE	FE description	Conforming species (# trees / 30-tree sample)	Accuracy Score
				near 118: as above		
NR_178	0.00	0	73	0, near 73: as above	-	0
NR_180	0.00	0	307	0, near 307: as above	-	0
NR_184	0.00	307		307: as above	Rainforest species (30)	1
NR_185	0.00	307		307: as above	Rainforest species (14)	1
NR_186	0.00	nm	143	not mapped, near 143: Low to very tall woodland and forest with the overstorey clearly dominated by Swamp Oak (<i>Casuarina glauca</i>). Associates include Broad-leaved Paperbark (<i>Melaleuca quinquenervia</i>) and Forest Red Gum (<i>Eucalyptus tereticornis</i>). Composition of the understorey varies with habitat (e.g. estuarine or floodplain), and it may be poorly developed where the overstorey is dense. Examples of smaller trees, shrubs and vines include various paperbarks (e.g. <i>Melaleuca ericifolia</i> , <i>M. styphelioides</i>), Groundsel Bush (<i>Baccharis halimifolia</i>), Lantana (<i>Lantana camara</i>), Swamp Hibiscus (<i>Hibiscus diversifolius</i>), <i>Goodenia ovata</i> , Common Silkpod (<i>Parsonsia straminea</i>) and Five-leaf Morning Glory (<i>Ipomoea cairica</i>).	<i>Casuarina glauca</i> (21), <i>E. tereticornis</i> (4),	0.5
NR_188	0.00	165		165: as above	-	0
NR_190	0.00	47		47: <i>Eucalyptus tereticornis</i> (83), <i>Angophora subvelutina</i> (50), <i>Corymbia intermedia</i> (43), <i>Eucalyptus siderophloia</i> (33)	<i>E. tereticornis</i> (14), <i>C. intermedia</i> (1), <i>E. siderophloia</i> (1)	1
NR_192	10.00	nm	24	not mapped, near 24: as above	<i>C. citriodora</i> (13)	0
NR_194	0.00	0	24	0, near 24: as above	<i>C. citriodora</i> (11), Ironbark (1)	0.5

Site code	Koala activity	FE code	Nearby FE	FE description	Conforming species (# trees / 30-tree sample)	Accuracy Score
NR_196	3.33	nm	313	not mapped near 313: as above	-	0
NR_197	40.00	nm	73	not mapped, near 73: as above	<i>E. tereticornis</i> (28),	0.5
NR_199	0.00	307		307: as above	Rainforest species (1)	1
NR_200	0.00	201		201: as above	<i>C. camphora</i> (7)	0
NR_201	6.67	nm	24	not mapped, near 24: as above	<i>E. siderophloia</i> (1)	0
NR_202	3.33	nm	47	not mapped, near 47: as above	<i>C. intermedia</i> (20). <i>E. tereticornis</i> (3)	0.5
NR_203	0.00	nm	24	not mapped, near 24: as above	Ironbark (2)	0
NR_204	10.00	307		307: as above, near 104: Tall to extremely tall forest in which Sydney Blue Gum (<i>Eucalyptus saligna</i>) and Tallowwood (<i>E. microcorys</i>) dominate the canopy, with Brush Box (<i>Lophostemon confertus</i>) or Narrow-leaved White Mahogany (<i>E. acmenoides</i>) frequently sub-dominant. There is a dense understorey of rainforest shrubs and small trees such as Guioa (<i>Guioa semiglauca</i>), White Bolly Gum (<i>Neolitsea dealbata</i>) and Scrub Turpentine (<i>Rhodamnia rubescens</i>). Vines such as Water Vine (<i>Cissus Antarctica</i>) and Five-leaf Water Vine (<i>Cissus hypoglauc</i>) are common	<i>E. microcorys</i> (20), Rainforest species (2),	0.5
NR_205	6.67	nm	119	not mapped, near 119: as above	<i>C. citriodora</i> (12), <i>E. moluccana</i> (5), <i>E. fibrosa</i> (2)	0.5

Site code	Koala activity	FE code	Nearby FE	FE description	Conforming species (# trees / 30-tree sample)	Accuracy Score
NR_206	10.00	165	73	165: as above, near 73: as above	-	0
NR_207	3.33	nm	24	not mapped, near 24: as above	<i>E. siderophloia</i> (3)	0
NR_208	0.00	nm	24	not mapped, near 24: as above	<i>C. citriodora</i> (24), <i>E.siderophloia</i> (5),	0.5
NR_209	0.00	nm	102	not mapped, near 102: as above	<i>E. microcorys</i> (26)	0.5
NR_211	6.67	nm	52	not mapped, near 52: as above	<i>C. intermedia</i> (5)	0
NR_213	0.00	nm	201	not mapped, near 201: as above	<i>C. camphora</i> (18)	1
NR_214	3.33	201		201: as above, near 307: as above	<i>E. grandis</i> (28), Rainforest species (1)	0.5
NR_217	0.00	165		165: as above	-	0
NR_219	0.00	100		100: Tall to extremely tall forest dominated by Sydney Blue Gum (<i>Eucalyptus saligna</i>) in association with Brush Box (<i>Lophostemon confertus</i>) and Tallowwood (<i>E. microcorys</i>). The understorey may contain Maiden's Wattle (<i>Acacia maidenii</i>), Green Wattle (<i>Acacia irrorata</i>), Tree Heath (<i>Trochocarpa laurina</i>) and other shrubs.	<i>E. microcorys</i> (20)	1
NR_221	0.00	nm	165	not mapped,	-	0

Site code	Koala activity	FE code	Nearby FE	FE description	Conforming species (# trees / 30-tree sample)	Accuracy Score
				near 165: as above		
NR_223	0.00	nm	313	not mapped, near 313: as above	-	0
NR_225	0.00	nm	102	not mapped, near 102: as above	-	0
NR_227	0.00	nm	118	not mapped, near 118: as above	-	0
NR_228	0.00	nm	307	not mapped, near 307: as above	<i>Guioa semiglauc</i> (4), Rainforest species (2), <i>Mallotus phillipensis</i> (1)	0
NR_229	0.00	nm	306	not mapped, near 306: lowland rainforest on floodplain	<i>Mallotus phillipensis</i> (8), Rainforest species (2), <i>Macaranga tanarius</i> (1)	0.5
NR_230	0.00	nm	307	Not mapped, near 307: as above	Rainforest species (5), <i>Lophostemen confertus</i> (1)	0
NR_231	0.00	nm	201	Not mapped, near 201: as above	-	0
NR_232	0.00	307		307:as above	Rainforest species (27)	1
NR_233	0.00	nm	64	Not mapped, near 64: as above	-	0

Site code	Koala activity	FE code	Nearby FE	FE description	Conforming species (# trees / 30-tree sample)	Accuracy Score
NR_234	0.00	152		152: as above,	<i>E. propinqua</i> (15), White mahogany (7), ironbark (2), <i>C. intermedia</i> (2)	1
NR_235	0.00	307	104	307: as above, near 104: as above	<i>E. microcorys</i> (2)	0
NR_237	0.00	24		24: as above	<i>C. citriodora</i> (21), <i>E. propinqua</i> (4), <i>E. siderophloia</i> (3)	1
NR_239	0.00	102		102: as above	White mahogany (9), <i>Allocasuarina torulosa</i> (7), <i>C. intermedia</i> (1)	1
NR_240	3.33	118		118: as above	<i>C. citriodora</i> (14), <i>E. propinqua</i> (1)	1
NR_241	0.00	47		47: as above	<i>Angophora subvelutina</i> (10), <i>E. tereticornis</i> (7), <i>E. siderophloia</i> (2), <i>C. intermedia</i> (2)	1
NR_243	0.00	nm	47	not mapped, near 47: as above	<i>E. tereticornis</i> (28)	0.5
NR_245	0.00	nm	47	not mapped near 47: as above	<i>E. tereticornis</i> (28)	0.5
NR_246	0.00	nm	102	not mapped, near 102: as above	<i>E. microcorys</i> (11)	0
NR_247	0.00	102		102: as above	<i>E. microcorys</i> (11), <i>E. acmenoides</i> (9), <i>C. intermedia</i> (6), <i>Allocasuarina torulosa</i> (2)	1
NR_248	0.00	nm	201	not mapped,	<i>C. camphora</i> (3)	0

Site code	Koala activity	FE code	Nearby FE	FE description	Conforming species (# trees / 30-tree sample)	Accuracy Score
				near 201: as above		
NR_249	0.00	nm	307	not mapped near 307: as above	<i>Araucaria bidwillii</i> (1), <i>Araucaria cunninghamii</i> (1)	0
NR_250	0.00	307	95	307: as above, near 95: Tall to extremely tall forest dominated by Blackbutt (<i>Eucalyptus pilularis</i>) with Tallowwood (<i>E. microcorys</i>) and Brush Box (<i>Lophostemon confertus</i>) present as sub-dominants and Narrow-leaved White Mahogany (<i>E. acmenoides</i>) frequently present at lower abundances. There is a dense understorey with Forest Oak (<i>Allocasuarina torulosa</i>) and Coffee Bush (<i>Breynia oblongifolia</i>) occurring frequently along with many other moist forest species.	Rainforest species (1), <i>E. acmenoides</i> (1)	0
NR_251	0.00	nm	201	not mapped, near 201: as above	-	0
NR_252	0.00	nm	307	not mapped near 307: as above	Rainforest species (30)	0.5
NR_254	0.00	102		102: as above	<i>E. propinqua</i> (12), <i>Allocasuarina torulosa</i> (2), <i>C. intermedia</i> (1)	1
NR_255	0.00	104	302	104: as above, near 302: as above	Rainforest species (5), <i>E. microcorys</i> (3), <i>L. confertus</i> (2)	0
NR_256	0.00	nm	47	not mapped, near 47: as above	<i>E. tereticornis</i> (26), <i>C. intermedia</i> (2), <i>A. subvultena</i> (1)	0.5
NR_258	0.00	102		102: as above	<i>E. microcorys</i> (11), <i>L. confertus</i> (10), <i>E. acmenoides</i> (6), <i>C. intermedia</i> (1)	1
NR_259	0.00	47	118	47: as above, near 118: as above	<i>E. tereticornis</i> (7), <i>E. propinqua</i> (4), <i>E. siderophloia</i> (2),	0

Site code	Koala activity	FE code	Nearby FE	FE description	Conforming species (# trees / 30-tree sample)	Accuracy Score
NR_260	0.00	118	109	118: as above, Near 109: as above	Rainforest species (11), <i>L. confertus</i> (6), <i>E. microcorys</i> (2), <i>C. citriodora</i> (2)	0.5
NR_261	3.33	118		118: as above	<i>C. citriodora</i> (14), <i>E. siderophloia</i> (4), <i>E. propinqua</i> (3),	1
NR_262	0.00	102		102: as above	<i>E. acmenoides</i> (13), <i>E. microcorys</i> (8), <i>C. intermedia</i> (5),	1
NR_264	0.00	165	102	165: as above, near 102: as above	<i>E. propinqua</i> (17), <i>C. intermedia</i> (7)	0.5
NR_266	0.00	nm	102	not mapped, near 102: as above	<i>E. acmenoides</i> (1)	0
NR_267	0.00	nm	102	not mapped near 102: as above	-	0
NR_268	0.00	307		307: as above	Rainforest species (30)	1
NR_271	0.00	307		307: as above	Rainforest species (28), <i>Guioa semiglaucula</i> (1), <i>Rhodamnia rubescens</i> (1)	1
NR_273	0.00	nm	102	not mapped, near 102: as above	<i>E. propinqua</i> (4), White mahogany (3)	0
NR_274	0.00	nm	152	not mapped near 152: as above	<i>E. siderophloia</i> (1)	0

Site code	Koala activity	FE code	Nearby FE	FE description	Conforming species (# trees / 30-tree sample)	Accuracy Score
NR_275	6.67	104		104: as above	<i>E. microcorys</i> (15), <i>Lophostemon confertus</i> (6), <i>Polyscias elegans</i> (1), <i>Jagera psuedhorus</i> (1)	1
NR_276	0.00	118	103	118: as above	<i>C. citriodora</i> (8), <i>E. propinqua</i> (3), <i>E. moluccana</i> (2), <i>E. siderophloia</i> (1)	0
NR_277	0.00	118	152	118: as above, near 152: as above	<i>E. acmenoides</i> (25), <i>E. siderophloia</i> (2), <i>E. propinqua</i> (1)	0.5
NR_278	0.00	0	102	0, near 102: as above	<i>E. acmenoides</i> (11)	0
NR_279	16.67	118	0	118: as above, Near not mapped	<i>E. siderophloia</i> (1)	0
NR_283	0.00	102	307	102: as above, near 307: as above	<i>Macaranga tanarius</i> (1), <i>Mallotus phillipensis</i> (1), Rainforest species (1)	0
NR_284	0.00	0	50	0, near 50: Very tall to extremely tall moist forest dominated by Brush Box (<i>Lophostemon confertus</i>) which is characterised by a dense understorey in which Bangalow Palm (<i>Archontophoenix cunninghamii</i>) occurs frequently, in association with a great diversity of other predominantly rainforest species.	<i>Guioia semiglaucula</i> (1)	0
NR_285	0.00	nm	201	not mapped, near 201: as above	<i>C. camphora</i> (19)	1
NR_286	0.00	307		307: as above	Rainforest species (12), <i>Archontophoenix cunninghamii</i> (4),	1

Site code	Koala activity	FE code	Nearby FE	FE description	Conforming species (# trees / 30-tree sample)	Accuracy Score
					<i>Ficus sp.</i> (4), <i>Eleocarpus grandis</i> (2), <i>Melicope elleryana</i> (2)	
NR_289	0.00	nm	54	not mapped, near 54: Tall to very tall forest which is usually dominated by Grey Box (<i>Eucalyptus moluccana</i>) in association with Forest Red Gum (<i>E. tereticornis</i>) and Grey Ironbark (<i>E. siderophloia</i>) and less frequently Smallfruited Grey Gum (<i>E. propinqua</i>). There is an open midstorey of Forest Oak (<i>Allocasuarina torulosa</i>), and Lantana (<i>Lantana camara</i>) is often present in the shrub layer.	<i>Allocasuarina torulosa</i> (5), <i>E. tereticornis</i> (4), <i>E. siderophloia</i> (4)	0
NR_291	0.00	nm	152	not mapped, near 152: as above	<i>E. acmenoides</i> (3), <i>E. siderophloia</i> (1)	0
NR_292	0.00	nm	152	not mapped, -near 152: as above		0
NR_293	0.00	152		152: as above	<i>E. microcorys</i> (10), <i>C. intermedia</i> (5), <i>E. propinqua</i> (2), <i>L. confertus</i> (1)	1
NR_294	13.33	118		118: as above	<i>C. intermedia</i> (15), <i>E. propinqua</i> (6)	1
NR_295	0.00	102		102: as above	<i>Allocasuarina torulosa</i> (11), <i>E. acmenoides</i> (6), <i>C. intermedia</i> (5), <i>L. confertus</i> (2), <i>E. microcorys</i> (1)	1
NR_297	6.67	nm	118	not mapped, near 118: as above	<i>C. citriodora</i> (4)	0
NR_299	0.00	165		165: as above	<i>E. grandis</i> (29)	1
NR_300	45.16	nm	102	not mapped near 102: as above	-	0

Site code	Koala activity	FE code	Nearby FE	FE description	Conforming species (# trees / 30-tree sample)	Accuracy Score
NR_301	0.00	nm	307	not mapped, near 307: as above	Rainforest species (9), <i>Alphitonia excelsa</i> (1)	0
NR_302	0.00	307		307: as above	Rainforest species (22), <i>Cupaniopsis anacardioides</i> (1)	1
NR_304	0.00	307		307: as above	Rainforest species (30)	1
NR_305	0.00	95	302	95: as above, near 302: as above	Rainforest species (18), <i>Callicoma serratifolia</i> (3)	0.5
NR_306	0.00	0	50	0, near 50: as above	-	0
NR_309	0.00	165	0	165: as above	-	0
NR_310	0.00	165		165: as above	<i>Pinus radiata</i> (25)	1
NR_311	0.00	152		152: as above	<i>C. intermedia</i> (8), <i>E. propinqua</i> (4), <i>E. acmenoides</i> (3), <i>E. siderophloia</i> (1), <i>L. confertus</i> (1)	1
NR_313	0.00	nm	152	not mapped, near 152: as above	Ironbark (1)	0
NR_314	0.00	103		103: as above	<i>L. confertus</i> (23), Rainforest species (6)	1
NR_315	0.00	100	26	100: as above Near 26: Very tall to extremely tall wet forest which is dominated by Flooded Gum (<i>Eucalyptus grandis</i>), Brush Box (<i>Lophostemon confertus</i>) and Tallowwood (<i>E. microcorys</i>). The ecosystem has a subtropical rainforest understorey which	Rainforest species (12), <i>E. grandis</i> (4), <i>E. microcorys</i> (4), <i>Glochidion ferdinandi</i> (2), <i>Guioa semiglaucula</i> (2), <i>L. confertus</i> (2), <i>Alphitonia excelsa</i> (1), <i>Dendrocnide excelsa</i> (1)	0.5

Site code	Koala activity	FE code	Nearby FE	FE description	Conforming species (# trees / 30-tree sample)	Accuracy Score
				includes species such as Bangalow Palm (<i>Archontophoenix cunninghamii</i>) and Celery Wood (<i>Polyscias elegans</i>), along with a great diversity of other rainforest species.		
NR_316	0.00	102	307	102: as above, near 307: as above	<i>E. microcorys</i> (3), <i>C. intermedia</i> (2), <i>Allocasuarina torulosa</i> (1),	0
NR_317	0.00	0	307	0, near 307: as above	-	0
NR_319	10.00	nm	152	not mapped near 152: as above	<i>L. confertus</i> (8), <i>E. siderophloia</i> (1)	0
NR_320	0.00	0	313	0, near 313: as above	-	0
NR_321	0.00	102		102: as above	<i>L. confertus</i> (16), <i>E. acmenoides</i> (3), <i>C. intermedia</i> (1)	1
NR_323	0.00	nm	26	not mapped, near 26: as above	Rainforest species (18), <i>Notolea longifolia</i> (1), <i>Syzigium sp.</i> (1)	0.5
NR_326	0.00	307		307: as above	<i>L. confertus</i> (21), Rainforest species (7)	1
NR_327	0.00	95		95: as above,	<i>Allocasuarina torulosa</i> (16), <i>E. pilularis</i> (9), <i>C. intermedia</i> (1), <i>L. confertus</i> (1)	1
NR_329	3.33	165	0	165: as above	-	0
NR_330	3.33	102	47	102: as above, near 47: as above	<i>E. propinqua</i> (16)	1

