



Threatened Woodland Fauna Constraints Analysis Wak Wak Solar Farm TE H2 Australia Pty Ltd



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EXECUTIVE SUMMARY

TE H2 Australia Pty Ltd (TE H2) propose to develop a solar farm on NT Portion 4477, approximately 40 km south-east of Darwin. The study area considered in this report is an approximately 9,000 ha area within the boundaries of NT Portion 4477. Four species of threatened woodland fauna have been recorded within the study area and minimising impacts on these is a consideration in the planning for the project.

EcOz Environmental Consultants (EcOz) were engaged by TE H2 to provide an assessment of habitat quality for these threatened species within the study area. This information can be used to inform TE H2 decision-making and project design in accordance with the mitigation hierarchy, to first avoid areas of high-quality habitat where feasible. This report describes the methodology for assessing habitat quality across the study area, and the results of this assessment.

Two independent approaches were used to measure and determine the quality of habitat and likelihood of occurrence for the four threatened woodland fauna species. The first approach used remote-sensing products and statistical analyses to develop a species' distribution model of threatened woodland fauna for the study area. The model was formulated and statistically validated with survey records (presence and absence data of focal species) collected by EcOz as part of surveys for the TE H2 project.

The second approach leveraged the habitat characteristics measured during an intensive ecological survey of the site. A total of 170 sites were measured for a range of attributes that are thought to be associated with the four species. These attributes were combined and scored using a scoring rubric that has been developed for one of these two – Northern Brushtail Possum – in the Top End of the Northern Territory. Spatial statistics were used to derive a map of interpolated habitat scoring across the study area.

An analysis of the field measured habitat characteristics suggests that mapped woodlands and open forests in the south-west contain areas of highest quality habitat, while the remote-sensing results suggest that the threatened woodland fauna are commonly encountered in taller woodlands that have a low late-season fire frequency.

There was general agreement between the spatial distribution of results derived using the two approaches, with the south-west of the study area containing large contiguous areas of high-quality habitat and high likelihoods of occurrence. The central part of the study area contains a mix of habitat qualities and likelihood of occurrences that tend to be lower towards the north-east, increasing in the north, with generally lower habitat quality to the east.

While there was general agreement in results, there were some areas with discrepancies between the two methods. These discrepancies were investigated to see if there were underlying patterns in the data that was used to determine the scoring.

The results of both approaches were added together into a composite map. This mapping suggests that areas in the south-west contain the highest quality woodland habitats, with other areas of high-quality habitat in the far north. Areas in the far south, central and eastern parts of the study area have lower estimated habitat quality for threatened woodland fauna.

This mapping can be used to refine the design of the project in accordance with the mitigation hierarchy, with respect to habitat quality for these threatened fauna species. The next steps to fully mapping areas that should be considered for avoidance should incorporate a holistic approach that considers other identified constraints (e.g., environmental, cultural, hydrogeological) and the potential for habitat connectivity. Retaining individual, isolated areas of habitat for these species may not be a suitable outcome. Corridors that connect areas of high-quality habitat may improve the outcomes for threatened woodlands fauna in a development scenario and should be considered.

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1 INTRODUCTION

TE H2 Australia Pty Ltd (TE H2) proposes to develop a large-scale solar project – Wak Wak Solar Farm – on NT Portion 4477 approximately 40 km south of Darwin (Figure 1-1).

The project will be referred for assessment under both the Northern Territory (NT) *Environment Protection Act 2019 (EP Act)* and Commonwealth *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)*. The assessment and approval process under the *EP Act* requires assessment of impacts to terrestrial ecosystem values, with a particular focus on significant vegetation communities and threatened species. The primary focus of the Commonwealth assessment and approval process will be threatened species¹.