Site code	Koala activity	FE code	Nearby FE	FE description	Conforming species (# trees / 30-tree sample)	Accuracy Score
NR_331	0.00	307		307: as above	Rainforest species (20), <i>Dendrocnide excelsa</i> (4), <i>Sloanea australis</i> (4), <i>Polyscias elegans</i> (2)	1
NR_333	0.00	307		307: as above	Rainforest species (26), <i>Dendrocnide excelsa</i> (4)	1
NR_334	0.00	307		307: as above	Rainforest species (30),	1
NR_335	16.67	62		62: Very tall to extremely tall moist forest in which Grey Box (<i>Eucalyptus moluccana</i>) and Small-fruited Grey Gum (<i>E. propinqua</i>) are common overstorey species. Associates include Grey Ironbark (<i>E. siderophloia</i>), Tallowwood (<i>E. microcorys</i>), Dunn's White Gum (<i>Eucalyptus dunnii</i>), Brush Box (<i>Lophostemon confertus</i>) and stringybarks.	Rainforest species (12), <i>E. microcorys</i> (7), <i>L. confertus</i> (4), <i>E. propinqua</i> (2), <i>E. crebra</i> (1)	0.5
NR_336	0.00	165		165: as above,	<i>Araucaria cunninghamii</i> (17), <i>E. grandis</i> (4)	1
NR_337	0.00	nm	47	not mapped, near 47: as above	<i>E. tereticornis</i> (17), <i>C. intermedia</i> (9)	0.5
NR_339	0.00	0	120	0 , near 120: Tall to very tall woodland and forest along permanent freshwater streams in which River Oak (<i>Casuarina cunninghamiana</i>) dominates the overstorey. The understorey of this riparian ecosystem varies with locality, although it may support a variety of rainforest trees and shrubs such as Silky Oak (<i>Grevillea robusta</i>) and Weeping Lilly Pilly (<i>Waterhousea floribunda</i>), or alternatively more sclerophyllous species such as Rough-barked Apple (<i>Angophora floribunda</i>), Broad-leaved Apple (<i>A. subvelutina</i>) and Drooping Bottlebrush (<i>Callistemon viminalis</i>).	<i>Grevillea robusta</i> (3), <i>Macadamia tetraphylla</i> (2), <i>L. confertus</i> (1)	0
NR_340	3.33	152		152: as above	<i>E. acmenoides</i> (9), <i>C. intermedia</i> (6)	1
NR_341	0.00	50	152	50: as above, near 152: as above	<i>E. microcorys</i> (10), <i>L. confertus</i> (8), <i>C. intermedia</i> (1)	0.5
NR_342	0.00	152		152: as above	<i>E. microcorys</i> (10), <i>C. intermedia</i> (5), <i>E. acmenoides</i> (4)	1

Site code	Koala activity	FE code	Nearby FE	FE description	Conforming species (# trees / 30-tree sample)	Accuracy Score
NR_343	13.33	152		152: as above	<i>E. microcorys</i> (16), <i>E. propinqua</i> (5), <i>C. intermedia</i> (3),	1
NR_344	0.00	152	0	152: as above	<i>E. microcorys</i> (6), <i>L. confertus</i> (3)	0
NR_345	0.00	154		154: as above	<i>L. confertus</i> (9), <i>E. grandis</i> (7), Rainforest species (6), <i>E. microcorys</i> (4)	1
NR_346	0.00	0	50	0, near 50: as above	Rainforest species (8), , <i>Eleocarpus grandis</i> (3), <i>Araucaria cunninghamii</i> (1), <i>Cupaniopsis anacardioides</i> (1), <i>Ficus coronata</i> (1), <i>Ficus sp.</i> (1), <i>Grevillia robusta</i> (1), <i>Mallotus philippensis</i> (1), <i>Syzygium ingens</i> (1)	0.5
NR_347	0.00	nm	103	not mapped, near 103: as above	<i>Elaeocarpus reticulatus</i> (1)	0
NR_348	0.00	165	152	165: as above, near 152: as above	-	0
NR_349	13.33	152		152: as above	<i>E. microcorys</i> (11), <i>E. acmenoides</i> (6), <i>C. intermedia</i> (5), <i>E. propinqua</i> (5), <i>E. siderophloia</i> (3)	1
NR_350	30.00	62	47	62: as above, near 47: as above	<i>E. microcorys</i> (7), <i>L. confertus</i> (1)	0
NR_351	0.00	307		307	Rainforest species (28), <i>E. grandis</i> (1), <i>Polyscias elegans</i> (1)	1
NR_352	0.00	152	47	152: as above	<i>E. tereticornis</i> (9), <i>E. siderophloia</i> (6), White mahogany (1)	0.5

Site code	Koala activity	FE code	Nearby FE	FE description	Conforming species (# trees / 30-tree sample)	Accuracy Score
				Near 47: as above		
NR_353	3.33	152	47	152: as above near 47: as above	<i>E. tereticornis</i> (13), <i>C. intermedia</i> (5), <i>Angophora subvelutina</i> (2), <i>E. siderophloia</i> (1),	0.5
NR_354	0.00	nm	47	not mapped, near 47: as above	<i>E. tereticornis</i> (28)	0.5
NR_356	0.00	120	307	120: as above, near 307: as above	Rainforest species (12), <i>Ficus</i> sp. (4), <i>Grevillia robosuta</i> (4), <i>Tristaniopsis laurina</i> (2), <i>Syzygium moorei</i> (1)	1
NR_358	0.00	307		307: as above	Rainforest species (30)	1
NR_359	0.00	165	152	165: as above, near 152: as above	<i>E. microcorys</i> (13), <i>C. intermedia</i> (2)	0.5
NR_360	3.33	152	0	152: as above	<i>E. microcorys</i> (16), <i>C. intermedia</i> (3), <i>E. siderophloia</i> (1)	1
NR_361	0.00	152		152: as above	<i>E. microcorys</i> (16), <i>C. intermedia</i> (1),	1
NR_362	0.00	95	307	95: as above, near 307: as above	<i>E. pilularis</i> (4), <i>E. microcorys</i> (1)	0
NR_363	0.00	201		201: as above	<i>C. camphora</i> (30)	1
NR_364	0.00	nm	95	not mapped near 95: as above	<i>L. confertus</i> (10), <i>E. pilularis</i> (9), <i>Allocasuarina torulosa</i> (1)	0.5
NR_365	0.00	47	0	47: as above, near 0	<i>Angophora subvelutina</i> (3), <i>E. siderophloia</i> (1)	0

Site code	Koala activity	FE code	Nearby FE	FE description	Conforming species (# trees / 30-tree sample)	Accuracy Score
NR_366	0.00	47	152	47: as above, near 152: as above	<i>E. propinqua</i> (16), <i>E. microcorys</i> (5), <i>E. siderophloia</i> (3)	0.5
NR_367	0.00	54		54: as above	<i>E. moluccana</i> (17), <i>E. tereticornis</i> (8), <i>E. siderophloia</i> (4)	1
NR_369	33.33	50	47	50: as above near 47: as above	<i>E. tereticornis</i> (18), <i>C. intermedia</i> (3)	0.5
NR_371	10.00	102		102: as above	<i>L. confertus</i> (9), <i>E. microcorys</i> (8), <i>E. siderophloia</i> (3), <i>Allocasuaria torrulosa</i> (1)	1
NR_373	0.00	307		307: as above	Rainforest species (30)	1
NR_374	0.00	307		307: as above	Rainforest species (30)	1
NR_375	0.00	152		152: as above	<i>L. confertus</i> (9), <i>E. microcorys</i> (5), <i>C. intermedia</i> (4)	1
NR_376	0.00	165		165: as above	<i>E. grandis</i> (18)	1
NR_377	3.33	152		152: as above	<i>L. confertus</i> (13), <i>E. microcorys</i> (5), <i>E. propinqua</i> (4), <i>C. intermedia</i> (1), Ironbark (1)	1
NR_378	0.00	50	0	50: as above, near 0	Rainforest species (5), <i>L. confertus</i> (1)	0
NR_379	3.33	95		95: as above	<i>E. microcorys</i> (7), <i>E. pilularis</i> (4), <i>L. confertus</i> (3)	0

Site code	Koala activity	FE code	Nearby FE	FE description	Conforming species (# trees / 30-tree sample)	Accuracy Score
NR_380	10.00	307	95	307: as above, near 95: as above	<i>L. confertus</i> (16), <i>E. microcorys</i> (7), <i>E. acmenoides</i> (6)	0.5
NR_381	3.33	152		152: as above	<i>E. acmenoides</i> (12), <i>E. propinqua</i> (7), <i>C. intermedia</i> (2)	1
NR_382	0.00	152		152: as above	<i>E. siderophloia</i> (8), <i>E. microcorys</i> (5), <i>L. confertus</i> (5), <i>C. intermedia</i> (4), <i>Epro</i> (3), <i>E. acmenoides</i> (3)	1
NR_385	40.00	47	307	47: as above, near 307: as above	<i>Angophora subvelutina</i> (10), <i>Guioa semiglaucula</i> (7), Rainforest species (7), <i>C. intermedia</i> (1), <i>E. tereticornis</i> (1), <i>Hymenosporum flavens</i> (1), <i>Mallotus phillipensis</i> (1)	0.5
NR_386	0.00	307		307: as above	<i>E. grandis</i> (8), <i>Dendrocnide excelsa</i> (7), Rainforest species (6), <i>Grevillea robusta</i> (2), <i>Syzygium francisii</i> (2), <i>Ficus coronata</i> (1)	1
NR_387	0.00	307	47	307: as above, near 47: as above	<i>E. tereticornis</i> (7), <i>C. intermedia</i> (1)	0
NR_388	0.00	152	307	152: as above, near 307: as above	Rainforest species (14), <i>E. grandis</i> (5), <i>L. confertus</i> (4), <i>Araucaria cunninghamii</i> (1)	0.5
NR_389	0.00	307		307: as above	Rainforest species (30)	1
NR_390	0.00	307		307: as above	Rainforest species (18)	1
NR_391	0.00	201	0	201: as above,	<i>C. camphora</i> (1)	0

Site code	Koala activity	FE code	Nearby FE	FE description	Conforming species (# trees / 30-tree sample)	Accuracy Score
				near 0		
NR_392	3.33	nm	120	not mapped, near 120: as above	<i>L. confertus</i> (9), Rainforest species (3)	0
NR_393	0.00	nm	318	not mapped near 318: coastal swamp box	-	0
NR_394	3.33	0	103	0, near 103: as above	-	0
NR_395	0.00	307		307: as above	Rainforest species (20), <i>Eleocarpus grandis</i> (4), <i>L. confertus</i> (3), <i>Ficus sp.</i> (1), <i>Mallotus phillipensis</i> (1), <i>Polyscias elegans</i> (1)	1
NR_396	3.33	50	102	50: as above, near 102: as above	<i>Allocasuarina torulosa</i> (12), <i>E. microcorys</i> (3), <i>E. acmenoides</i> (2), <i>E. propinqua</i> (1)	0.5
NR_397	0.00	nm	307	not mapped near 307: as above	Rainforest species (28), <i>Pittosporum undulatum</i> (1)	0.5
NR_398	10.00	152		152: as above	<i>L. confertus</i> (25)	1
NR_399	0.00	95	103	95: as above, near 103: as above	<i>E. microcorys</i> (5), <i>E. propinqua</i> (5), <i>C. intermedia</i> (4)	0
NR_400	0.00	nm	77	not mapped, near 77: as above	<i>Avicennia marina</i> (1)	0

Site code	Koala activity	FE code	Nearby FE	FE description	Conforming species (# trees / 30-tree sample)	Accuracy Score
NR_401	0.00	143		143: as above	<i>Casuarina glauca</i> (15)	1
NR_402	0.00	143	95	143: as above, near 95	<i>Melaleuca quinquenervia</i> (10), <i>L. confertus</i> (5), <i>Casuarina glauca</i> (4)	0.5
NR_403	0.00	319		319: Coastal Forest Red Gum	<i>E. tereticornis</i> (15)	1
NR_404	26.67	101	313	101: as above near 313: as above	<i>E. resinifera</i> (4)	0
NR_405	0.00	119		119: as above	<i>C. citriodora</i> (11), <i>E. moluccana</i> (5)	1
NR_406	0.00	112	101	112: as above, near 101: as above	<i>E. pilularis</i> (19), <i>C. gummifera</i> (2)	0.5
NR_407	6.67	nm	101	not mapped near 101: as above	-	0
NR_408	0.00	21	75	21: as above, near 75: as above	<i>C. citriodora</i> (18), <i>E. moluccana</i> (3), <i>E. siderophloia</i> (1)	0.5
NR_410	36.67	119		119: as above	<i>C. citriodora</i> (19), <i>E. moluccana</i> I (4)	1
NR_411	10.00	75		75: as above	<i>C. citriodora</i> (16), <i>E. siderophloia</i> (7), <i>E. moluccana</i> (7)	1
NR_500	30.00	152		152: as above 104: as above	Rainforest species (15), <i>E. microcorys</i> (8), <i>L. confertus</i> (1), <i>Polyscias elegans</i> (1)	0.5

Site code	Koala activity	FE code	Nearby FE	FE description	Conforming species (# trees / 30-tree sample)	Accuracy Score
NR_A_02	0.00	23	37	23: Tall to very tall dry forest dominated by Red Mahogany (<i>Eucalyptus resinifera</i>), Pink Bloodwood (<i>Corymbia intermedia</i>) or Smudgy Apple (<i>Angophora woodsiana</i>). There is usually a midstorey of Forest Oak (<i>Allocasuarina torulosa</i>) and a dry shrubby understorey dominated by various egg and bacon peas (<i>Pultenaea</i> spp.), Geebung (<i>Persoonia stradbrokeensis</i>), and Riceflower (<i>Pimelea linifolia</i>) near 37: as above.	<i>C. intermedia</i> (3), <i>Angophora woodsiana</i> (2)	0
NR_A_04	0.00	52	37	52: as above, near 37: as above	<i>E. pilularis</i> (3), <i>C. intermedia</i> (2), <i>E. siderophloia</i> (2), <i>C. citriodora</i> (1),	0
NR_A_05	3.33	24		24: as above	<i>C. citriodora</i> (15), <i>E. siderophloia</i> (12)	1
NR_A_06	0.00	0	73	0 near 73: as above	<i>E. tereticornis</i> (17)	0.5
NR_A_07	3.33	73		73: as above	<i>E. siderophloia</i> (11), <i>L. suaveolens</i> (10), <i>E. tereticornis</i> (5), <i>C. intermedia</i> (2)	1
NR_A_08	0.00	52		52: as above	<i>C. intermedia</i> (9), <i>Syncarpia glomulifera</i> (7), <i>E. siderophloia</i> (1)	1
NR_A_10	0.00	nm	21	not mapped, near 21: as above	<i>L. suaveolens</i> (1)	0
NR_A_11	0.00	0	73	0, near 73: as above	<i>E. tereticornis</i> (19), <i>L. suaveolens</i> (3)	0.5
NR_A_12	0.00	0	24	0 near 24: as above	<i>E. siderophloia</i> (11), <i>C. henryii</i> (3), <i>C. citriodora</i> (1)	0.5
NR_A_13	0.00	nm	37	not mapped,	<i>C. intermedia</i> (2)	0

Site code	Koala activity	FE code	Nearby FE	FE description	Conforming species (# trees / 30-tree sample)	Accuracy Score
				near 37: as above		
NR_A_14	63.33	0	109	0, near 109: as above	<i>E. microcorys</i> (10), <i>Alphitonia excelsa</i> (1), <i>Grevillia robusta</i> (1)	0
NR_A_15	0.00	0	37	0, near 37: as above	<i>C. intermedia</i> (13), <i>Banksia integrifolia</i> (6), <i>E. pilularis</i> (1)	0.5
NR_A_16	0.00	0	73	0, near 73: as above	<i>C. intermedia</i> (12), <i>E. siderophloia</i> (6), <i>E. tereticornis</i> (1)	0.5
NR_A_17	0.00	0	313	0, near 313: as above	-	0
NR_A_18	13.33	75		75: as above	<i>C. henryii</i> (8), <i>E. moluccana</i> (8), <i>C. citriodora</i> (6), <i>E. siderophloia</i> (1)	1
NR_A_19	20.00	24	0	24: as above, near 0	-	0
NR_A_20	0.00	73		73: as above	<i>C. intermedia</i> (17), <i>E. tereticornis</i> (10), <i>L. suaveolens</i> (3)	1
NR_A_21	0.00	nm	313	not mapped, near 313: as above	-	0
NR_A_22	0.00	24	0	24: as above, near 0	<i>E. siderophloia</i> (14)	0

Site code	Koala activity	FE code	Nearby FE	FE description	Conforming species (# trees / 30-tree sample)	Accuracy Score
NR_A_23	0.00	24	73	24: as above,	<i>C. citriodoria</i> (19)	1
NR_A_24	0.00	nm	24	not mapped, near 24: as above	-	0
NR_A_25	13.33	0	52	0, near 52: as above	<i>Allocasuarina torrulosa</i> (1)	0
NR_A_26	0.00	nm	73	not mapped, near 73: as above	<i>C. intermedia</i> (1), <i>L. suaveolens</i> (1)	0
NR_A_27	6.67	nm	73	not mapped, near 73: as above	<i>E. tereticornis</i> (1)	0
NR_A_28	30.00	nm	73	not mapped, near 73: as above	<i>L. suaveolens</i> (4)	0
NR_A_29	23.33	nm	313	not mapped , near 313: as above	-	0
NR_A_30	43.33	nm	313	not mapped, near 313: as above	-	0
NR_A_31	3.33	nm	102	not mapped, near 102: as above	<i>Allocasuarina torrulosa</i> (4), <i>C. intermedia</i> (2)	0.5
NR_A_32	0.00	nm	313	not mapped,	-	0

Site code	Koala activity	FE code	Nearby FE	FE description	Conforming species (# trees / 30-tree sample)	Accuracy Score
				near 313: as above		
NR_A_33	0.00	nm	102	not mapped, near 102: as above	<i>C. intermedia</i> (8), <i>E. microcorys</i> (6)	0
NR_A_34	0.00	nm	47	not mapped, near 47: as above	<i>C. intermedia</i> (9), <i>Angophora subvelutina</i> (5)	0
NR_A_35	0.00	119	47	119: as above, near 47: as above	<i>C. citriodora</i> (12), <i>E. siderophloia</i> (1)	0
NR_A_36	0.00	24	47	24: as above, near 47: as above	<i>C. intermedia</i> (28), <i>E. tereticornis</i> (1)	0.5
NR_A_37	0.00	165	0	165: as above, near 0	-	0
NR_A_38	43.33	24	165	24: as above, near 165: as above	<i>Allocasuarina torrulosa</i> (6)	0
NR_A_39	3.33	nm	24	not mapped, near 24: as above	<i>C. citriodora</i> (4), Ironbark (2)	0
NR_A_40	0.00	nm	118	not mapped near 118: as above	-	0
NR_A_41	0.00	nm	165	not mapped near 165: as above	-	0

Site code	Koala activity	FE code	Nearby FE	FE description	Conforming species (# trees / 30-tree sample)	Accuracy Score
NR_A_43	0.00	nm	118	not mapped, near 118: as above	-	0
NR_A_44	0.00	nm	24	not mapped, near 24: as above	-	0
NR_A_45	0.00	24	47	24: as above,	<i>C. citriodora</i> (26)	1
NR_A_46	0.00	102		102: as above	<i>C. intermedia</i> (17), <i>Allocasuarina torulosa</i> (1), <i>L. confertus</i> (1)	1
NR_A_47	0.00	nm	24	not mapped, near 24: as above	Ironbark (3)	0
NR_A_48	3.33	165	313	165: as above, Near 313: as above	<i>Pinus radiata</i> (12)	0
NR_A_49	0.00	nm	3	not mapped, near 3: Mid-high to tall forest with an overstorey in which Bailey's Stringybark (<i>Eucalyptus baileyana</i>) is codominant with Needlebark Stringybark (<i>E. planchoniana</i>), and Smudgy Apple (<i>Angophora woodsiana</i>) frequently occurs as a sub-dominant species.	-	0
NR_A_50	0.00	307		307: as above	Rainforest species (9), <i>L.confertus</i> (8), <i>Guioa semiglaucula</i> (1), <i>Neolitsia dealbata</i> (1), <i>Polyscias elegans</i> (1), <i>Syzigium sp.</i> (1)	1
NR_A_51	3.33	152		152: as above	<i>E. acmenoides</i> (14), <i>E. propinqua</i> (1)	1
NR_A_52	0.00	nm	165	not mapped,	-	0

Site code	Koala activity	FE code	Nearby FE	FE description	Conforming species (# trees / 30-tree sample)	Accuracy Score
				near 165: as above		
NR_A_53	3.33	165		165: as above	<i>E. pilularis</i> (28)	1
NR_A_54	0.00	0	118	0, near 118: as above	-	0
NR_A_55	0.00	nm	313	not mapped, near 313: as above	-	0
NR_A_56	0.00	nm	152	not mapped, near 152: as above	<i>C. intermedia</i> (12), <i>E. siderophloia</i> (11)	0.5
NR_A_57	0.00	nm	102	not mapped, near 102: as above	-	0
NR_A_58	16.67	26	307	26: as above, near 307: as above	Rainforest species (3), <i>Mallotus phillipensis</i> (1)	0
NR_A_59	0.00	50	0	50: as above, Near 0	-	0
NR_A_60	0.00	nm	47	not mapped, near 47: as above	<i>E. tereticornis</i> (5)	0.5
NR_A_62	36.67	102	302	102: as above, near 302: as above	Rainforest species (13), <i>Mallotus phillipensis</i> (3), <i>Araucaria cunninghamii</i> (1)	0.5

Site code	Koala activity	FE code	Nearby FE	FE description	Conforming species (# trees / 30-tree sample)	Accuracy Score
NR_A_63	0.00	nm	47	not mapped, near 47: as above	<i>E. tereticornis</i> (11), <i>Angophora subvelutina</i> (8)	0.5

Northern Rivers Regional Koala Activity Assessment

Addendum 1 – Updates to NSW Vegetation mapping

1. Introduction

The *NSW State Vegetation Type Map* (version C1.1.M1.1) was updated in December 2022, after the completion of the body of the current report. We used this mapping layer to determine the amount and distribution of koala habitat across the six Local Government Areas comprising the study area. To determine the accuracy of this mapping we ground trothed it using vegetation data from 350 SAT locations, *as per* our methods for obtaining an accuracy estimate for the *Northern Rivers Catchment Authority* vegetation mapping layer (Ecological 2005) (see **Section 2.5.3** in the body of this report).

2. Methods

The *NSW State Vegetation Type Map* (version C1.1.M1.1) was downloaded from the SEED spatial database (<https://datasets.seed.nsw.gov.au/dataset/>). Compliant with recommendations made in the body of this report, a four-tiered, hierarchical koala habitat classification system was used to assign habitat classes based on the relative abundance (dominance) of Preferred Koala Food Tree (PKFT) species, the presence of which was determined from the associated vegetation descriptions. These classifications are outlined in **Table 2** of the body of this report and reflect differing koala carrying capacities of the associated vegetation communities with areas of ‘Primary’ Koala Habitat capable of sustaining high density populations (*i.e.* > 0.5 koalas ha⁻¹), whereas Secondary (Class C) / Marginal Koala Habitat can only sustain low density populations (*i.e.* < 0.1 koalas ha⁻¹). Collectively, ‘Primary’ and ‘Secondary’ habitat classifications function to identify areas of Preferred Koala Habitat (PKH).

Mapping accuracy of *NSW State Vegetation Type Map* (version C1.1.M1.1) mapping layer was determined by comparing the floristic data recorded at each SAT field survey site with the vegetation descriptions that apply to the mapped polygon in which the site is located. To derive an overall accuracy estimate, polygons were scored as follows:

- ‘100%’ (*i.e.* correctly typed) where there was agreement between the tallest stratum tree species recorded at field sites and descriptions for the mapped polygons as they appear in DEC (2004),
- ‘50%’ when the polygon appeared incorrectly typed but a corresponding community appeared within 100 m, or
- ‘0%’ (*i.e.* not correctly typed) when no conformity was apparent.

Agreement was considered to be when ≥ 15 trees from the 30-tree sample at each SAT site conformed with species listed in the Plant Community Type (PCT) description. An estimate of mapping accuracy along with an associated 95% CI was then determined by dividing the sum of scores by the number of contributing field sites.

3. Results and Discussion

The amount of each category of koala habitat, and associated percentages, is collated in **Table 1** with the distribution of each habitat category shown in **Figure 1**. The overall amount of Preferred Koala Habitat (PKH) across the study area is 424,787 ha, which is a larger area than was estimated by any of the of three mapping approaches presented in the body of this report (338,337 ha, 320,610 ha, 304,014 ha). A comparison of each of these approaches to this koala habitat mapping is collated in **Table 2**. The proportion of each koala habitat category is; Primary 12.13%, Secondary A (2A) 2.21%, Secondary B (2B) 12.03%, Secondary C (2C) 14.87%. This is a larger proportion of Primary habitat than was estimated previously, though collectively there is a greater proportion of 2B and 2C (26.90%) than Primary and 2A (14.34%). The amount of each PCT mapped across the study area is collated in **Table 3**.

Table 1. Area in hectares and percentage of koala habitat categories in each LGA and the total of the Northern Rivers study area, with the collated amounts of koala habitat. The koala habitat coding follows Biolinks' protocols. See Section 2.5.1 in the body of this report for descriptions of each of the koala habitat categories.

		Ballina	Byron	Kyogle	Lismore	Richmond Valley	Tweed	Study area
LGA (ha)		49,226	56,758	358,640	128,823	304,851	131,845	1,030,144
Total koala habitat	Area (ha)	3,943	4,718	185,851	25,000	170,281	34,995	424,787
	%	8.01	8.31	51.82	19.41	55.86	26.54	41.24
Koala habitat categories	P	Area (ha)	2,410	2,532	68,697	11,615	26,956	124,969
		%	4.90	4.46	19.15	9.02	8.84	12.13
	2A	Area (ha)	916	281	8,654	3,152	9,493	22,778
		%	1.86	0.50	2.41	2.45	3.11	2.21
	2B	Area (ha)	101	746	23,403	3,241	82,590	123,886
		%	0.20	1.31	6.53	2.52	27.09	12.03
	2C	Area (ha)	516	1,158	85,097	6,991	51,241	153,153
		%	1.05	2.04	23.73	5.43	16.81	14.87
	O	Area (ha)	11,855	17,751	58,144	18,605	26,794	38,985
		%	24.08	31.27	8.79	14.44	8.79	29.57
	U*	Area (ha)	33,392	34,248	107,535	85,117	107,535	57,764
		%	67.83	60.34	16.21	66.07	35.27	43.81

* The category 'U' denotes unknown, though can be seen to represented largely cleared agricultural landscapes and developed urban areas.

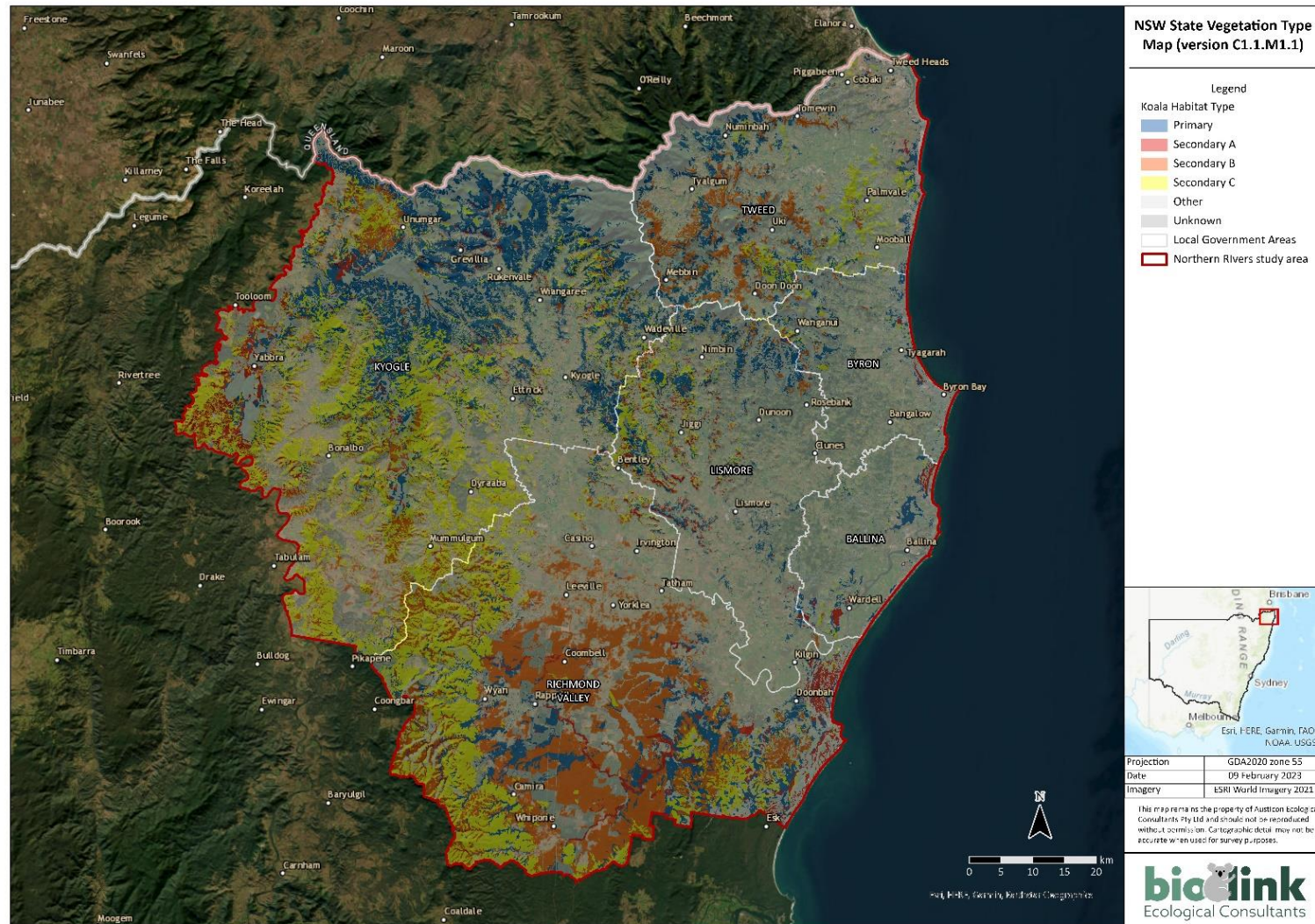


Figure 1. NSW State Vegetation Type Mapping (version C1.1.M1.1) mapping for Ballina, Byron, Kyogle, Lismore, Richmond Valley and Tweed, coded according to the koala habitat classification system of Biolink.

Table 2. Comparison of three different approaches to mapping and coding koala habitat across each of the six LGA's that comprise the study area. Method 1 uses North Coast Koala Linkage Project vegetation mapping for Ballina, Byron, Lismore and Tweed and the Northern Rivers Catchment Authority vegetation mapping for Kyogle and Richmond Valley, all coded for koala habitat according to the protocols of Hosking *et al.* (unpub). Method 2 uses the Northern Rivers Catchment Authority vegetation mapping for all six LGAs, coded according to Hosking *et al.* (unpub). Method 3 uses Northern Rivers Catchment Authority vegetation mapping coded for koala habitat according to the protocols of Biolink and Method 4 uses NSW State Vegetation Type Map (version C1.1.M1.1) with all six LGAs, coded according to the protocols of Biolink.

			Ballina	Byron	Kyogle	Lismore	Richmond Valley	Tweed	Study area
LGA (ha)			49,226	56,758	358,640	128,823	304,851	131,845	1,030,144
Amount of PKH	Method 1 (Figure 3)	Area (ha)	5,573	9,243	130,429	20,864	131,195	41,033	338,337
		%	11.32	16.29	36.37	16.2	43.04	31.12	32.84
	Method 2 (Figure 4)	Area (ha)	5,203	7,746	130,429	17,782	131,195	28,255	320,610
		%	10.57	13.65	36.37	13.8	43.04	21.43	31.12
	Method 3 (Figure 5)	Area (ha)	1,843	6,032	130,429	15,986	122,850	26,874	304,014
		%	3.74	10.63	36.37	12.41	40.3	20.38	29.51
	Method 4 (Figure 1, this Addendum)	Area (ha)	3,943	4,718	185,851	25,000	170,281	34,995	424,787
		%	8.01	8.31	51.82	19.41	55.86	26.54	41.24

Table 3. Plant Community Types (PCT) and descriptions in the NSW State Vegetation Type Map (version C1.1.M1.1), grouped by the koala habitat categories as outlined in Sections 2.5.1 of the body of this report (Biolink method). Differences in koala habitat categorisation are shown as either P (Primary), 2A (Secondary A), 2B (Secondary B), 2C (Secondary C), or O (Other). Includes associated total land surface area for each mapped PCT.

PCT ID	PCT Name	Koala Habitat Type	Area (ha)
0	Not classified	Unknown	432,422
3001	Lismore Basalt Subtropical Rainforest	Other	6,136
3002	Lower Richmond Hills Dry-Subtropical Rainforest	Other	6,489
3003	Border Ranges Black Booyong Subtropical Rainforest	Other	40,103
3004	Far North Bangalow Palm Swamp Forest	Other	3,317
3005	Far North Floodplain Subtropical Rainforest	Other	330
3006	Far North Riverine Bangalow Palm Subtropical Rainforest	Other	3
3007	Far North Lowland Black Bean Riverine Rainforest	Other	142
3008	Far North Lowland Sub-Littoral Rainforest	Other	5
3009	Far North Lowland Palm Gully Rainforest	Other	545
3010	Lower Richmond Lowland Hills Dry Rainforest	Other	59
3011	Far North Lowland Subtropical Rainforest	Other	18,854
3012	Far North Waterhousea Riparian Rainforest	Other	6
3013	Illawarra Lowland Subtropical Rainforest	Other	129
3015	Lower Richmond Sandflat Subtropical Rainforest	Other	2
3016	Lower Tweed Hills Subtropical Dry Rainforest	Other	25
3019	Northern Hinterland Baloghia-Booyong Subtropical Rainforest	Other	1,444
3020	Northern Hinterland River Oak Sheltered Forest	Other	443

PCT ID	PCT Name	Koala Habitat Type	Area (ha)
3021	Northern Lowland Subtropical Rainforest	Other	6,374
3028	Illawarra Escarpment Warm Temperate Rainforest	Other	516
3032	Northern Escarpment Sassafras-Booyong-Corkwood Rainforest	Other	562
3033	Northern Escarpment Sassafras-Prickly Ash Rainforest	Other	50
3035	Northern Ranges Coachwood Warm Temperate Rainforest	Other	5,821
3048	Border Ranges Antarctic Beech Rainforest	Other	451
3061	Clarence-Richmond Riverine Rainforest	Other	48
3062	Coraki Sandstone Rises Dry Rainforest	Other	48
3064	Far North Hoop Pine Dry Rainforest	Other	4,359
3065	Far North Basalt Gully Dry Rainforest	Secondary A	4,088
3066	Far North Floodplain Dry Rainforest	Other	514
3067	Far North Floodplain Wet Layered Forest	Secondary B	80
3068	Far North Grey Myrtle Riparian Dry Rainforest	Other	9
3069	Far North Hinterland Grey Box-Grey Gum Wet Forest	Secondary B	3,084
3070	Far North Hinterland Kamala-Coogera Dry Rainforest	Secondary C	12,599
3092	Lower Richmond Floodplain Waterhousea Forest	Other	160
3093	Mooball Dry Rainforest	Other	1
3094	Mount Pikapene Steel Box Wet Forest	Other	517
3098	Northern Escarpment Grey Myrtle Gully Rainforest	Secondary A	430
3099	Northern Escarpment Shatterwood Dry Rainforest	Other	1
3101	Northern Hinterland Shatterwood Dry Rainforest	Other	497
3102	Northern Lowland Swamp Turpentine Wet Forest	Secondary A	5,144
3104	Richmond Valley Riparian Waterhousea Forest	Other	6
3109	Southern Lismore Basalt Dry Rainforest	Other	4
3121	Broken Head Lowland Rainforest	Other	376
3122	Far North Littoral Rainforest	Other	180
3123	Far North Sands Coastal Cypress Littoral Rainforest	Secondary A	19
3124	Far North Sands Tuckeroo-Banksia Littoral Rainforest	Other	308
3129	Mid North Sands Littoral Rainforest	Secondary A	8
3132	Northern Sands Tuckeroo-Banksia Forest	Other	185
3133	Sydney Coast Tuckeroo Littoral Rainforest	Other	30
3139	Border Ranges Brush Box-Tallowwood Wet Forest	Primary	26,516
3147	Far North Brush Box-Bloodwood Wet Forest	Other	3,779
3148	Far North Brush Box-Walnut Wet Forest	Other	18,951
3149	Far North Hinterland Brush Box Wet Forest	Secondary B	326
3163	Mount Billen Scree Wet Forest	Other	1
3165	Northern Brush Box Subtropical Wet Forest	Other	1,803

PCT ID	PCT Name	Koala Habitat Type	Area (ha)
3166	Northern Escarpment Brush Box-Tallowwood-Maple Wet Forest	Primary	1,033
3167	Northern Hinterland Blackbutt-Forest Oak Wet Forest	Secondary B	1,182
3168	Northern Hinterland Brush Box-Quince Wet Forest	Secondary C	179
3169	Northern Hinterland Tallowwood-Brush Box Wet Forest	Secondary B	1,665
3170	Northern Hinterland White Mahogany Moist Grassy Forest	Secondary B	270
3172	Northern Ranges Brush Box-Flooded Gum Wet Forest	Primary	37,870
3173	Northern Ranges Dunns Gum-Brush Box Wet Forest	Secondary A	6,185
3174	Northern Turpentine-Brush Box Wet Forest	Primary	5,117
3177	Tweed Valley Lowland Wet Forest	Secondary C	18
3180	Yuraygir Range Brush Box-Tallowwood Gully Forest	Secondary B	87
3199	Far North New England Blackbutt Wet Forest	Secondary C	46
3202	Mid North Escarpment Ranges Blackbutt Forest	Secondary B	48
3232	Far North Coastal Hills Blackbutt-Ironbark Forest	Secondary C	8,427
3233	Far North Hinterland Grey Gum Grassy Forest	Secondary B	11,092
3246	Mount Warning Caldera Wet Grassy Forest	Secondary B	412
3248	Northern Blackbutt-Turpentine Shrub Forest	Secondary C	2,339
3249	Northern Bloodwood-Ironbark Moist Grassy Forest	Secondary C	1,089
3250	Northern Foothills Blackbutt Grassy Forest	Secondary B	28
3251	Northern Gorges Diverse Grassy Forest	Secondary C	40,110
3252	Northern Hinterland Grey Gum-Mahogany Grassy Forest	Secondary B	4,568
3253	Northern Hinterland Grey Gum-Turpentine Mesic Forest	Secondary B	19,166
3254	Northern Hinterland Tallowwood-Forest Oak Grassy Forest	Secondary B	1,721
3312	Acacia Creek Grassy Forest	Secondary B	32
3322	Far North Ranges Red Gum Grassy Forest	Primary	24,964
3323	Far North Lowland Basalt Grassy Forest	Secondary B	2,540
3328	Lower Hunter Red Gum-Paperbark Riverflat Forest	Primary	1
3329	Northern Hinterland Valleys Red Gum Grassy Forest	Secondary B	2,101
3408	Northern Headland Grassland	Other	46
3410	Spinifex Strandline Grassland	Other	120
3416	Southern Tableland Valley Flats Damp Grassland	Other	0
3420	Clarence Lowland Ironbark-Spotted Gum Grassy Forest	Secondary B	41,745