Section 26 of the *EP Act* requires proponents to act in accordance with the environmental decision-making hierarchy (analogous to the 'mitigation hierarchy'). Under Section 26 of the *EP Act*, proponents must, in the following order of priority:

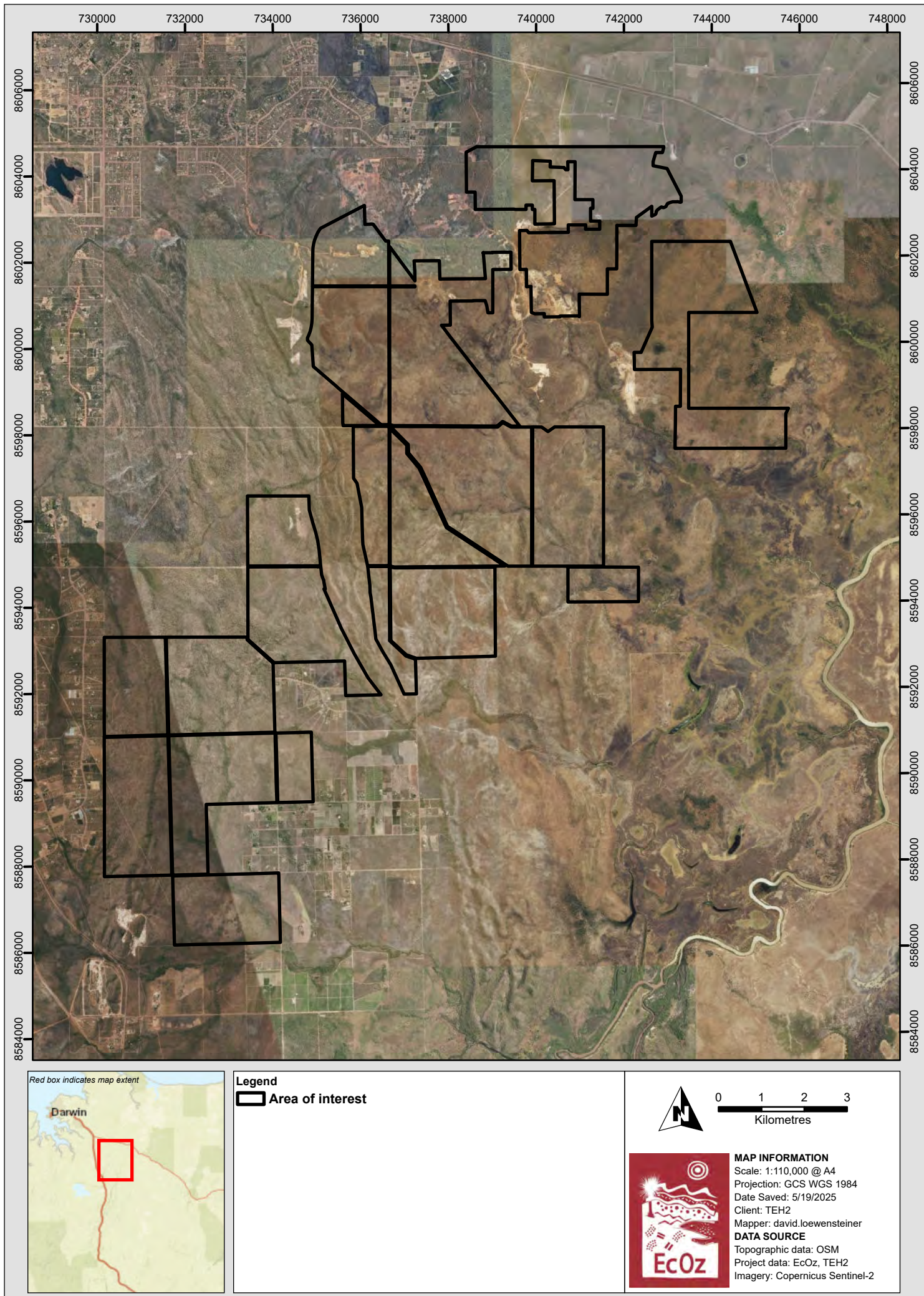
- a) Ensure that actions are designed to avoid adverse impacts on the environment.
- b) Identify management options to mitigate adverse impacts on the environment to the greatest extent practicable.
- c) If appropriate, provide for environmental offsets in accordance with this Act for residual adverse impacts on the environment that cannot be avoided or mitigated.

Additionally, Section 3A(d) of the *EPBC Act* outlines the principles of ecologically sustainable development, namely that '*the conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making*'.

This environmental decision-making hierarchy is also central to the *EPBC Act* Environmental Offsets Policy (DSEWPC 2012) that determines that avoidance measures may be achieved through '*comprehensive planning and suitable site selection*', followed by implementing mitigation of any remaining significant impact. '*Avoidance and mitigation measures can reduce, and in some cases, remove the need for offsets if the residual impact is not significant.*' Additionally, '*Offsets will not be considered until all reasonable avoidance and mitigation measures are considered, or acceptable reasons are provided as to why avoidance or mitigation of impacts is not reasonably achievable*' (DSEWPC 2012).