PCT ID	PCT Name	Koala Habitat Type	Area (ha)
3421	Clarence Sandstone Pink Bloodwood Grassy Forest	Secondary B	5,324
3422	Clarence Sandstone Rises Spotted Gum Grassy Forest	Secondary C	31,769
3425	Far North Hinterland Swamp Turpentine-Apple Forest	Secondary C	827
3426	Mid Clarence Valley Moist Grassy Forest	Secondary C	50
3427	Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	Secondary C	49,492
3428	Northern Lowland Red Gum-Swamp Turpentine Grassy Forest	Secondary B	21,019
3456	Clarence Gorges Grey Gum-Ironbark Grassy Forest	Secondary B	271
3465	Northern Gorges Red Gum Grassy Forest	Secondary B	5,822
3523	Northwest White Pine-Box Woodland	Secondary C	58
3547	Far North Sands Coastal Cypress Dry Shrub Forest	Other	177
3548	Far North Sands Scribbly Gum Heathy Forest	Other	1,248
3550	Far North Coastal Cypress Grassy Forest	Other	366
3551	Northern Sands Blackbutt-Red Mahogany Forest	Secondary C	864
3552	Northern Sands Blackbutt-Stringybark Forest	Other	36
3553	Northern Sands Bloodwood-Swamp Turpentine Forest	Other	41
3561	Clarence Lowland Smudgy Apple-Paperbark Forest	Secondary C	904
3563	Clarence Sandstone Blackbutt-Bloodwood Forest	Other	1,620
3564	Clarence Sandstone Bloodwood-Stringybark Forest	Other	2,088
3569	Clarence Sandstone Stringybark-Blackbutt Forest	Other	1,602
3571	Mount Warning Caldera Scribbly Gum Woodland	Other	525
3572	Koonyum Range Rhyolite Outcrop Shrub Woodland	Other	757
3573	Northern Lowland Scribbly Gum-Bloodwood Forest	Secondary C	747
3574	Northern Lowland Sandstones Dry Open Forest	Secondary C	3,139
3575	Urbenville Plug Peaks Shrub Woodland	Other	185
3577	Yuraygir Range Bloodwood-Stringybark Forest	Secondary C	5
3675	Far North Peaks Scrub Woodland	Other	609
3680	Northern Escarpment Ash Wet Shrub Forest	Other	17
3787	Byron Graminoid Clay Heath	Other	65
3788	Coastal Foredune Wattle Scrub	Other	971
3791	Far North Headland-Dune Scrub	Other	52
3796	Northern Lowland Graminoid Clay Heath	Other	273
3801	Far North Sandplain Wallum Heath	Other	4,425
3802	Lower North Sandplain Wallum Heath	Other	80
3803	Northern Sandplain Damp Wallum Heath	Secondary A	48

PCT ID	PCT Name	Koala Habitat Type	Area (ha)
3804	Northern Sands Wallum Banksia-Allocasuarina Scrub	Other	205
3830	Far North Basalt Scarp Tea-tree Scrub	Secondary C	2
3832	Far North Pomaderris notata Scrub	Other	3
3834	Mount Warning Caldera Tea-tree Rocky Scrub	Other	291
3840	Mount Warning Sheltered Spear-lily Scrub	Other	3
3841	Mount Warning Tea-tree Rocky Scrub	Other	362
3850	Tweed Caldera Outcrops Grassy Scrub	Other	54
3852	Urbenville Plugs Rockplate Shrub Woodland	Other	96
3856	Woodenbong Plugs Rocky Scrub	Other	111
3898	Clarence Lowland Smudgy Apple Banksia Forest	Other	1,594
3900	Northern Sandplain Saw-sedge-Fern Swamp Heath	Secondary A	268
3911	Northern Sand Swale Fernland	Other	20
3912	Northern Sand Swale Paperbark Sedge Shrubland	Secondary A	310
3913	Northern Sandplain Wet Heath	Secondary A	4,985
3915	Northern Sands Prickly Tea-tree Wet Shrubland	Secondary A	52
3924	Sydney Coastal Upland Swamp Heath	Other	141
3959	Coast Sands Baumea articulata Sedgeland	Secondary A	210
3960	Coast Sands Cladium Sedgeland	Primary	1
3961	Coast Sands Lepironia Sedgeland	Secondary A	308
3962	Coastal Floodplain Phragmites Reedland	Other	62
3963	Estuarine Reedland	Other	13
3964	Far North Floodplain Fern-Forb Wetland	Other	210
3965	Far North Floodplain Forb-Sedge Wetland	Other	0
3966	Foredune Swale Marsh	Other	5
3967	Northern Lower Floodplain Eleocharis Wetland	Other	125
3968	Northern Sands Baloskion-Baumea Wetland	Other	1,133
3969	Northern Sands Baumea-Eleocharis Sedgeland	Other	55
3970	Northern Sands Water Couch Wetland	Other	8
3971	Northern Sandy Floodplain Sedge Paperbark Wetland	Secondary A	723
3975	Southern Lower Floodplain Freshwater Wetland	Other	13
3979	Northern Basalt Benches Intermittent Swamps	Other	3
3984	Clarence Lowland Paperbark Sedge Swamp Woodland	Secondary C	488
3986	Coastal Sands Swamp Mahogany Rush Forest	Primary	40
3987	Far North Floodplain Paperbark-Swamp Oak Forest	Other	2,848
3988	Far North Mesophyll Paperbark Swamp Forest	Other	2,047
3989	Far North Paperbark Fern Swamp Forest	Other	1,790
3990	Far North Paperbark Gahnia Swamp Forest	Primary	2,361
3991	Far North Sands Swamp Turpentine-Paperbark Forest	Other	562
3992	Northern Sandy Alluvium Heathy Swamp Forest	Primary	65
3993	Far North Swamp Oak-Paperbark Tidal Forest	Other	678
4000	Northern Estuarine Paperbark Sedge Forest	Other	120

PCT ID	PCT Name	Koala Habitat Type	Area (ha)
4001	Northern Floodplain Paperbark Fern Swamp Forest	Other	6,276
4002	Northern Lowland Orange Gum Dry Swamp Forest	Primary	41
4003	Northern Lowland Swamp Turpentine-Mahogany Forest	Primary	1,166
4004	Northern Melaleuca quinquenervia Swamp Forest	Primary	5,192
4006	Northern Paperbark-Swamp Mahogany Saw-sedge Forest	Primary	0
4007	Northern Sands Paperbark Sedge Low Forest	Other	94
4008	Northern Sands Swamp Mahogany Shrubby Rush Forest	Primary	1,510
4026	Estuarine Sea Rush Swamp Oak Forest	Other	157
4029	Far North Creekflat Paperbark Swamp Forest	Other	10
4030	Far North Estuarine Swamp Oak Forest	Other	38
4031	Far North Estuarine Swamp Oak Rainforest	Other	1
4032	Far North Floodplain Red Gum Sedge Forest	Primary	79
4033	Far North Hinterland Flats Mesic Apple Forest	Secondary B	1,303
4034	Far North Swamp Oak-Tuckeroo Swamp Fringe Forest	Primary	1,628
4039	Hunter Range Creekflat Apple-Red Gum Forest	Primary	46
4045	Northern Lowland Swamp Turpentine-Paperbark Forest	Primary	1,744
4046	Northern Lowland Swamp Turpentine-Red Gum Forest	Primary	15,565
4047	Northern Swamp Mahogany-Bottlebrush Swamp Forest	Primary	25
4070	Far North River Oak Wet Forest	Other	5,876
4078	Northern Gorges River Oak Forest	Other	663
4079	Northern Hinterland Grassy River Oak Forest	Other	1,501
4088	Southwest Riverflat Red Gum Forest	Primary	6
4090	Far North Estuarine Mangrove-Swamp Oak Forest	Other	830
4091	Grey Mangrove-River Mangrove Forest	Other	542
4095	Paspalum vaginatum-Samphire Saltmarsh	Other	15
4096	Prickly Couch-Sea Rush Saltmarsh	Other	59
4103	Sporobolus virginicus Saltmarsh	Other	153
4105	Border Ranges Red Carabeen Rainforest	Other	3,274
4115	Koonyum Range Rhyolite Turpentine Wet Forest	Other	343
4140	Far North Mangrove Forest	Other	860
32767	Unattributed	Other	1

* The category 'Unknown' is represented largely cleared agricultural landscapes and developed urban areas.

The 30-tree sample obtained from the 350 SAT sites surveyed as part of this project was used to ground truth the accuracy of the *NSW State Vegetation Type Map* (version C1.1.M1.1), resulting in an overall accuracy estimate of $69.57\% \pm 2.46\%$ (SE) **Table 4**. Of the 350 vegetation polygons which intersected a SAT site, 200 scored '1' meaning that they were correctly typed (agreement between the tallest stratum tree species recorded at field sites and descriptions for the mapped polygons; 87 scored '0.5' meaning that they were in partial agreeance (incorrectly typed but a corresponding PCT appeared within 100m); and 63 scored '0' meaning that they were incorrectly typed (no conformity was apparent).

Table 4. Mapping accuracy of the *NSW State Vegetation Type Map* (version C1.1.M1.1) vegetation mapping layer compared to the floristic data recorded at each SAT field survey site. Scores range from 1 (*i.e.* correctly typed) where there was agreement between the tallest stratum tree species recorded at field sites; 0.5 when the polygon appeared incorrectly typed but a corresponding community appeared within 100 m; or 0 (*i.e.* not correctly typed) when no conformity was apparent. The conforming species column in this table shows the number of trees of each conforming species. If ≥ 15 trees at the site are conforming with PCT descriptions it is considered correctly typed and if ≥ 15 trees at the site conforming with a PCT mapped within 100 m it is considered partially correctly typed.

Site name	Activity	LGA	Species	PCT ID	PCT Name	vegetation form	vegetation Class	PCT form	Match
NR_003	26.67	Tweed	Cas_sp (6), Ecre (6), Emic (5), Sbark (5), Cint (4), Epro (2), Lcon (2)	3253	Northern Hinterland Grey Gum-Turpentine Mesic Forest	Wet Sclerophyll Forests (Grassy sub-formation)	Northern Hinterland Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Grassy sub-formation)) Northern Hinterland Grey Gum-Turpentine Mesic Forest	1
NR_007	0.00	Tweed	Cas_sp (8), Esid (7), Cint (5), Emic (5), Epro (2), Unknown (2), Ecar (1)	3253	Northern Hinterland Grey Gum-Turpentine Mesic Forest	Wet Sclerophyll Forests (Grassy sub-formation)	Northern Hinterland Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Grassy sub-formation)) Northern Hinterland Grey Gum-Turpentine Mesic Forest	1
NR_013	0.00	Tweed	Ccam (22), Cint (5), Eacm (1), Emic (1), Sglo (1)	3177	Tweed Valley Lowland Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Tweed Valley Lowland Wet Forest	0.5
NR_017	0.00	Tweed	Sglo (10), Cint (6), Rfsp (5), Emic (4), Lcon (2), Wmah (2), Ator (1)	3172	Northern Ranges Brush Box-Flooded Gum Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Northern Ranges Brush Box-Flooded Gum Wet Forest	1
NR_023	0.00	Tweed	Cas_sp (9), Lsua (9), Sbark (4), Cint (3), Ac_spp (2), Eacm (2), Emic (1)	3253	Northern Hinterland Grey Gum-Turpentine Mesic Forest	Wet Sclerophyll Forests (Grassy sub-formation)	Northern Hinterland Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Grassy sub-formation)) Northern Hinterland Grey Gum-Turpentine Mesic Forest	1
NR_024	30.00	Tweed	Lcon (14), Rfsp (9), Emic (6), Allo (1)	3148	Far North Brush Box-Walnut Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Far North Brush Box-Walnut Wet Forest	1

Site name	Activity	LGA	Species	PCT ID	PCT Name	vegetation form	vegetation Class	PCT form	Match
NR_026	0.00	Tweed	Ccam (15), Lcon (14), Rfsp (1)	3148	Far North Brush Box-Walnut Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Far North Brush Box-Walnut Wet Forest	1
NR_033	13.33	Tweed	Rfsp (14), Emic (6), Lcon (6), Cint (1), Ecar (1), Ibark (1), Mtan (1)	3148	Far North Brush Box-Walnut Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Far North Brush Box-Walnut Wet Forest	1
NR_035	0.00	Tweed	Rfsp (21), Dreg (2), Ar_cun (1), Ccam (1), El_gra (1), Emic (1), Epil (1), Epro (1), Ficus (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0.5
NR_036	3.33	Tweed	Rfsp (10), Lcon (9), Cint (5), Epro (5), Esid (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0.5
NR_038	0.00	Tweed	Rfsp (11), Ibark (7), Ccam (5), Cint (5), Lcon (1), Wmah (1)	3232	Far North Coastal Hills Blackbutt-Ironbark Forest	Wet Sclerophyll Forests (Grassy sub-formation)	Northern Hinterland Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Grassy sub-formation)) Far North Coastal Hills Blackbutt-Ironbark Forest	1
NR_042	3.33	Tweed	Rfsp (12), Lcon (6), Ccam (5), Cint (3), Emic (2), Ac_spp (1), Exo (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0.5
NR_043	33.33	Tweed	Lcon (14), Emic (8), Cint (4), Epro (2), Ficus (1), Rfsp (1)	3148	Far North Brush Box-Walnut Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Far North Brush Box-Walnut Wet Forest	1
NR_044	0.00	Tweed	Emic (10), Rfsp (7), Eter (3), Lcon (3), Cint (2), Epil (2), Esal (1), Sbark (1), Unknown (1)	3167	Northern Hinterland Blackbutt-Forest Oak Wet Forest	Wet Sclerophyll Forests (Grassy sub-formation)	Northern Hinterland Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Grassy sub-formation)) Northern Hinterland Blackbutt-Forest Oak Wet Forest	1

Site name	Activity	LGA	Species	PCT ID	PCT Name	vegetation form	vegetation Class	PCT form	Match
NR_046	0.00	Tweed	Eacm (13), Cint (6), Ecre (5), Lcon (2), Ac_spp (1), Ccam (1), Emic (1), Esid (1)	3148	Far North Brush Box-Walnut Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Far North Brush Box-Walnut Wet Forest	1
NR_052	0.00	Tweed	Ccam (9), Epil (5), Acer_sp (3), Ac_spp (2), Ecre (2), Emic (2), Rfsp (2), Ccit (1), Cint (1), Ctor (1), Ibark (1), Jmim (1)	3232	Far North Coastal Hills Blackbutt-Ironbark Forest	Wet Sclerophyll Forests (Grassy sub-formation)	Northern Hinterland Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Grassy sub-formation)) Far North Coastal Hills Blackbutt-Ironbark Forest	0
NR_053	3.33	Tweed	Lcon (18), Ac_spp (6), Ecre (6)	3232	Far North Coastal Hills Blackbutt-Ironbark Forest	Wet Sclerophyll Forests (Grassy sub-formation)	Northern Hinterland Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Grassy sub-formation)) Far North Coastal Hills Blackbutt-Ironbark Forest	1
NR_055	0.00	Tweed	Lcon (12), Epro (8), Rfsp (7), Cgla (2), Cint (1)	3232	Far North Coastal Hills Blackbutt-Ironbark Forest	Wet Sclerophyll Forests (Grassy sub-formation)	Northern Hinterland Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Grassy sub-formation)) Far North Coastal Hills Blackbutt-Ironbark Forest	1
NR_058	6.67	Tweed	Lcon (13), Rfsp (11), Emic (3), Ccam (1), Ecre (1), Epro (1)	3148	Far North Brush Box-Walnut Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Far North Brush Box-Walnut Wet Forest	1
NR_250	0.00	Tweed	Ccam (20), Eter (6), Egra (2), Rfsp (1), Sbark (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	1
NR_342	0.00	Tweed	Emic (10), Sglo (7), Cint (5), Sbark (4), Efib (2), Lsua (2)	3253	Northern Hinterland Grey Gum-Turpentine Mesic Forest	Wet Sclerophyll Forests (Grassy sub-formation)	Northern Hinterland Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Grassy sub-formation)) Northern Hinterland Grey Gum-Turpentine Mesic Forest	1
NR_343	13.33	Tweed	Emic (16), Epro (5), Cint (3), Ar_cun (2), Ccam (2), Rfsp (2)	3172	Northern Ranges Brush Box-Flooded Gum Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Northern Ranges Brush Box-Flooded Gum Wet Forest	1

Site name	Activity	LGA	Species	PCT ID	PCT Name	vegetation form	vegetation Class	PCT form	Match
NR_344	0.00	Tweed	Ar_cun (6), Emic (6), Rfsp (6), Lcon (3), Mqui (3), Ctor (2), Egra (2), Msty (2)	3172	Northern Ranges Brush Box-Flooded Gum Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Northern Ranges Brush Box-Flooded Gum Wet Forest	1
NR_345	0.00	Tweed	Lcon (9), Egra (7), Rfsp (6), Emic (4), Cint (3), Etn (1)	3172	Northern Ranges Brush Box-Flooded Gum Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Northern Ranges Brush Box-Flooded Gum Wet Forest	1
NR_359	0.00	Tweed	Emic (13), Egra (8), Rfsp (5), Cint (2), Eter (2)	3253	Northern Hinterland Grey Gum-Turpentine Mesic Forest	Wet Sclerophyll Forests (Grassy sub-formation)	Northern Hinterland Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Grassy sub-formation)) Northern Hinterland Grey Gum-Turpentine Mesic Forest	1
NR_360	3.33	Tweed	Lcon (16), Egra (7), Cint (3), Br_pop (1), Esid (1), mspp (1), Rfsp (1)	3253	Northern Hinterland Grey Gum-Turpentine Mesic Forest	Wet Sclerophyll Forests (Grassy sub-formation)	Northern Hinterland Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Grassy sub-formation)) Northern Hinterland Grey Gum-Turpentine Mesic Forest	0.5
NR_361	0.00	Tweed	Lcon (16), Rfsp (9), Egra (4), Cint (1)	3253	Northern Hinterland Grey Gum-Turpentine Mesic Forest	Wet Sclerophyll Forests (Grassy sub-formation)	Northern Hinterland Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Grassy sub-formation)) Northern Hinterland Grey Gum-Turpentine Mesic Forest	0.5
NR_362	0.00	Tweed	Etn (12), Sglo (7), Cint (4), Epil (4), Cgla (1), Emic (1), Lsua (1)	3232	Far North Coastal Hills Blackbutt-Ironbark Forest	Wet Sclerophyll Forests (Grassy sub-formation)	Northern Hinterland Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Grassy sub-formation)) Far North Coastal Hills Blackbutt-Ironbark Forest	0
NR_364	0.00	Tweed	Lcon (10), Epil (9), Ccam (8), Cgla (1), Ecre (1), Sact (1)	3232	Far North Coastal Hills Blackbutt-Ironbark Forest	Wet Sclerophyll Forests (Grassy sub-formation)	Northern Hinterland Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Grassy sub-formation)) Far North Coastal Hills Blackbutt-Ironbark Forest	1

Site name	Activity	LGA	Species	PCT ID	PCT Name	vegetation form	vegetation Class	PCT form	Match
NR_375	0.00	Tweed	Lcon (9), Rfsp (6), Emic (5), Ccam (4), Cint (4), Sglo (1), Unknown (1)	3253	Northern Hinterland Grey Gum-Turpentine Mesic Forest	Wet Sclerophyll Forests (Grassy sub-formation)	Northern Hinterland Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Grassy sub-formation)) Northern Hinterland Grey Gum-Turpentine Mesic Forest	0.5
NR_376	0.00	Tweed	Egra (18), Emic (4), Lcon (4), Rfsp (4)	3172	Northern Ranges Brush Box-Flooded Gum Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Northern Ranges Brush Box-Flooded Gum Wet Forest	1
NR_377	3.33	Tweed	Lcon (13), Rfsp (6), Emic (5), Epro (4), Cint (1), Ibark (1)	3253	Northern Hinterland Grey Gum-Turpentine Mesic Forest	Wet Sclerophyll Forests (Grassy sub-formation)	Northern Hinterland Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Grassy sub-formation)) Northern Hinterland Grey Gum-Turpentine Mesic Forest	0.5
NR_378	0.00	Tweed	Ccam (20), Rfsp (5), Egra (4), Lcon (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	1
NR_379	3.33	Tweed	Rfsp (8), Emic (7), Egra (5), Epil (4), Lcon (3), Cint (2), Ac_spp (1)	3232	Far North Coastal Hills Blackbutt-Ironbark Forest	Wet Sclerophyll Forests (Grassy sub-formation)	Northern Hinterland Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Grassy sub-formation)) Far North Coastal Hills Blackbutt-Ironbark Forest	1
NR_380	10.00	Tweed	Lcon (16), Emic (7), Eacm (6), Ac_spp (1)	3011	Far North Lowland Subtropical Rainforest	Rainforests	Subtropical Rainforests	(Rainforests) Far North Lowland Subtropical Rainforest	1
NR_391	0.00	Tweed	Rfsp (8), Cgla (7), Lcon (7), Sy_sp (2), Ac_spp (1), Ar_cun (1), Ccam (1), Epro (1), Fcor (1), Prad (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0.5
NR_392	3.33	Tweed	Lcon (9), Eacm (5), Prad (4), Ctor (3), Rfsp (3), Cint (2), Esid (2), Ctes (1), Unknown (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0

Site name	Activity	LGA	Species	PCT ID	PCT Name	vegetation form	vegetation Class	PCT form	Match
NR_393	0.00	Tweed	Lcon (23), Ar_cun (3), Rfsp (3), Faus (1)	3232	Far North Coastal Hills Blackbutt-Ironbark Forest	Wet Sclerophyll Forests (Grassy sub-formation)	Northern Hinterland Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Grassy sub-formation)) Far North Coastal Hills Blackbutt-Ironbark Forest	1
NR_395	0.00	Tweed	Rfsp (20), El_gra (4), Lcon (3), Ficus (1), Mphi (1), pele (1)	3148	Far North Brush Box-Walnut Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Far North Brush Box-Walnut Wet Forest	0.5
NR_396	3.33	Tweed	Ator (12), Awoo (8), Emic (3), Esid (2), Wmah (2), Ac_spp (1), Alit (1), Epro (1)	3253	Northern Hinterland Grey Gum-Turpentine Mesic Forest	Wet Sclerophyll Forests (Grassy sub-formation)	Northern Hinterland Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Grassy sub-formation)) Northern Hinterland Grey Gum-Turpentine Mesic Forest	1
NR_397	0.00	Tweed	Rfsp (28), Ccam (1), Pund (1)	0					0.5
NR_398	10.00	Tweed	Lcon (25), Aflo (2), Rfsp (2), Ccam (1)	3148	Far North Brush Box-Walnut Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Far North Brush Box-Walnut Wet Forest	1
NR_399	0.00	Tweed	Ccam (10), Emic (5), Epro (5), Cint (4), Ator (3), Esid (2), Ccit (1)	3011	Far North Lowland Subtropical Rainforest	Rainforests	Subtropical Rainforests	(Rainforests) Far North Lowland Subtropical Rainforest	0
NR_400	0.00	Tweed	Ccit (8), Ccam (5), Rfsp (5), Exo (3), Ctor (2), Unknown (2), Acer_sp (1), Ar_cun (1), Av_mar (1), Prad (1), Pund (1)	3004	Far North Bangalow Palm Swamp Forest	Rainforests	Subtropical Rainforests	(Rainforests) Far North Bangalow Palm Swamp Forest	0
NR_401	0.00	Tweed	Cgla (15), Av_mar (14), Rfsp (1)	4140	Far North Mangrove Forest	Saline Wetlands	Mangrove Swamps	(Saline Wetlands) Far North Mangrove Forest	1
NR_402	0.00	Tweed	Mqui (10), Av_mar (8), Lcon (5), Cgla (4), Rfsp (3)	4091	Grey Mangrove-River Mangrove Forest	Saline Wetlands	Mangrove Swamps	(Saline Wetlands) Grey Mangrove-River Mangrove Forest	1
NR_403	0.00	Tweed	Eter (15), Mqui (6), Rfsp (4), Ac_spp (2), Cint (2), Cgla (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0.5

Site name	Activity	LGA	Species	PCT ID	PCT Name	vegetation form	vegetation Class	PCT form	Match
NR_045	0.00	Byron	Sglo (17), Lcon (5), Rfsp (4), Cgla (3), Epil (1)	4115	Koonyum Range Rhyolite Turpentine Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Koonyum Range Rhyolite Turpentine Wet Forest	1
NR_051	0.00	Byron	Emic (29), Mtet (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0
NR_054	0.00	Byron	Ccam (23), Gsem (6), Isin (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	1
NR_251	0.00	Byron	Rfsp (30)	3002	Lower Richmond Hills Dry-Subtropical Rainforest	Rainforests	Subtropical Rainforests	(Rainforests) Lower Richmond Hills Dry-Subtropical Rainforest	1
NR_268	0.00	Byron	Rfsp (30)	3001	Lismore Basalt Subtropical Rainforest	Rainforests	Subtropical Rainforests	(Rainforests) Lismore Basalt Subtropical Rainforest	1
NR_285	0.00	Byron	Ccam (19), Rfsp (9), Pund (1), Wmah (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	1
NR_286	0.00	Byron	Rfsp (12), Ar_cun (4), Ficus (4), El_gra (2), Mell (2), Unknown (2), Ccam (1), Egra (1), Epil (1), Exo (1)	3147	Far North Brush Box-Bloodwood Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Far North Brush Box-Bloodwood Wet Forest	0.5
NR_306	0.00	Byron	Cgla (8), Ccit (6), Eter (5), Ecar (3), Rfsp (3), Call (1), Gsem (1), Ibark (1), Melsp (1), Mqui (1)	3165	Northern Brush Box Subtropical Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Northern Brush Box Subtropical Wet Forest	0
NR_326	0.00	Byron	Lcon (21), Rfsp (7), Ccam (2)	3011	Far North Lowland Subtropical Rainforest	Rainforests	Subtropical Rainforests	(Rainforests) Far North Lowland Subtropical Rainforest	1
NR_327	0.00	Byron	Alit (16), Epil (9), Rfsp (2), Cint (1), Erac (1), Lcon (1)	3572	Koonyum Range Rhyolite Outcrop Shrub Woodland	Dry Sclerophyll Forests (Shrubby sub-formation)	North Coast Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrubby sub-formation)) Koonyum Range Rhyolite Outcrop Shrub Woodland	1

Site name	Activity	LGA	Species	PCT ID	PCT Name	vegetation form	vegetation Class	PCT form	Match
NR_346	0.00	Byron	Rfsp (8), Cgla (5), El_gra (3), Sglo (3), Ar_cun (1), Call (1), Cana (1), Cmac (1), Fcor (1), Ficus (1), Grob (1), kpan (1), Mphi (1), Sing (1), Wmah (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0.5
NR_347	0.00	Byron	Ccam (15), Emic (14), El_ret (1)	3002	Lower Richmond Hills Dry-Subtropical Rainforest	Rainforests	Subtropical Rainforests	(Rainforests) Lower Richmond Hills Dry-Subtropical Rainforest	1
NR_363	0.00	Byron	Ccam (30)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	1
NR_050	20.00	Ballina	Emic (27), Rfsp (2), Ccam (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0
NR_064	0.00	Ballina	Rfsp (14), Cgla (10), Mphi (4), Ffra (1), Ficus (1)	3004	Far North Bangalow Palm Swamp Forest	Rainforests	Subtropical Rainforests	(Rainforests) Far North Bangalow Palm Swamp Forest	1
NR_065	0.00	Ballina	Ccit (9), Mqui (9), Eter (3), Ficus (3), Cana (2), eter x erob (2), Lcon (2)	3989	Far North Paperbark Fern Swamp Forest	Forested Wetlands	Coastal Swamp Forests	(Forested Wetlands) Far North Paperbark Fern Swamp Forest	1
NR_169	0.00	Ballina	Bint (12), Cgla (6), Fcor (4), Ficus (4), Mqui (3), Rfsp (1)	3788	Coastal Foredune Wattle Scrub	Heathlands	Coastal Headland Heaths	(Heathlands) Coastal Foredune Wattle Scrub	0.5
NR_184	0.00	Ballina	Rfsp (29), Ar_tri (1)	3001	Lismore Basalt Subtropical Rainforest	Rainforests	Subtropical Rainforests	(Rainforests) Lismore Basalt Subtropical Rainforest	1
NR_185	0.00	Ballina	Ccam (12), Pund (8), Mind (4), Ac_spp (3), Rfsp (2), Cint (1)	3021	Northern Lowland Subtropical Rainforest	Rainforests	Subtropical Rainforests	(Rainforests) Northern Lowland Subtropical Rainforest	1
NR_186	0.00	Ballina	Cgla (21), Eter (4), Cana (3), Av_mar (1), Cint (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0.5
NR_199	0.00	Ballina	Rfsp (30)	3001	Lismore Basalt Subtropical Rainforest	Rainforests	Subtropical Rainforests	(Rainforests) Lismore Basalt Subtropical Rainforest	1

Site name	Activity	LGA	Species	PCT ID	PCT Name	vegetation form	vegetation Class	PCT form	Match
NR_200	0.00	Ballina	Rfsp (12), Ccam (7), Fsch (3), En_pub (1), Ffra (1), Gsem (1), Jpsu (1), Mphi (1), Pund (1), Rrub (1), Unknown (1)	3001	Lismore Basalt Subtropical Rainforest	Rainforests	Subtropical Rainforests	(Rainforests) Lismore Basalt Subtropical Rainforest	1
NR_213	0.00	Ballina	Ccam (18), Rfsp (12)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	1
NR_214	3.33	Ballina	Egra (28), Lcon (1), Rfsp (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0.5
NR_231	0.00	Ballina	upar (17), Grey gum (5), Grob (2), Br_pop (1), Epil (1), Eter (1), exo (1), Melsp (1), Sbark (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0
NR_232	0.00	Ballina	Rfsp (27), Cas_sp (1), Cint (1), Sglo (1)	3002	Lower Richmond Hills Dry-Subtropical Rainforest	Rainforests	Subtropical Rainforests	(Rainforests) Lower Richmond Hills Dry-Subtropical Rainforest	1
NR_233	0.00	Ballina	Ccam (15), Cgla (6), Rfsp (6), Mqui (3)	3004	Far North Bangalow Palm Swamp Forest	Rainforests	Subtropical Rainforests	(Rainforests) Far North Bangalow Palm Swamp Forest	0.5
NR_252	0.00	Ballina	Rfsp (30)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0.5
NR_404	26.67	Ballina	Erob (23), Eres (4), Ac_spp (3)	4046	Northern Lowland Swamp Turpentine-Red Gum Forest	Forested Wetlands	Coastal Floodplain Wetlands	(Forested Wetlands) Northern Lowland Swamp Turpentine-Red Gum Forest	0.5
NR_406	0.00	Ballina	Epil (19), Ca_col (5), Bint (2), Cana (2), Cgum (2)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0.5
NR_407	6.67	Ballina		0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0
NR_004	0.00	Lismore	Aflo (23), Cgla (2), Mphi (2), Cint (1), Epun (1), Ficus (1)	3251	Northern Gorges Diverse Grassy Forest	Wet Sclerophyll Forests (Grassy sub-formation)	Northern Hinterland Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Grassy sub-formation)) Northern Gorges Diverse Grassy Forest	0.5

Site name	Activity	LGA	Species	PCT ID	PCT Name	vegetation form	vegetation Class	PCT form	Match
NR_005	0.00	Lismore	Ecre (13), Lcon (8), Ccam (6), Esid (2), Ecar (1)	3003	Border Ranges Black Booyong Subtropical Rainforest	Rainforests	Subtropical Rainforests	(Rainforests) Border Ranges Black Booyong Subtropical Rainforest	0.5
NR_006	0.00	Lismore	Ar_cun (14), Alit (3), Esee (3), Ecre (2), Egra (2), Wmah (2), Esid (1), Eter (1), Mqui (1), Sbark (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0
NR_008	0.00	Lismore	Rfsp (11), Lcon (5), Eter (4), Ar_cun (2), Sglo (2), Emic (1), Emol (1), Esal (1), Grob (1), Melsp (1), Wmah (1)	3149	Far North Hinterland Brush Box Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Far North Hinterland Brush Box Wet Forest	1
NR_009	3.33	Lismore	Ecar (14), Cint (10), Lsua (5), Ator (1)	3172	Northern Ranges Brush Box-Flooded Gum Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Northern Ranges Brush Box-Flooded Gum Wet Forest	1
NR_012	0.00	Lismore	ap_phi (8), Rfsp (8), Ccam (7), Mphi (4), Ar_cun (1), Cgla (1), Lsin (1)	4070	Far North River Oak Wet Forest	Forested Wetlands	Eastern Riverine Forests	(Forested Wetlands) Far North River Oak Wet Forest	1
NR_018	0.00	Lismore	Eter (26), Ccam (2), Lsua (2)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0.5
NR_020	0.00	Lismore	Rfsp (17), Lcon (11), Ar_bid (1), Sbark (1)	3064	Far North Hoop Pine Dry Rainforest	Rainforests	Dry Rainforests	(Rainforests) Far North Hoop Pine Dry Rainforest	1
NR_021	3.33	Lismore	Cint (6), Emic (6), Rfsp (4), Allo (2), Emel (2), Grob (2), Jmim (2), Mtan (2), Aexc (1), Eter (1), Jpsu (1), Sbark (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0.5
NR_027	3.33	Lismore	Ibark (9), Ccam (6), Cint (5), Lcon (3), Emic (2), Cbar (1), Egra (1), Eter (1), Ficus (1), Jpsu (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0

Site name	Activity	LGA	Species	PCT ID	PCT Name	vegetation form	vegetation Class	PCT form	Match
NR_029	0.00	Lismore	Rfsp (10), Eter (3), Lcon (3), Ccam (2), Ar_cun (1), atri (1), bcel (1), Caus (1), Ccit (1), Daus (1), Exo (1), Jmim (1), Mell (1), Mind (1), Unknown (1), Wmah (1)	4034	Far North Swamp Oak-Tuckeroo Swamp Fringe Forest	Forested Wetlands	Coastal Floodplain Wetlands	(Forested Wetlands) Far North Swamp Oak-Tuckeroo Swamp Fringe Forest	1
NR_032	0.00	Lismore	Emic (13), Ctor (6), Rfsp (5), Gsem (3), Aexc (1), Jmim (1), Sact (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0.5
NR_037	0.00	Lismore	Rfsp (18), Lcon (5), Alit (4), Epil (2), Cint (1)	3011	Far North Lowland Subtropical Rainforest	Rainforests	Subtropical Rainforests	(Rainforests) Far North Lowland Subtropical Rainforest	1
NR_039	10.00	Lismore	Lsua (9), Ac_spp (8), Cint (5), Ccam (3), Cgla (2), Eter (2), Esid (1)	4034	Far North Swamp Oak-Tuckeroo Swamp Fringe Forest	Forested Wetlands	Coastal Floodplain Wetlands	(Forested Wetlands) Far North Swamp Oak-Tuckeroo Swamp Fringe Forest	1
NR_040	33.33	Lismore	Ccam (16), Emic (12), Mphi (1), Pund (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	1
NR_047	13.33	Lismore	Egra (30)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0.5
NR_139	0.00	Lismore	Eter (21), Awoo (3)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0.5
NR_154	6.67	Lismore	Cgla (10), Rfsp (5), Exo (4), Mphi (4), Ac_spp (2), Ccam (2), Pgua (2), Eter (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0.5
NR_155	0.00	Lismore	Epil (10), Cint (8), Ac_spp (4), Lsua (4), Rfsp (3), Mqui (1)	3252	Northern Hinterland Grey Gum-Mahogany Grassy Forest	Wet Sclerophyll Forests (Grassy sub-formation)	Northern Hinterland Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Grassy sub-formation)) Northern Hinterland Grey Gum-Mahogany Grassy Forest	0
NR_227	0.00	Lismore	Eter (15), Lcon (4), Wmah (4), Ecre (3), Cgla (1), Cint (1), Grob (1), Melsp (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0

Site name	Activity	LGA	Species	PCT ID	PCT Name	vegetation form	vegetation Class	PCT form	Match
NR_228	0.00	Lismore	Aflo (7), Ccam (5), Cgla (4), Gsem (4), Esid (2), Mtan (2), Eter (1), Lluc (1), Lsua (1), Mphi (1), Rfsp (1), Wmah (1)	3065	Far North Basalt Gully Dry Rainforest	Rainforests	Dry Rainforests	(Rainforests) Far North Basalt Gully Dry Rainforest	0.5
NR_229	0.00	Lismore	Mphi (8), Cgla (5), Eter (5), Cvim (3), Lsua (3), Rfsp (2), Ac_spp (1), Mtan (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0
NR_230	0.00	Lismore	Ccam (24), Rfsp (5), Lcon (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	1
NR_246	0.00	Lismore	Emic (11), Epil (10), Esid (9)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0
NR_247	0.00	Lismore	Esid (19), Emic (11), Epil (10), Ecar (7), Cint (6), Alit (2), Wmah (2), Aexc (1), Awoo (1), Sglo (1)	3422	Clarence Sandstone Rises Spotted Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Clarence Sandstone Rises Spotted Gum Grassy Forest	1
NR_248	0.00	Lismore	Esal (8), Eter (7), Esee (4), Ccam (3), Epil (3), Emic (1), Epun (1), exo (1), Rfsp (1), Unknown (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0
NR_249	0.00	Lismore	Ccam (18), Rfsp (8), Wmah (2), Ar_bid (1), Ar_cun (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	1
NR_267	0.00	Lismore	Egra (19), Ecre (6), Ar_cun (4), Sy_sp (1)	3021	Northern Lowland Subtropical Rainforest	Rainforests	Subtropical Rainforests	(Rainforests) Northern Lowland Subtropical Rainforest	1
NR_283	0.00	Lismore	Eter (18), Aflo (8), Mtan (2), Mphi (1), Rfsp (1)	3251	Northern Gorges Diverse Grassy Forest	Wet Sclerophyll Forests (Grassy sub-formation)	Northern Hinterland Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Grassy sub-formation)) Northern Gorges Diverse Grassy Forest	0
NR_284	0.00	Lismore	Ccam (16), Egra (9), Cint (1), Emic (1), epro (1), Gsem (1), Lcon (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	1
NR_301	0.00	Lismore	Aflo (10), Rfsp (9), Cint (5), Ecre (3), Ac_spp (2), Aexc (1)	3021	Northern Lowland Subtropical Rainforest	Rainforests	Subtropical Rainforests	(Rainforests) Northern Lowland Subtropical Rainforest	0

Site name	Activity	LGA	Species	PCT ID	PCT Name	vegetation form	vegetation Class	PCT form	Match
NR_302	0.00	Lismore	Rfsp (22), Cana (7), Ccam (1)	3001	Lismore Basalt Subtropical Rainforest	Rainforests	Subtropical Rainforests	(Rainforests) Lismore Basalt Subtropical Rainforest	1
NR_304	0.00	Lismore	Rfsp (30)	3021	Northern Lowland Subtropical Rainforest	Rainforests	Subtropical Rainforests	(Rainforests) Northern Lowland Subtropical Rainforest	1
NR_305	0.00	Lismore	Rfsp (18), Lcon (4), Cal_ser (3), Ator (2), Egra (2), Sglo (1)	3165	Northern Brush Box Subtropical Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Northern Brush Box Subtropical Wet Forest	1
NR_323	0.00	Lismore	Rfsp (18), Ccam (6), Ac_spp (2), Lfer (1), Nlon (1), Sy_sp (1), Unknown (1)	3064	Far North Hoop Pine Dry Rainforest	Rainforests	Dry Rainforests	(Rainforests) Far North Hoop Pine Dry Rainforest	1
NR_028	0.00	Kyogle	Epro (28), Ccam (1), Emic (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0
NR_061	6.67	Kyogle	Ac_spp (6), Ang_sp (4), Sbark (4), Cint (3), Epro (3), Eter (3), Emic (2), Gfer (2), Rfsp (2), Ibark (1)	3248	Northern Blackbutt-Turpentine Shrub Forest	Wet Sclerophyll Forests (Grassy sub-formation)	Northern Hinterland Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Grassy sub-formation)) Northern Blackbutt-Turpentine Shrub Forest	0
NR_141	0.00	Kyogle	Emol (13), Ccit (8), Aflo (3), Ecre (2), Eter (2), Epro (1), Wmah (1)	3427	Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	1
NR_143	0.00	Kyogle	Ccit (30)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0
NR_157	0.00	Kyogle	Ccit (30)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0
NR_159	0.00	Kyogle	Ccit (10), Emol (10), Wmah (5), Epro (3), Eter (2)	3251	Northern Gorges Diverse Grassy Forest	Wet Sclerophyll Forests (Grassy sub-formation)	Northern Hinterland Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Grassy sub-formation)) Northern Gorges Diverse Grassy Forest	1