In 2023, EcOz Environmental Consultants (EcOz) were engaged to undertake ecological surveys to understand the presence and extent of ecological values with the portion of NT Portion 4477 being considered for the solar farm – known as the *study area* (see Figure 1-1). These surveys targeted and detected threatened species and significant vegetation communities in the study area. Therefore, significant vegetation communities and threatened species are considered constraints to development, and avoidance of impacts to these values (where feasible) must be considered by proponents.

¹ Threatened species are considered a Matter of National Environmental Significance (MNES) in accordance with Part 3, Division 1, Subdivision C of the *EPBC Act*.



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Figure 1-1. Map of NT Portion 4477 and the study area

Some of the threatened species that were detected are restricted to defined and distinct habitats – such as Howard River Toadlet (*Uperoleia daviesae*), which inhabits sandsheet heath habitats – that can be clearly defined and mapped. Other species inhabit forests and woodlands which often occur over broad areas. Henceforth, these species are referred to as *threatened woodland fauna*. One member of this class of species – the Northern Brushtail Possum (*Trichosurus vulpecula arnhemensis*) – is the focus of this report.

When planning and siting a project at the proposed scale of TE H2, it is possible to avoid defined and distinct threatened species' habitats – such as sandsheet heath. This is because there is flexibility in design and location of solar panels and associated infrastructure. In contrast, habitats for threatened woodland fauna occur over large portions of the study area and so may not be able to be avoided completely.

There are habitat characteristics that threatened woodland fauna are known to prefer. Desktop tools and field-based techniques can be used to quantify and map these characteristics, and thereby further inform (in addition to records of presence) the *relative* quality of habitat for these species in the study area (and with reference to habitat quality in the surrounding landscape), and therefore the likely value of these forests and woodlands considering regulatory impact assessment requirements (i.e. significant impact assessments).

This report has used desktop tools and field-based techniques to identify and assess the relative quality of habitat across the study area for threatened woodland fauna. This suitability, or quality of habitat, may be considered a proxy measure to determine if a parcel of land is more constrained to development. With this approach, potential habitat has been assessed for quality and mapped. The resulting map can be used to identify the parts of the study area that are considered highly constrained to development, and subsequently inform project feasibility and design.

2 APPROACH

2.1 Species considered

The International Union for Conservation of Nature nominates a set of criteria to identify species at risk of extinction. These criteria are used to define categories of risk which are used by the NT Government to inform which species are listed as threatened under the *Territory Parks and Wildlife Conservation Act (TPWC Act 1976)* and by the Commonwealth Government to list species under the *EPBC Act*. In the Top End of the NT, multiple species of woodland fauna have been listed as threatened species (Vulnerable, Endangered or Critically Endangered) under one or both Acts. Several of these species have been recorded from surveys within the study area and are described below.

Northern Brushtail Possum (Trichosurus vulpecula arnhemensis)

The Northern Brushtail Possum is listed as Vulnerable under the *EPBC Act*. It is a medium-sized nocturnal marsupial which dens in tree hollows and forest canopy during the day. Its diet consists of leaves, flowers and fruits (Woinarski et al. 2014). The Northern Brushtail Possum is generally associated with tall eucalypt open forests with large hollow-bearing trees and an understorey comprised of at least some shrubs that bear fleshy fruits (Friend and Taylor 1985, Stobo-Wilson et al. 2019). Studies indicate that the sub-species may have a home range of approximately one hectare (ha) in high quality habitat (Kerle 1998).

Threats to Northern Brushtail Possum include predation from Feral Cats, and the combined effects of intense and frequent bushfire and invasive grasses that alter and degrade habitat. Habitat alterations include the loss of understorey shrubs, the increase in invasive grasses, and reduced cover. These, in turn, increase predation by Feral Cats (McGregor et al. 2015, McGregor et al. 2016).

Black-footed Tree-rat (Mesembriomys gouldii gouldii)

The Kimberley and mainland NT sub-species of the Black-footed Tree-rat is listed as Endangered under the *EPBC Act* and the *TPWC Act*. It is a medium-sized nocturnal rodent that is largely arboreal, but also forages on the ground. The Black-footed Tree-rat predominantly occurs in woodlands and lowland open forests with large trees dominated by *Eucalyptus miniata* and/or *E. tetradonta* with a moderately dense and diverse mid-storey of small trees and shrubs where it dens mostly in tree hollows, but may also use clumps of *Pandanus spiralis* (DEPWS 2021). The Black-footed Tree-rat generally requires fruit and seed resources – including *Pandanus* fruits, fruiting trees and shrubs (Rankmore 2006). Black-footed Tree-rats have a large home range (~67 ha) (Rankmore and Friend 2008).

The sub-species is thought to be more prevalent in woodlands with infrequent and low intensity fires (Price and Baker 2005) with greater fruiting species diversity to support a greater abundance of Black-Footed Tree-rat individuals (Rankmore 2006). Frequently burnt landscapes may contain fewer larger hollow-bearing trees which are an important resource for the species, whilst natural events such as cyclones may also reduce the number of trees and hence hollow availability (Woinarski and Westaway 2008). This sub-species does not use highly modified habitat and requires forested corridors connecting remnant patches of intact woodland larger than 1 ha in size (Rankmore and Price 2004).

Inappropriate fire regimes and habitat fragmentation caused by land clearing appear to be the main drivers of this species decline, as well as predation by Feral Cats (Hill 2020). The continuing decline of this sub-species means that all known populations and habitat supporting them is considered important and should be protected wherever possible (TSSC 2015).

Bare-rumped Sheath-tailed Bat (Saccolaimus saccolaimus nudiclunatus)

The Bare-rumped Sheath-tail Bat is listed as Vulnerable under the *EPBC Act*. A large, high-flying insectivorous bat, this sub-species occurs across two separate areas in northern Australia: a north-eastern Queensland

population and a western population which extends along coastal areas of the western portion of the Gulf of Carpentaria, north-western portions of the Top End NT, the Victoria Bonaparte region and the Kimberley (Armstrong et al. 2021; McKenzie et al., 2018).

There have been relatively few records of Bare-rumped Sheath-tail Bats across this broad distribution, suggesting a fragmented distribution. The sub-species is difficult to capture because of its high flight and echolocation studies have reported constraints in distinguishing records with closely related species (Armstrong et al. 2021; McKenzie and Bullen 2019; Woinarski et al. 2014). In the NT, Bare-rumped Sheath-tail Bat specimens have been collected from *Pandanus* woodland fringing the sedgeland of the South Alligator River, and Eucalyptus tall open forests (Churchill 2008; Friend and Braithwaite 1986), with more recent records from Howard Springs (Milne et al. 2009). Bare-rumped Sheath-tail Bats have been detected at 11 locations within the NT, and most records occur within near-coastal or lowland (woodland, forest, open environment) habitats with one recent exception 150 km inland (McKenzie et al. 2018; Woinarski et al. 2014).

Bare-rumped Sheath-tail Bats forage above open and edge canopies (McKenzie and Bullen 2018), and roost in groups of 10 to 100 individuals in large trees (*E. miniata*, *E. tetradonta* and *Melaleuca leucadendra*) generally characterised by broken tree trunks, large branches (Armstrong et al. 2021; Murphy 2001; Schulz and Thomson 2007) and deep hollow pipes > 18 cm in diameter with entrances > 6 m from the ground (Churchill 2008; Milne pers. comm.). The most severe threat to Bare-rumped Sheath-tail Bats is habitat loss and fragmentation – in particular the loss of roost trees (Woinarski et al. 2014).

Partridge Pigeon (eastern sub-species) (Geophaps smithii smithii)

The Partridge Pigeon is a medium-sized ground-dwelling bird which forages entirely on the ground and rarely flies, except when flushed. The sub-species is largely sedentary and typically occurs singly or in small family groups. Larger aggregations may occur around waterholes. The Partridge Pigeon nests on the ground, preferentially in lowland eucalypt open forests and woodlands at sites with relatively dense grass cover. This contrasts with the relatively open (often burnt) areas the sub-species prefers for feeding, which suggests that fire regimes may significantly affect the species. Nesting occurs mostly in the early dry season (Woinarski 2006).