Site name	Activity	LGA	Species	PCT ID	PCT Name	vegetation form	vegetation Class	PCT form	Match
NR_170	3.33	Kyogle	Chen (13), Emol (10), Ibark (6), Wmah (1)	3422	Clarence Sandstone Rises Spotted Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Clarence Sandstone Rises Spotted Gum Grassy Forest	1
NR_171	0.00	Kyogle	Ibark (11), Eter (7), Lsua (6), Emol (4), Aflo (1), Grob (1)	3427	Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	1
NR_172	6.67	Kyogle	Eter (20), Cas_sp (5), Emol (2), Ar_cun (1), Grob (1), malb (1)	4033	Far North Hinterland Flats Mesic Apple Forest	Forested Wetlands	Coastal Floodplain Wetlands	(Forested Wetlands) Far North Hinterland Flats Mesic Apple Forest	0.5
NR_173	6.67	Kyogle	Ccit (24), Eter (3), Rfsp (2), Ar_cun (1)	3069	Far North Hinterland Grey Box-Grey Gum Wet Forest	Wet Sclerophyll Forests (Grassy sub-formation)	Northern Hinterland Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Grassy sub-formation)) Far North Hinterland Grey Box-Grey Gum Wet Forest	1
NR_188	0.00	Kyogle	Ccit (30)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0
NR_190	0.00	Kyogle	Eter (14), Ccit (6), Emol (5), Rfsp (2), Cint (1), Epro (1), Esid (1)	3465	Northern Gorges Red Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Northern Gorge Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Northern Gorges Red Gum Grassy Forest	1
NR_192	10.00	Kyogle	Ccit (13), Emol (10), Eter (3), Rfsp (2), Wmah (2)	3427	Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	0.5
NR_201	6.67	Kyogle	Lsua (13), Eter (9), Ac_spp (4), Cint (2), Ctor (1), Ecre (1)	3329	Northern Hinterland Valleys Red Gum Grassy Forest	Grassy Woodlands	Coastal Valley Grassy Woodlands	(Grassy Woodlands) Northern Hinterland Valleys Red Gum Grassy Forest	1

Site name	Activity	LGA	Species	PCT ID	PCT Name	vegetation form	vegetation Class	PCT form	Match
NR_202	3.33	Kyogle	Cint (20), Epro (3), Eter (3), Ac_spp (2), Ecar (2)	3427	Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	1
NR_203	0.00	Kyogle	Emic (28), Ibark (2)	3251	Northern Gorges Diverse Grassy Forest	Wet Sclerophyll Forests (Grassy sub-formation)	Northern Hinterland Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Grassy sub-formation)) Northern Gorges Diverse Grassy Forest	1
NR_204	10.00	Kyogle	Emic (20), Epro (3), Ac_mai (2), Egra (2), Rfsp (2), Ator (1)	3322	Far North Ranges Red Gum Grassy Forest	Grassy Woodlands	Coastal Valley Grassy Woodlands	(Grassy Woodlands) Far North Ranges Red Gum Grassy Forest	1
NR_205	6.67	Kyogle	Ccit (12), Eter (7), Emol (5), Aflo (4), Efib (2)	3427	Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	0.5
NR_206	10.00	Kyogle	Epro (29), Ccit (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0
NR_207	3.33	Kyogle	Cint (25), Esid (3), Ecar (2)	3427	Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	1
NR_217	0.00	Kyogle	Ccit (30)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0
NR_219	0.00	Kyogle	Emic (20), Egra (7), Lcon (2), pele (1)	3233	Far North Hinterland Grey Gum Grassy Forest	Wet Sclerophyll Forests (Grassy sub-formation)	Northern Hinterland Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Grassy sub-formation)) Far North Hinterland Grey Gum Grassy Forest	1

Site name	Activity	LGA	Species	PCT ID	PCT Name	vegetation form	vegetation Class	PCT form	Match
NR_221	0.00	Kyogle	Lsua (18), Cint (9), Cas_sp (2), Eter (1)	4070	Far North River Oak Wet Forest	Forested Wetlands	Eastern Riverine Forests	(Forested Wetlands) Far North River Oak Wet Forest	0.5
NR_234	0.00	Kyogle	Epro (15), Wmah (7), Eter (4), Ibark (2), Cgla (1), Cint (1)	3465	Northern Gorges Red Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Northern Gorge Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Northern Gorges Red Gum Grassy Forest	0.5
NR_235	0.00	Kyogle	Eres (16), Egra (12), Emic (2)	3173	Northern Ranges Dunns Gum-Brush Box Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Northern Ranges Dunns Gum-Brush Box Wet Forest	0
NR_237	0.00	Kyogle	Ccit (21), Epro (4), Ecre (3), Cint (2)	3427	Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	0.5
NR_239	0.00	Kyogle	Wmah (9), Cas_sp (7), Rfsp (5), pele (3), Tlau (3), Sbark (2), Cint (1)	3172	Northern Ranges Brush Box-Flooded Gum Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Northern Ranges Brush Box-Flooded Gum Wet Forest	0.5
NR_240	3.33	Kyogle	Ccit (14), Emic (9), Emel (3), Lcon (2), Epro (1), Faus (1)	3251	Northern Gorges Diverse Grassy Forest	Wet Sclerophyll Forests (Grassy sub-formation)	Northern Hinterland Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Grassy sub-formation)) Northern Gorges Diverse Grassy Forest	1
NR_241	0.00	Kyogle	Aflo (10), Eter (7), Emol (5), Ccit (2), Cint (2), Esid (2), Ac_spp (1), Lcon (1)	3427	Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	1

Site name	Activity	LGA	Species	PCT ID	PCT Name	vegetation form	vegetation Class	PCT form	Match
NR_243	0.00	Kyogle	Eter (28), Cas_sp (2)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0.5
NR_254	0.00	Kyogle	Epro (12), Emol (9), Alit (2), Cgla (2), Ecre (2), Wmah (2), Cint (1)	3251	Northern Gorges Diverse Grassy Forest	Wet Sclerophyll Forests (Grassy sub-formation)	Northern Hinterland Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Grassy sub-formation)) Northern Gorges Diverse Grassy Forest	1
NR_255	0.00	Kyogle	Eter (9), Egra (5), Rfsp (5), Emic (3), Ndea (3), Lcon (2), naus (2), Epro (1)	3172	Northern Ranges Brush Box-Flooded Gum Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Northern Ranges Brush Box-Flooded Gum Wet Forest	1
NR_256	0.00	Kyogle	Eter (26), Cint (2), Aflo (1), Wmah (1)	3251	Northern Gorges Diverse Grassy Forest	Wet Sclerophyll Forests (Grassy sub-formation)	Northern Hinterland Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Grassy sub-formation)) Northern Gorges Diverse Grassy Forest	0.5
NR_258	0.00	Kyogle	Emic (11), Lcon (10), Ecar (6), Ccit (1), Cint (1), Rfsp (1)	3070	Far North Hinterland Kamala-Coogera Dry Rainforest	Rainforests	Dry Rainforests	(Rainforests) Far North Hinterland Kamala-Coogera Dry Rainforest	0.5
NR_259	0.00	Kyogle	Eter (7), Ac_spp (5), Gsem (5), Epro (4), Rfsp (3), Unknown (2), Ar_cun (1), Ecre (1), Ibark (1), pele (1)	3251	Northern Gorges Diverse Grassy Forest	Wet Sclerophyll Forests (Grassy sub-formation)	Northern Hinterland Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Grassy sub-formation)) Northern Gorges Diverse Grassy Forest	0.5
NR_260	0.00	Kyogle	Rfsp (11), Ecar (9), Lcon (6), Ccit (2), Emic (2)	3172	Northern Ranges Brush Box-Flooded Gum Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Northern Ranges Brush Box-Flooded Gum Wet Forest	1
NR_261	3.33	Kyogle	Ccit (14), Epil (5), Emic (3), Epro (3), Esid (3), Ibark (1), Lcon (1)	3427	Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	0

Site name	Activity	LGA	Species	PCT ID	PCT Name	vegetation form	vegetation Class	PCT form	Match
NR_262	0.00	Kyogle	Ecar (13), Emic (8), Cint (5), Ibark (2), Aexc (1), Eter (1)	3428	Northern Lowland Red Gum-Swamp Turpentine Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Northern Lowland Red Gum-Swamp Turpentine Grassy Forest	0.5
NR_264	0.00	Kyogle	Epro (17), Cint (7), Ac_spp (4), Eter (2)	3427	Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	0
NR_266	0.00	Kyogle	Ctor (15), Eter (7), Grob (3), Rfsp (2), Aflo (1), Csal (1), Ecar (1)	3427	Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	0.5
NR_271	0.00	Kyogle	Rfsp (28), Gsem (1), Rrub (1)	3003	Border Ranges Black Booyong Subtropical Rainforest	Rainforests	Subtropical Rainforests	(Rainforests) Border Ranges Black Booyong Subtropical Rainforest	1
NR_273	0.00	Kyogle	Ccit (21), Epro (4), Wmah (3), Emol (1), Rfsp (1)	3427	Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	0
NR_274	0.00	Kyogle	Aflo (10), Ac_spp (8), Eamp (7), Cas_sp (1), Eter (1), Ibark (1), Rfsp (1), Sy_sp (1)	4078	Northern Gorges River Oak Forest	Forested Wetlands	Eastern Riverine Forests	(Forested Wetlands) Northern Gorges River Oak Forest	0.5
NR_275	6.67	Kyogle	Emic (15), Lcon (6), Egra (5), pele (2), Ac_mai (1), Jpsu (1)	3173	Northern Ranges Dunns Gum-Brush Box Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Northern Ranges Dunns Gum-Brush Box Wet Forest	0.5

Site name	Activity	LGA	Species	PCT ID	PCT Name	vegetation form	vegetation Class	PCT form	Match
NR_276	0.00	Kyogle	Cas_sp (8), Ccit (8), Ecar (8), Epro (3), Emol (2), Ibark (1)	3251	Northern Gorges Diverse Grassy Forest	Wet Sclerophyll Forests (Grassy sub-formation)	Northern Hinterland Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Grassy sub-formation)) Northern Gorges Diverse Grassy Forest	1
NR_277	0.00	Kyogle	Ecar (25), Cint (2), Ecre (1), Epro (1), Esid (1)	3427	Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	1
NR_278	0.00	Kyogle	Aflo (13), Ecar (11), Rfsp (2), Ac_spp (1), Ccam (1), Eter (1), Jpsu (1)	4070	Far North River Oak Wet Forest	Forested Wetlands	Eastern Riverine Forests	(Forested Wetlands) Far North River Oak Wet Forest	0
NR_279	16.67	Kyogle	Aflo (8), Cint (7), Emic (7), Eter (7), Ecre (1)	3427	Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	1
NR_289	0.00	Kyogle	Aflo (5), Cas_sp (5), Cint (4), Eter (4), Ibark (4), Emic (3), Ac_spp (2), Pell (2), Lcon (1)	3172	Northern Ranges Brush Box-Flooded Gum Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Northern Ranges Brush Box-Flooded Gum Wet Forest	0.5
NR_291	0.00	Kyogle	Eter (22), Ac_spp (3), Eacm (3), Aflo (1), Esid (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0.5
NR_292	0.00	Kyogle	Aflo (23), Rfsp (4), Eter (3)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0.5
NR_293	0.00	Kyogle	Emic (10), Cint (5), Ecar (4), Lluc (4), Cas_sp (3), Epro (2), Lcon (1), Rfsp (1)	3139	Border Ranges Brush Box-Tallowood Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Border Ranges Brush Box-Tallowood Wet Forest	1

Site name	Activity	LGA	Species	PCT ID	PCT Name	vegetation form	vegetation Class	PCT form	Match
NR_294	13.33	Kyogle	Ccit (15), Emic (9), Epro (6)	3251	Northern Gorges Diverse Grassy Forest	Wet Sclerophyll Forests (Grassy sub-formation)	Northern Hinterland Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Grassy sub-formation)) Northern Gorges Diverse Grassy Forest	1
NR_295	0.00	Kyogle	Cas_sp (11), Ecar (6), Cint (5), Sglo (3), Ac_spp (2), Lcon (2), Emic (1)	3427	Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	1
NR_297	6.67	Kyogle	Rfsp (9), Lcon (6), Ccit (4), Emic (3), Eter (3), Ar_cun (2), Grob (2), Ac_spp (1)	4070	Far North River Oak Wet Forest	Forested Wetlands	Eastern Riverine Forests	(Forested Wetlands) Far North River Oak Wet Forest	0
NR_299	0.00	Kyogle	Egra (29), Ac_spp (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0.5
NR_300	45.16	Kyogle	Egra (7), Eter (6), Ccam (5), Ecre (3), Erob (3), Rfsp (3), Ac_spp (2), Ccit (2)	3003	Border Ranges Black Booyong Subtropical Rainforest	Rainforests	Subtropical Rainforests	(Rainforests) Border Ranges Black Booyong Subtropical Rainforest	0
NR_309	0.00	Kyogle	Eter (30)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0
NR_310	0.00	Kyogle	Prad (25), Ac_spp (5)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	1
NR_311	0.00	Kyogle	Rfsp (13), Cint (8), Epro (4), Wmah (3), Ecre (1), Lcon (1)	3252	Northern Hinterland Grey Gum-Mahogany Grassy Forest	Wet Sclerophyll Forests (Grassy sub-formation)	Northern Hinterland Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Grassy sub-formation)) Northern Hinterland Grey Gum-Mahogany Grassy Forest	1
NR_313	0.00	Kyogle	Eamp (22), Aflo (4), Ac_spp (2), Eter (1), Ibark (1)	3427	Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	0

Site name	Activity	LGA	Species	PCT ID	PCT Name	vegetation form	vegetation Class	PCT form	Match
NR_314	0.00	Kyogle	Lcon (23), Rfsp (6), Egra (1)	3139	Border Ranges Brush Box-Tallowwood Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Border Ranges Brush Box-Tallowwood Wet Forest	1
NR_315	0.00	Kyogle	Rfsp (12), Egra (4), Emic (4), Gfer (2), Gsem (2), Ibark (2), Lcon (2), Aexc (1), Dexc (1)	3139	Border Ranges Brush Box-Tallowwood Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Border Ranges Brush Box-Tallowwood Wet Forest	1
NR_316	0.00	Kyogle	Eter (19), Ac_spp (3), Emic (3), Cint (2), Aflo (1), Cas_sp (1), Ibark (1)	3003	Border Ranges Black Booyong Subtropical Rainforest	Rainforests	Subtropical Rainforests	(Rainforests) Border Ranges Black Booyong Subtropical Rainforest	0.5
NR_317	0.00	Kyogle	Eter (16), Cint (12), Jmim (2)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0.5
NR_319	10.00	Kyogle	Lcon (8), Jmim (5), Eter (4), Ac_spp (3), bvar (2), Egra (2), Kpan (2), Esid (1), Mtan (1), Prad (1), Unknown (1)	3251	Northern Gorges Diverse Grassy Forest	Wet Sclerophyll Forests (Grassy sub-formation)	Northern Hinterland Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Grassy sub-formation)) Northern Gorges Diverse Grassy Forest	0
NR_320	0.00	Kyogle	Ccam (12), Cint (6), Eter (5), Lsua (5), Cas_sp (1), Rfsp (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0
NR_321	0.00	Kyogle	Lcon (16), Rfsp (5), Sbark (3), Egra (2), Ficus (2), Cint (1), cr_gla (1)	3139	Border Ranges Brush Box-Tallowwood Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Border Ranges Brush Box-Tallowwood Wet Forest	1
NR_329	3.33	Kyogle	Edun (8), Aflo (7), Ecar (6), Cint (5), Eter (3), Ac_spp (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0
NR_330	3.33	Kyogle	Epro (16), Rfsp (8), Melsp (6)	3172	Northern Ranges Brush Box-Flooded Gum Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Northern Ranges Brush Box-Flooded Gum Wet Forest	0.5

Site name	Activity	LGA	Species	PCT ID	PCT Name	vegetation form	vegetation Class	PCT form	Match
NR_331	0.00	Kyogle	Rfsp (20), Dexc (4), Saus (4), pele (2)	3003	Border Ranges Black Booyong Subtropical Rainforest	Rainforests	Subtropical Rainforests	(Rainforests) Border Ranges Black Booyong Subtropical Rainforest	1
NR_333	0.00	Kyogle	Rfsp (26), Dexc (4)	3003	Border Ranges Black Booyong Subtropical Rainforest	Rainforests	Subtropical Rainforests	(Rainforests) Border Ranges Black Booyong Subtropical Rainforest	1
NR_334	0.00	Kyogle	Rfsp (30)	3021	Northern Lowland Subtropical Rainforest	Rainforests	Subtropical Rainforests	(Rainforests) Northern Lowland Subtropical Rainforest	1
NR_335	16.67	Kyogle	Rfsp (12), Emic (7), Lcon (4), Eter (3), Epro (2), Cint (1), Ecre (1)	3139	Border Ranges Brush Box-Tallowood Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Border Ranges Brush Box-Tallowood Wet Forest	1
NR_336	0.00	Kyogle	Ar_cun (17), Rfsp (6), Egra (4), Epro (2), Mphi (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0.5
NR_337	0.00	Kyogle	Eter (17), Cint (9), Rfsp (3), Epro (1)	3322	Far North Ranges Red Gum Grassy Forest	Grassy Woodlands	Coastal Valley Grassy Woodlands	(Grassy Woodlands) Far North Ranges Red Gum Grassy Forest	1
NR_339	0.00	Kyogle	Ccit (9), Ccam (7), Prad (5), Grob (3), Ac_spp (2), Mtet (2), Dreg (1), Lcon (1)	3172	Northern Ranges Brush Box-Flooded Gum Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Northern Ranges Brush Box-Flooded Gum Wet Forest	0
NR_340	3.33	Kyogle	Cas_sp (12), Ecar (9), Cint (6), Pund (2), Unknown (1)	3252	Northern Hinterland Grey Gum-Mahogany Grassy Forest	Wet Sclerophyll Forests (Grassy sub-formation)	Northern Hinterland Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Grassy sub-formation)) Northern Hinterland Grey Gum-Mahogany Grassy Forest	1
NR_341	0.00	Kyogle	Emic (10), Lcon (8), Pund (4), Rfsp (3), Ac_spp (1), Cint (1), Egra (1), Eter (1), pele (1)	3172	Northern Ranges Brush Box-Flooded Gum Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Northern Ranges Brush Box-Flooded Gum Wet Forest	1

Site name	Activity	LGA	Species	PCT ID	PCT Name	vegetation form	vegetation Class	PCT form	Match
NR_348	0.00	Kyogle	Edun (26), Ac_spp (4)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0
NR_349	13.33	Kyogle	Emic (11), Wmah (6), Cint (5), Epro (5), Esid (3)	3251	Northern Gorges Diverse Grassy Forest	Wet Sclerophyll Forests (Grassy sub-formation)	Northern Hinterland Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Grassy sub-formation)) Northern Gorges Diverse Grassy Forest	1
NR_350	30.00	Kyogle	Emic (7), pele (7), Rfsp (5), Fcor (3), Aflo (2), Egra (2), Gsem (1), Lcon (1), Ndea (1), Tlau (1)	3139	Border Ranges Brush Box-Tallowwood Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Border Ranges Brush Box-Tallowwood Wet Forest	1
NR_351	0.00	Kyogle	Rfsp (28), Egra (1), pele (1)	3003	Border Ranges Black Booyong Subtropical Rainforest	Rainforests	Subtropical Rainforests	(Rainforests) Border Ranges Black Booyong Subtropical Rainforest	1
NR_352	0.00	Kyogle	Emol (13), Eter (9), Esid (6), Aexc (1), Wmah (1)	3322	Far North Ranges Red Gum Grassy Forest	Grassy Woodlands	Coastal Valley Grassy Woodlands	(Grassy Woodlands) Far North Ranges Red Gum Grassy Forest	1
NR_353	3.33	Kyogle	Eter (13), Cas_sp (6), Cint (5), Aflo (2), Esid (1), Lcon (1), Rfsp (1), Wmah (1)	3139	Border Ranges Brush Box-Tallowwood Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Border Ranges Brush Box-Tallowwood Wet Forest	1
NR_354	0.00	Kyogle	Eter (28), Ctor (1), Kpan (1)	3322	Far North Ranges Red Gum Grassy Forest	Grassy Woodlands	Coastal Valley Grassy Woodlands	(Grassy Woodlands) Far North Ranges Red Gum Grassy Forest	1
NR_356	0.00	Kyogle	Rfsp (12), Eter (4), Ficus (4), Grob (4), Ccam (2), Tlau (2), smor (1), Unknown (1)	4070	Far North River Oak Wet Forest	Forested Wetlands	Eastern Riverine Forests	(Forested Wetlands) Far North River Oak Wet Forest	1
NR_358	0.00	Kyogle	Rfsp (30)	3035	Northern Ranges Coachwood Warm Temperate Rainforest	Rainforests	Northern Warm Temperate Rainforests	(Rainforests) Northern Ranges Coachwood Warm Temperate Rainforest	1

Site name	Activity	LGA	Species	PCT ID	PCT Name	vegetation form	vegetation Class	PCT form	Match
NR_365	0.00	Kyogle	Eamp (13), Epro (6), Emol (4), Aflo (3), Ac_spp (2), Esid (1), Wmah (1)	3465	Northern Gorges Red Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Northern Gorge Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Northern Gorges Red Gum Grassy Forest	1
NR_366	0.00	Kyogle	Epro (16), Emic (5), Cas_sp (4), Esid (3), Emol (2)	3427	Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	0.5
NR_367	0.00	Kyogle	Emol (17), Eter (8), Ecre (4), Ac_spp (1)	3249	Northern Bloodwood-Ironbark Moist Grassy Forest	Wet Sclerophyll Forests (Grassy sub-formation)	Northern Hinterland Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Grassy sub-formation)) Northern Bloodwood-Ironbark Moist Grassy Forest	1
NR_369	33.33	Kyogle	Eter (18), Cint (3), El_gra (3), Mphi (3), Epro (1), pele (1), Unknown (1)	3173	Northern Ranges Dunns Gum-Brush Box Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Northern Ranges Dunns Gum-Brush Box Wet Forest	0.5
NR_371	10.00	Kyogle	Lcon (9), Emic (8), Aflo (4), Sbark (4), Esid (3), Cas_sp (1), Eter (1)	3251	Northern Gorges Diverse Grassy Forest	Wet Sclerophyll Forests (Grassy sub-formation)	Northern Hinterland Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Grassy sub-formation)) Northern Gorges Diverse Grassy Forest	0.5
NR_373	0.00	Kyogle	Rfsp (30)	4105	Border Ranges Red Carabeen Rainforest	Rainforests	Subtropical Rainforests	(Rainforests) Border Ranges Red Carabeen Rainforest	1
NR_374	0.00	Kyogle	Rfsp (30)	3011	Far North Lowland Subtropical Rainforest	Rainforests	Subtropical Rainforests	(Rainforests) Far North Lowland Subtropical Rainforest	1

Site name	Activity	LGA	Species	PCT ID	PCT Name	vegetation form	vegetation Class	PCT form	Match
NR_381	3.33	Kyogle	Wmah (12), Cgla (9), Epro (7), Cint (2)	3427	Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	1
NR_382	0.00	Kyogle	Ecre (6), Emic (5), Lcon (5), Cint (4), Epro (3), Wmah (3), Esid (2), Cgla (1), Eter (1)	3139	Border Ranges Brush Box-Tallowood Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Border Ranges Brush Box-Tallowood Wet Forest	1
NR_385	40.00	Kyogle	Aflo (10), Gsem (7), Rfsp (7), ac_spp (2), Cint (1), Eter (1), hfla (1), Mphi (1)	3322	Far North Ranges Red Gum Grassy Forest	Grassy Woodlands	Coastal Valley Grassy Woodlands	(Grassy Woodlands) Far North Ranges Red Gum Grassy Forest	0
NR_386	0.00	Kyogle	Egra (8), Dexc (7), Rfsp (6), Cas_sp (3), Grob (2), sfra (2), Fcor (1), Unknown (1)	3003	Border Ranges Black Booyong Subtropical Rainforest	Rainforests	Subtropical Rainforests	(Rainforests) Border Ranges Black Booyong Subtropical Rainforest	1
NR_387	0.00	Kyogle	Emic (15), Eter (7), Lcon (3), Melsp (2), Aflo (1), Ar_cun (1), Cint (1)	3139	Border Ranges Brush Box-Tallowood Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Border Ranges Brush Box-Tallowood Wet Forest	1
NR_388	0.00	Kyogle	Rfsp (14), Egra (5), Lcon (4), Cgla (2), Epro (2), Ar_cun (1), Ccam (1), Unknown (1)	4070	Far North River Oak Wet Forest	Forested Wetlands	Eastern Riverine Forests	(Forested Wetlands) Far North River Oak Wet Forest	1
NR_389	0.00	Kyogle	Rfsp (30)	3003	Border Ranges Black Booyong Subtropical Rainforest	Rainforests	Subtropical Rainforests	(Rainforests) Border Ranges Black Booyong Subtropical Rainforest	1
NR_390	0.00	Kyogle	Rfsp (18), Ac_spp (12)	3048	Border Ranges Antarctic Beech Rainforest	Rainforests	Cool Temperate Rainforests	(Rainforests) Border Ranges Antarctic Beech Rainforest	1

Site name	Activity	LGA	Species	PCT ID	PCT Name	vegetation form	vegetation Class	PCT form	Match
NR_394	3.33	Kyogle	Epro (8), Ecar (7), Eter (6), Epun (3), Ac_spp (2), Cint (2), Esal (2)	3139	Border Ranges Brush Box-Tallowood Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Border Ranges Brush Box-Tallowood Wet Forest	0.5
NR_500	30.00	Kyogle	Rfsp (15), Emic (8), Cint (5), Lcon (1), pele (1)	3139	Border Ranges Brush Box-Tallowood Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Border Ranges Brush Box-Tallowood Wet Forest	1
NR_A_36	0.00	Kyogle	Cint (28), Eter (1), Lsua (1)	3427	Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	1
NR_A_37	0.00	Kyogle	Edun (30)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0
NR_A_38	43.33	Kyogle	Emic (24), Cas_sp (6)	3427	Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	0
NR_A_39	3.33	Kyogle	Emol (15), Eter (9), Ccit (4), Ibark (2)	3069	Far North Hinterland Grey Box-Grey Gum Wet Forest	Wet Sclerophyll Forests (Grassy sub-formation)	Northern Hinterland Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Grassy sub-formation)) Far North Hinterland Grey Box-Grey Gum Wet Forest	1
NR_A_40	0.00	Kyogle	Eter (14), Lsua (11), Cint (5)	3427	Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	0.5

Site name	Activity	LGA	Species	PCT ID	PCT Name	vegetation form	vegetation Class	PCT form	Match
NR_A_41	0.00	Kyogle	Wmah (18), Eter (7), Ibark (3), Cint (2)	3427	Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	1
NR_A_43	0.00	Kyogle	Cas_sp (9), Rfsp (5), Emic (4), Mphi (4), Exo (2), Fcor (2), Aflo (1), Ar_cun (1), Ficus (1), Lcon (1)	4033	Far North Hinterland Flats Mesic Apple Forest	Forested Wetlands	Coastal Floodplain Wetlands	(Forested Wetlands) Far North Hinterland Flats Mesic Apple Forest	0.5
NR_A_44	0.00	Kyogle	Wmah (18), Cint (6), Eter (6)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0
NR_A_45	0.00	Kyogle	Ccit (26), Emol (3), Eter (1)	3427	Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	0.5
NR_A_47	0.00	Kyogle	Emol (19), Eter (6), Ibark (3), Ac_spp (1), Grob (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0.5
NR_A_48	3.33	Kyogle	Prad (12), Cana (10), Bank (4), Cint (3), Ccin (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	1
NR_A_49	0.00	Kyogle	Csal (5), Eter (5), Lcon (4), Cas_sp (3), Egra (3), Melsp (3), Mqui (2), Wmah (2), Ac_spp (1), ccit (1), Rfsp (1)	4046	Northern Lowland Swamp Turpentine-Red Gum Forest	Forested Wetlands	Coastal Floodplain Wetlands	(Forested Wetlands) Northern Lowland Swamp Turpentine-Red Gum Forest	1
NR_A_50	0.00	Kyogle	Rfsp (9), Lcon (8), Eres (4), Emic (2), Cint (1), Egra (1), Eter (1), Gsem (1), Ndea (1), pele (1), Sy_sp (1)	3173	Northern Ranges Dunns Gum-Brush Box Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Northern Ranges Dunns Gum-Brush Box Wet Forest	1

Site name	Activity	LGA	Species	PCT ID	PCT Name	vegetation form	vegetation Class	PCT form	Match
NR_A_51	3.33	Kyogle	Emol (12), Wmah (8), Eacm (6), Cas_sp (2), Epro (1), Eter (1)	3427	Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	1
NR_A_52	0.00	Kyogle	Cint (16), Eter (11), Esid (2), Aexc (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0.5
NR_A_53	3.33	Kyogle	Epil (28), Ac_spp (2)	3139	Border Ranges Brush Box-Tallowood Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Border Ranges Brush Box-Tallowood Wet Forest	0.5
NR_A_54	0.00	Kyogle	Aflo (23), Eter (6), Ccam (1)	3427	Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	1
NR_A_55	0.00	Kyogle	Ar_cun (8), Ca_col (3), Cgla (3), Cvim (3), Epro (3), Esal (3), Grob (2), Ccam (1), Ccit (1), Emic (1), Lsua (1), Rfsp (1)	3427	Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	0.5
NR_A_56	0.00	Kyogle	Cint (12), Esid (11), Ac_spp (2), Eter (2), Cas_sp (1), Ccam (1), Emol (1)	3251	Northern Gorges Diverse Grassy Forest	Wet Sclerophyll Forests (Grassy sub-formation)	Northern Hinterland Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Grassy sub-formation)) Northern Gorges Diverse Grassy Forest	1
NR_A_57	0.00	Kyogle	Ecre (16), Eter (10), Ibark (4)	3322	Far North Ranges Red Gum Grassy Forest	Grassy Woodlands	Coastal Valley Grassy Woodlands	(Grassy Woodlands) Far North Ranges Red Gum Grassy Forest	1
NR_A_58	16.67	Kyogle	Esid (8), Eres (7), Cint (3), Eter (3), Rfsp (3), Ecre (2), Sglo (2), Ecar (1), Mphi (1)	3174	Northern Turpentine-Brush Box Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Northern	0.5

Site name	Activity	LGA	Species	PCT ID	PCT Name	vegetation form	vegetation Class	PCT form	Match
								Turpentine-Brush Box Wet Forest	
NR_A_59	0.00	Kyogle	Emic (16), Ac_spp (4), Ccam (4), Unknown (3), Cgla (2), Ecar (1)	4070	Far North River Oak Wet Forest	Forested Wetlands	Eastern Riverine Forests	(Forested Wetlands) Far North River Oak Wet Forest	0.5
NR_A_60	0.00	Kyogle	Eter (5)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0
NR_A_62	36.67	Kyogle	Rfsp (13), Eter (9), Mphi (3), Ccin (2), Aflo (1), Ang_sp (1), Ar_cun (1)	3139	Border Ranges Brush Box-Tallowwood Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Border Ranges Brush Box-Tallowwood Wet Forest	0.5
NR_A_63	0.00	Kyogle	Eter (11), Aflo (8), Lsua (5), Lcon (4), Eamp (2)	3322	Far North Ranges Red Gum Grassy Forest	Grassy Woodlands	Coastal Valley Grassy Woodlands	(Grassy Woodlands) Far North Ranges Red Gum Grassy Forest	1
NR_001	33.33	Richmond Valley	Aflo (12), Eter (11), Ecre (3), Ccam (2), Cint (2)	3422	Clarence Sandstone Rises Spotted Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Clarence Sandstone Rises Spotted Gum Grassy Forest	1
NR_002	0.00	Richmond Valley	Eacm (17), Ccit (8), Ecre (3), Awoo (1), Cint (1)	3422	Clarence Sandstone Rises Spotted Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Clarence Sandstone Rises Spotted Gum Grassy Forest	1
NR_014	16.67	Richmond Valley	Eter (15), Mqui (4), Cgla (2), Erob (2), Esid (2), Exo (2), Call (1), Lsua (1), Melsp (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0
NR_066	0.00	Richmond Valley	Ccit (18), Eter (3), Ecre (2), Aexc (1), Ang_sp (1), Awoo (1), Eacm (1), Epil (1), Esid (1), Gfer (1)	3465	Northern Gorges Red Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Northern Gorge Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Northern Gorges Red Gum Grassy Forest	0.5

Site name	Activity	LGA	Species	PCT ID	PCT Name	vegetation form	vegetation Class	PCT form	Match
NR_068	0.00	Richmond Valley	Ccit (16), Esid (9), Eeug (2), Cint (1), Eacm (1), Wmah (1)	3422	Clarence Sandstone Rises Spotted Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Clarence Sandstone Rises Spotted Gum Grassy Forest	1
NR_070	0.00	Richmond Valley	Ccit (8), Mnod (8), Esid (5), Alei (4), Cgla (3), Cint (1), Epro (1)	3561	Clarence Lowland Smudgy Apple-Paperbark Forest	Dry Sclerophyll Forests (Shrubby sub-formation)	North Coast Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrubby sub-formation)) Clarence Lowland Smudgy Apple-Paperbark Forest	0
NR_071	0.00	Richmond Valley	Sglo (19), Cint (4), Eacm (2), Ccit (1), Chen (1), Ecre (1), Esid (1)	3253	Northern Hinterland Grey Gum-Turpentine Mesic Forest	Wet Sclerophyll Forests (Grassy sub-formation)	Northern Hinterland Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Grassy sub-formation)) Northern Hinterland Grey Gum-Turpentine Mesic Forest	1
NR_074	0.00	Richmond Valley	Etin (8), Ecre (6), Ccit (5), Epro (4), Cint (3), Lsua (2), Aexc (1), Eter (1)	3420	Clarence Lowland Ironbark-Spotted Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Clarence Lowland Ironbark-Spotted Gum Grassy Forest	1
NR_075	0.00	Richmond Valley	Pell (29), Eeug (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	1
NR_077	6.67	Richmond Valley	Ccit (17), Epil (4), Aexc (2), Cint (2), Esid (2), Eter (2), Ecre (1)	3422	Clarence Sandstone Rises Spotted Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Clarence Sandstone Rises Spotted Gum Grassy Forest	1
NR_080	3.33	Richmond Valley	Etin (13), Ccit (9), Cint (7), Ccin (1)	3422	Clarence Sandstone Rises Spotted Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Clarence Sandstone Rises Spotted Gum Grassy Forest	1
NR_081	0.00	Richmond Valley	Epil (26), Cint (3), Lsua (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0

Site name	Activity	LGA	Species	PCT ID	PCT Name	vegetation form	vegetation Class	PCT form	Match
NR_083	0.00	Richmond Valley	Ccit (14), Esid (12), Lsua (3), Eeug (1)	3420	Clarence Lowland Ironbark-Spotted Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Clarence Lowland Ironbark-Spotted Gum Grassy Forest	1
NR_084	0.00	Richmond Valley	Esid (30)	3092	Lower Richmond Floodplain Waterhousea Forest	Rainforests	Dry Rainforests	(Rainforests) Lower Richmond Floodplain Waterhousea Forest	0.5
NR_085	0.00	Richmond Valley	Sglo (20), Mdec (4), Cgla (3), Eter (2), Eres (1)	3428	Northern Lowland Red Gum-Swamp Turpentine Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Northern Lowland Red Gum-Swamp Turpentine Grassy Forest	0
NR_086	0.00	Richmond Valley	Sglo (15), Eacm (4), Emic (4), Cint (2), Epil (2), Lcon (1), Mbra (1), Melsp (1)	4003	Northern Lowland Swamp Turpentine-Mahogany Forest	Forested Wetlands	Coastal Swamp Forests	(Forested Wetlands) Northern Lowland Swamp Turpentine-Mahogany Forest	1
NR_087	0.00	Richmond Valley	Mirb (9), Eres (8), Ecar (4), Aflo (2), Cas_sp (2), Ccit (1), Cint (1), Erac (1), Lsua (1), Sglo (1)	3574	Northern Lowland Sandstones Dry Open Forest	Dry Sclerophyll Forests (Shrubby sub-formation)	North Coast Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrubby sub-formation)) Northern Lowland Sandstones Dry Open Forest	1
NR_088	0.00	Richmond Valley	Mqui (21), Eter (8), Lsua (1)	4001	Northern Floodplain Paperbark Fern Swamp Forest	Forested Wetlands	Coastal Swamp Forests	(Forested Wetlands) Northern Floodplain Paperbark Fern Swamp Forest	1
NR_089	3.33	Richmond Valley	Erob (14), Epil (7), Alei (4), Bser (4), Ac_spp (1)	3548	Far North Sands Scribbly Gum Heathy Forest	Dry Sclerophyll Forests (Shrubby sub-formation)	Coastal Dune Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrubby sub-formation)) Far North Sands Scribbly Gum Heathy Forest	1
NR_090	0.00	Richmond Valley	Epil (13), Rfsp (5), Emic (4), Cint (3), Lcon (3), Sglo (1), Tlau (1)	4078	Northern Gorges River Oak Forest	Forested Wetlands	Eastern Riverine Forests	(Forested Wetlands) Northern Gorges River Oak Forest	0

Site name	Activity	LGA	Species	PCT ID	PCT Name	vegetation form	vegetation Class	PCT form	Match
NR_092	0.00	Richmond Valley	Efib (15), Sbark (8), Cmac (6), Ibark (1)	3422	Clarence Sandstone Rises Spotted Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Clarence Sandstone Rises Spotted Gum Grassy Forest	1
NR_093	0.00	Richmond Valley	Aflo (10), Cint (9), Lsua (4), Eter (3), Ecar (2), Epro (2)	3420	Clarence Lowland Ironbark-Spotted Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Clarence Lowland Ironbark-Spotted Gum Grassy Forest	1
NR_094	13.33	Richmond Valley	Emol (16), Ibark (9), Cint (3), Csal (2)	3420	Clarence Lowland Ironbark-Spotted Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Clarence Lowland Ironbark-Spotted Gum Grassy Forest	1
NR_095	0.00	Richmond Valley	Ac_spp (18), Aflo (3), Emic (3), Eter (2), Unknown (2), Call (1), Cint (1)	4046	Northern Lowland Swamp Turpentine-Red Gum Forest	Forested Wetlands	Coastal Floodplain Wetlands	(Forested Wetlands) Northern Lowland Swamp Turpentine-Red Gum Forest	1
NR_097	0.00	Richmond Valley	Eter (20), Esid (4), Ac_dis (3), Aexc (2), Al_con (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0.5
NR_099	0.00	Richmond Valley	Pell (12), Cint (11), Eter (6), Lsua (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0.5
NR_100	0.00	Richmond Valley	Ccit (14), Esid (8), Epro (4), Eres (4)	3420	Clarence Lowland Ironbark-Spotted Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Clarence Lowland Ironbark-Spotted Gum Grassy Forest	1
NR_101	0.00	Richmond Valley	Cint (12), Erac (5), Sglo (5), Epil (3), Ccit (2), Ecar (1), Sbark (1), Wmah (1)	3573	Northern Lowland Scribbly Gum-Bloodwood Forest	Dry Sclerophyll Forests (Shrubby sub-formation)	North Coast Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrubby sub-formation)) Northern Lowland Scribbly Gum-Bloodwood Forest	0

Site name	Activity	LGA	Species	PCT ID	PCT Name	vegetation form	vegetation Class	PCT form	Match
NR_102	0.00	Richmond Valley	Cint (8), Wmah (8), Alit (7), Epil (7)	3421	Clarence Sandstone Pink Bloodwood Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Clarence Sandstone Pink Bloodwood Grassy Forest	1
NR_103	0.00	Richmond Valley	Cint (13), Erac (6), Cgla (5), Ac_spp (3), Ibark (2), Eres (1)	3989	Far North Paperbark Fern Swamp Forest	Forested Wetlands	Coastal Swamp Forests	(Forested Wetlands) Far North Paperbark Fern Swamp Forest	1
NR_104	0.00	Richmond Valley	Epil (12), Emic (9), Cas_sp (5), Cint (2), Wmah (2)	3169	Northern Hinterland Tallowood-Brush Box Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Northern Hinterland Tallowood-Brush Box Wet Forest	1
NR_106	0.00	Richmond Valley	Cint (10), Aflo (7), Alit (3), Lsua (3), Ac_spp (2), Aexc (1), Alei (1), Ccit (1), Chen (1), Ecar (1)	3422	Clarence Sandstone Rises Spotted Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Clarence Sandstone Rises Spotted Gum Grassy Forest	1
NR_108	0.00	Richmond Valley	Prad (30)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	1
NR_111	3.33	Richmond Valley	Ccit (24), Emol (5), Ecre (1)	3420	Clarence Lowland Ironbark-Spotted Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Clarence Lowland Ironbark-Spotted Gum Grassy Forest	1
NR_112	0.00	Richmond Valley	Eter (25), Lsua (5)	3428	Northern Lowland Red Gum-Swamp Turpentine Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Northern Lowland Red Gum-Swamp Turpentine Grassy Forest	1
NR_113	0.00	Richmond Valley	Eter (11), Lsua (8), Erac (7), Mbra (2), Ccit (1), Cint (1)	4046	Northern Lowland Swamp Turpentine-Red Gum Forest	Forested Wetlands	Coastal Floodplain Wetlands	(Forested Wetlands) Northern Lowland Swamp Turpentine-Red Gum Forest	1

Site name	Activity	LGA	Species	PCT ID	PCT Name	vegetation form	vegetation Class	PCT form	Match
NR_114	0.00	Richmond Valley	Ecre (14), Ac_spp (8), Lsua (8)	3420	Clarence Lowland Ironbark-Spotted Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Clarence Lowland Ironbark-Spotted Gum Grassy Forest	1
NR_115	0.00	Richmond Valley	Lsua (17), Ac_spp (3), Grey gum (3), Cgla (2), Cint (2), Gfer (1), Ibark (1), Mqui (1)	3551	Northern Sands Blackbutt-Red Mahogany Forest	Dry Sclerophyll Forests (Shrubby sub-formation)	Coastal Dune Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrubby sub-formation)) Northern Sands Blackbutt-Red Mahogany Forest	0
NR_116	0.00	Richmond Valley	Egra (18), Cint (4), Eter (3), Sbark (3), Ecar (1), Sglo (1)	4045	Northern Lowland Swamp Turpentine-Paperbark Forest	Forested Wetlands	Coastal Floodplain Wetlands	(Forested Wetlands) Northern Lowland Swamp Turpentine-Paperbark Forest	0.5
NR_117	0.00	Richmond Valley	Mqui (9), Cint (4), Ecre (4), Sglo (4), Ac_spp (3), Eter (2), Cgla (1), Er_arb (1), Ibark (1), Sole (1)	4045	Northern Lowland Swamp Turpentine-Paperbark Forest	Forested Wetlands	Coastal Floodplain Wetlands	(Forested Wetlands) Northern Lowland Swamp Turpentine-Paperbark Forest	1
NR_120	0.00	Richmond Valley	Eter (17), Ccit (7), Esid (2), Lsua (2), Cint (1), Mqui (1)	3422	Clarence Sandstone Rises Spotted Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Clarence Sandstone Rises Spotted Gum Grassy Forest	1
NR_123	16.67	Richmond Valley	Emol (15), Ccit (6), Esid (4), Eter (2), Aexc (1), Cint (1), Epro (1)	3420	Clarence Lowland Ironbark-Spotted Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Clarence Lowland Ironbark-Spotted Gum Grassy Forest	1
NR_124	0.00	Richmond Valley	Epil (16), Cint (5), Eres (5), Lsua (2), Alit (1), Unknown (1)	3421	Clarence Sandstone Pink Bloodwood Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Clarence Sandstone Pink Bloodwood Grassy Forest	1

Site name	Activity	LGA	Species	PCT ID	PCT Name	vegetation form	vegetation Class	PCT form	Match
NR_129	50.00	Richmond Valley	Mqui (17), Erob (5), Lept (3), Bint (2), psqu (2), Mnod (1)	3913	Northern Sandplain Wet Heath	Freshwater Wetlands	Coastal Heath Swamps	(Freshwater Wetlands) Northern Sandplain Wet Heath	1
NR_130	0.00	Richmond Valley	Aflo (24), Eter (6)	3172	Northern Ranges Brush Box-Flooded Gum Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Northern Ranges Brush Box-Flooded Gum Wet Forest	0.5
NR_133	0.00	Richmond Valley	Chen (6), Emol (6), Icon (6), Ccit (4), Eter (3), Esid (2), Ac_spp (1), Aexc (1), Alit (1)	3420	Clarence Lowland Ironbark-Spotted Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Clarence Lowland Ironbark-Spotted Gum Grassy Forest	1
NR_135	0.00	Richmond Valley	Cint (10), Eacm (7), Emic (5), Eter (4), Esid (2), Erac (1), Lcon (1)	3420	Clarence Lowland Ironbark-Spotted Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Clarence Lowland Ironbark-Spotted Gum Grassy Forest	1
NR_136	0.00	Richmond Valley	Cint (14), Emic (5), Rfsp (5), Lcon (2), Aexc (1), Emel (1), Epro (1), Erac (1)	3420	Clarence Lowland Ironbark-Spotted Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Clarence Lowland Ironbark-Spotted Gum Grassy Forest	1
NR_137	0.00	Richmond Valley	Rfsp (28), Lsua (2)	3066	Far North Floodplain Dry Rainforest	Rainforests	Dry Rainforests	(Rainforests) Far North Floodplain Dry Rainforest	1
NR_140	0.00	Richmond Valley	Mqui (28), Aexc (1), Rfsp (1)	3989	Far North Paperbark Fern Swamp Forest	Forested Wetlands	Coastal Swamp Forests	(Forested Wetlands) Far North Paperbark Fern Swamp Forest	1
NR_148	0.00	Richmond Valley	Emol (26), Eter (2), Ca_spp (1), Chen (1)	3420	Clarence Lowland Ironbark-Spotted Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Clarence Lowland Ironbark-	1

Site name	Activity	LGA	Species	PCT ID	PCT Name	vegetation form	vegetation Class	PCT form	Match
								Spotted Gum Grassy Forest	
NR_150	0.00	Richmond Valley	Lsua (21), Eter (5), Ac_spp (3), eter hybrid (1)	3428	Northern Lowland Red Gum-Swamp Turpentine Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Northern Lowland Red Gum-Swamp Turpentine Grassy Forest	1
NR_161	0.00	Richmond Valley	Eter (12), Aflo (10), Ccam (3), Bint (2), Lsua (2), Cint (1), Eres (1)	3102	Northern Lowland Swamp Turpentine Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Northern Lowland Swamp Turpentine Wet Forest	1
NR_163	0.00	Richmond Valley	Eter (26), Esid (2), Ccit (1), Emol (1)	3420	Clarence Lowland Ironbark-Spotted Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Clarence Lowland Ironbark-Spotted Gum Grassy Forest	1
NR_165	13.33	Richmond Valley	Eter (28), Emol (2)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0
NR_166	13.33	Richmond Valley	Eter (14), Lsua (12), Cint (3), Aflo (1)	3420	Clarence Lowland Ironbark-Spotted Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Clarence Lowland Ironbark-Spotted Gum Grassy Forest	1
NR_167	0.00	Richmond Valley	Ac_spp (6), Ecre (6), Lsua (6), Eter (5), Cint (4), Cgla (2), Rfsp (1)	3428	Northern Lowland Red Gum-Swamp Turpentine Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Northern Lowland Red Gum-Swamp Turpentine Grassy Forest	1

Site name	Activity	LGA	Species	PCT ID	PCT Name	vegetation form	vegetation Class	PCT form	Match
NR_168	90.00	Richmond Valley	Eter (29), Rfsp (1)	3428	Northern Lowland Red Gum-Swamp Turpentine Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Northern Lowland Red Gum-Swamp Turpentine Grassy Forest	1
NR_174	0.00	Richmond Valley	Emic (8), Ccam (7), Al_con (6), Aflo (2), Rfsp (2), Ac_mai (1), Aexc (1), Cint (1), Epil (1), Fcor (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0
NR_178	0.00	Richmond Valley	Emol (30)	3428	Northern Lowland Red Gum-Swamp Turpentine Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Northern Lowland Red Gum-Swamp Turpentine Grassy Forest	0
NR_180	0.00	Richmond Valley	Eter (27), Lsua (3)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0.5
NR_194	0.00	Richmond Valley	Cint (13), Ccit (11), Lsua (5), Ibark (1)	3427	Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	1
NR_196	3.33	Richmond Valley	Call (9), Cint (4), Eter (4), G_spp (4), Ctor (2), Epil (2), Ccit (1), Chen (1), Dreg (1), Exo (1), Mqui (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0
NR_197	40.00	Richmond Valley	Eter (28), Mlin (2)	3428	Northern Lowland Red Gum-Swamp Turpentine Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Northern Lowland Red Gum-Swamp Turpentine Grassy Forest	1

Site name	Activity	LGA	Species	PCT ID	PCT Name	vegetation form	vegetation Class	PCT form	Match
NR_208	0.00	Richmond Valley	Ccit (24), Ecre (4), Cint (1), Esid (1)	3427	Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	0
NR_209	0.00	Richmond Valley	Emic (26), Ccit (1), Cgla (1), Eter (1), Mlin (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0
NR_211	6.67	Richmond Valley	Ecar (13), Cint (5), Emic (4), Ac_spp (3), Lsua (3), Ccam (1), Mqui (1)	3323	Far North Lowland Basalt Grassy Forest	Grassy Woodlands	Coastal Valley Grassy Woodlands	(Grassy Woodlands) Far North Lowland Basalt Grassy Forest	1
NR_223	0.00	Richmond Valley	Lsua (17), Cint (12), Ccam (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0
NR_225	0.00	Richmond Valley	Eter (23), Ecar (3), Emic (3), Cana (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0.5
NR_245	0.00	Richmond Valley	Eter (28), Aflo (1), Ficus (1)	4046	Northern Lowland Swamp Turpentine-Red Gum Forest	Forested Wetlands	Coastal Floodplain Wetlands	(Forested Wetlands) Northern Lowland Swamp Turpentine-Red Gum Forest	1
NR_405	0.00	Richmond Valley	Cmac (11), Efib (9), Emol (5), Ibark (4), Sbark (1)	3422	Clarence Sandstone Rises Spotted Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Clarence Sandstone Rises Spotted Gum Grassy Forest	1
NR_408	0.00	Richmond Valley	Ccit (18), Eter (8), Emol (3), Ecre (1)	3420	Clarence Lowland Ironbark-Spotted Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Clarence Lowland Ironbark-Spotted Gum Grassy Forest	1
NR_410	36.67	Richmond Valley	Cmac (19), Emol (4), Cint (2), Efib (2), Aflo (1), Ecre (1), Emic (1)	3420	Clarence Lowland Ironbark-Spotted Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Clarence Lowland Ironbark-Spotted Gum Grassy Forest	1

Site name	Activity	LGA	Species	PCT ID	PCT Name	vegetation form	vegetation Class	PCT form	Match
NR_411	10.00	Richmond Valley	Cmac (16), Ecre (7), Emol (7)	3420	Clarence Lowland Ironbark-Spotted Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Clarence Lowland Ironbark-Spotted Gum Grassy Forest	1
NR_A_02	0.00	Richmond Valley	Alei (6), Esid (5), Ecre (4), Sglo (4), Cint (3), Lsua (3), Awoo (2), Ccit (2), Epil (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0
NR_A_04	0.00	Richmond Valley	Pell (15), Lsua (4), Epil (3), Cint (2), Esid (2), Eter (2), Ccit (1), Rfsp (1)	3102	Northern Lowland Swamp Turpentine Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Northern Lowland Swamp Turpentine Wet Forest	0.5
NR_A_05	3.33	Richmond Valley	Ccit (15), Esid (12), Lsua (2), Eter (1)	3420	Clarence Lowland Ironbark-Spotted Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Clarence Lowland Ironbark-Spotted Gum Grassy Forest	1
NR_A_06	0.00	Richmond Valley	Eter (17), Aexc (8), Lcon (4), Emol (1)	3102	Northern Lowland Swamp Turpentine Wet Forest	Wet Sclerophyll Forests (Shrubby sub-formation)	North Coast Wet Sclerophyll Forests	(Wet Sclerophyll Forests (Shrubby sub-formation)) Northern Lowland Swamp Turpentine Wet Forest	1
NR_A_07	3.33	Richmond Valley	Esid (11), Lsua (10), Eter (5), Alit (2), Cint (2)	3428	Northern Lowland Red Gum-Swamp Turpentine Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Northern Lowland Red Gum-Swamp Turpentine Grassy Forest	0.5
NR_A_08	0.00	Richmond Valley	Cint (9), Cgla (8), Sglo (7), Wmah (4), Ecre (1), Eter (1)	3564	Clarence Sandstone Bloodwood-Stringybark Forest	Dry Sclerophyll Forests (Shrubby sub-formation)	North Coast Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrubby sub-formation)) Clarence Sandstone Bloodwood-Stringybark Forest	1
NR_A_10	0.00	Richmond Valley	Eter (29), Lsua (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0.5

Site name	Activity	LGA	Species	PCT ID	PCT Name	vegetation form	vegetation Class	PCT form	Match
NR_A_11	0.00	Richmond Valley	Eter (19), Exo (5), Lsua (3), Ac_spp (1), Ccit (1), Msty (1)	4046	Northern Lowland Swamp Turpentine-Red Gum Forest	Forested Wetlands	Coastal Floodplain Wetlands	(Forested Wetlands) Northern Lowland Swamp Turpentine-Red Gum Forest	1
NR_A_12	0.00	Richmond Valley	Esid (11), Emol (8), Eter (5), Chen (3), Cint (2), Ccit (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0.5
NR_A_13	0.00	Richmond Valley	Eter (12), Cint (9), Lsua (6), Ecre (2), Ficus (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0.5
NR_A_14	63.33	Richmond Valley	Eter (13), Emic (10), Wmah (3), Egra (2), Aexc (1), Grob (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0.5
NR_A_15	0.00	Richmond Valley	Cint (13), Bint (6), Eter (5), Alei (3), Aexc (1), Epil (1), Mqui (1)	3564	Clarence Sandstone Bloodwood-Stringybark Forest	Dry Sclerophyll Forests (Shrubby sub-formation)	North Coast Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrubby sub-formation)) Clarence Sandstone Bloodwood-Stringybark Forest	1
NR_A_16	0.00	Richmond Valley	Cint (12), Lcon (7), Esid (6), Emic (4), Eter (1)	3428	Northern Lowland Red Gum-Swamp Turpentine Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Northern Lowland Red Gum-Swamp Turpentine Grassy Forest	0
NR_A_17	0.00	Richmond Valley	Eter (21), Aexc (3), Cint (3), Aflo (2), Unknown (1)	3427	Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	1
NR_A_18	13.33	Richmond Valley	Chen (8), Emol (8), Eter (7), Ccit (6), Esid (1)	3420	Clarence Lowland Ironbark-Spotted Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Clarence Lowland Ironbark-Spotted Gum Grassy Forest	1
NR_A_19	20.00	Richmond Valley	Lsua (16), Eter (9), Cint (3), Al_con (1), di_au (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0

Site name	Activity	LGA	Species	PCT ID	PCT Name	vegetation form	vegetation Class	PCT form	Match
NR_A_20	0.00	Richmond Valley	Cint (17), Eter (10), Lsua (3)	3420	Clarence Lowland Ironbark-Spotted Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Clarence Lowland Ironbark-Spotted Gum Grassy Forest	1
NR_A_21	0.00	Richmond Valley	Rgum (15), Lsua (7), Cgla (6), Eter (1), Mqui (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0.5
NR_A_22	0.00	Richmond Valley	Esid (14), Eter (8), Cint (4), Lcon (4)	3422	Clarence Sandstone Rises Spotted Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Clarence Sandstone Rises Spotted Gum Grassy Forest	1
NR_A_23	0.00	Richmond Valley	Ccit (19), Emol (9), Eter (2)	3422	Clarence Sandstone Rises Spotted Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Clarence Sandstone Rises Spotted Gum Grassy Forest	1
NR_A_24	0.00	Richmond Valley	Eter (27), Lsua (2), Emol (1)	3428	Northern Lowland Red Gum-Swamp Turpentine Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Northern Lowland Red Gum-Swamp Turpentine Grassy Forest	1
NR_A_25	13.33	Richmond Valley	Eter (10), Emic (7), Ctrac (4), Aflo (3), Er_ves (2), Ac_mai (1), Ator (1), Emel (1), pele (1)	3427	Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	1
NR_A_26	0.00	Richmond Valley	Ccit (25), Rfsp (3), Cint (1), Lsua (1)	4046	Northern Lowland Swamp Turpentine-Red Gum Forest	Forested Wetlands	Coastal Floodplain Wetlands	(Forested Wetlands) Northern Lowland Swamp Turpentine-Red Gum Forest	0.5
NR_A_27	6.67	Richmond Valley	Emol (21), Mnod (4), Aflo (2), Cgla (2), Eter (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0

Site name	Activity	LGA	Species	PCT ID	PCT Name	vegetation form	vegetation Class	PCT form	Match
NR_A_28	30.00	Richmond Valley	Cgla (13), Eter (5), Rfsp (5), Lsua (4), Mphi (2), Unknown (1)	3428	Northern Lowland Red Gum-Swamp Turpentine Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub- formation)) Northern Lowland Red Gum- Swamp Turpentine Grassy Forest	0.5
NR_A_29	23.33	Richmond Valley	Cint (13), Ccit (11), Eter (4), ac_lei (1), Alit (1)	3427	Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub- formation)) Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	1
NR_A_30	43.33	Richmond Valley	Eter (14), Cint (5), Ccam (4), Ctor (3), Epro (2), Ar_cun (1), Ccit (1)	3420	Clarence Lowland Ironbark-Spotted Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub- formation)) Clarence Lowland Ironbark- Spotted Gum Grassy Forest	1
NR_A_31	3.33	Richmond Valley	Esid (11), Lsua (5), Cgla (4), Emol (4), Eter (4), Cint (2)	3323	Far North Lowland Basalt Grassy Forest	Grassy Woodlands	Coastal Valley Grassy Woodlands	(Grassy Woodlands) Far North Lowland Basalt Grassy Forest	0.5
NR_A_32	0.00	Richmond Valley	Cas_sp (13), Eter (11), Ccit (4), Lcon (1), Lsua (1)	0	Not native vegetation	Not native vegetation	Not native vegetation	(Not native vegetation) Not native vegetation	0.5
NR_A_33	0.00	Richmond Valley	Eter (9), Cint (8), Emic (6), Lsua (3), Jmim (2), Rfsp (2)	3427	Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub- formation)) Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	1
NR_A_34	0.00	Richmond Valley	Lsua (15), Cint (9), Aflo (5), Aexc (1)	3427	Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub- formation)) Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	1

Site name	Activity	LGA	Species	PCT ID	PCT Name	vegetation form	vegetation Class	PCT form	Match
NR_A_35	0.00	Richmond Valley	Emel (17), Ccit (12), Esid (1)	3427	Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest	1
NR_A_46	0.00	Richmond Valley	Cint (17), Ecar (9), Ator (1), Bint (1), Eter (1), Lcon (1)	3422	Clarence Sandstone Rises Spotted Gum Grassy Forest	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Clarence Dry Sclerophyll Forests	(Dry Sclerophyll Forests (Shrub/grass sub-formation)) Clarence Sandstone Rises Spotted Gum Grassy Forest	0.5