The eastern sub-species of Partridge Pigeon occurs across the Top End and the Kimberley; however, it has declined or disappeared from much of the lower rainfall parts of this range over the last century (Woinarski 2004a). The species is listed as Vulnerable under the *EPBC Act* and *TPWC Act*. The sub-species is largely sedentary; however, individuals can travel distances of 5 to 10 km in the Wet season in search of food and water resources (Woinarski 2004a, b). Home ranges vary seasonally between 8 and 31 ha (Fraser 2001). The Partridge Pigeon is primarily found in open forest and woodland dominated by *Eucalyptus tetradonta* and *E. miniata* that has a structurally diverse understory (DEWHA 2010). According to Fraser (2001), the Partridge Pigeon favours a structurally patchy savanna understorey at a relatively intricate scale. In all seasons, the sub-species prefers to feed in areas that have an open ground layer (e.g. following fire); however, they are more likely to nest at sites where there is high vegetation cover. These vegetated areas are also often used as roost sites and when retreating from disturbance.

The major threat to the Partridge Pigeon is change in fire regime to one where fires extend over large areas, and the mosaic of fire ages is erased (Fraser et al. 2003; Garnett et al. 2011). Associated with larger, more intense fires is an increase in predation pressure by Feral Cats following the reduction in habitat cover (Woinarski 2006). Furthermore, the sub-species is threatened by the invasion of exotic pasture grasses, such as Gamba Grass (*Andropogon gayanus*), which then provide greater fuel loads and promote large fires that further change the natural vegetation structure (Garnett et al. 2011).

Summary

The threats to the species described here are multi-factorial – there is not one direct cause for observed population declines (Woinarski et al. 2011). These threats are summarised in Table 2-1.

Table 2-1. Summary of threats to threatened woodland fauna (as denoted by a ✓)

Species	Fire – direct mortality	Change in understorey structure – fire and invasive grasses	Predation by Feral Cats	Decrease in tree hollow availability	Loss of mid-storey diversity
	Northern Brushtail Possum	✓	✓	✓	✓
	Black-footed Tree-rat	✓	✓	✓	✓
	Bare-rumped Sheath-tailed Bat	✓	-	✓	-
	Partridge Pigeon	-	✓	-	-

Some of these threatening processes can be measured in the field (e.g. density of invasive grasses) and/or mapped using remote sensing (fire frequency and extent), while other threats – such as predation by Feral Cats – can be grossly estimated (Legge et al. 2017, Stobo-Wilson et al. 2022). There are complex interactions between many of these threats (Woinarski et al. 2011). For example, high frequency or intense fire regimes increase the abundance and spread of invasive grasses. This further increases fuel loads, increasing fire intensity that seasonally reduces the complexity of, or completely removes, the understorey, which then increases the predation risk of threatened woodland fauna to Feral Cats. (McGregor et al. 2014, Setterfield et al. 2013). The complex interactions between these threats suggests that a measure of habitat quality for threatened woodland fauna will require incorporating multiple habitat attributes for these species.

The approach used here assesses habitat quality using two independent approaches – species distribution modelling and field-based measures of habitat quality.

Because there is relatively limited information about the ecology of several of the targeted threatened woodland fauna species, the Northern Brushtail Possum was used for the species distribution modelling and as the basis of field-based measures of habitat quality. Doing so presumes that the spatial extent of the predicted likelihood of occurrence and high habitat quality for these species coarsely encompasses those for the other three species. This presumption is based upon the current (but more limited) knowledge of these species – detailed above – that suggest that the threats and habitat characteristics that these species rely upon is a subset of the threats and habitat characteristics associated with the Northern Brushtail Possum.

2.2 Species distribution modelling

The first approach to assessing habitat quality of threatened woodland fauna was to use a species distribution modelling framework. Species distribution models (SDM's) are used to understand and predict the geographic range that a species will occupy. SDM's are underpinned by a set of known occurrences and, ideally, absence records for a species. The SDM is formulated using a set of predictor variables that may be related to the ecology, behaviour or physiology of the species. For instance, latitude and elevation may be predictors for species that have a thermal threshold below which they do not, or cannot, inhabit.

More recently, SDM frameworks have been coupled with high-resolution data from a range of sources (including satellites, aircraft and drones) to create small-scale SDM's of a species' habitat and range within a defined area that is a subset of the species' broader geographic range (Rather et al. 2020, Northrup et al. 2021). These SDM's, sometimes called habitat distribution models, may have the potential to predict the habitat a species occupies given appropriate predictor variables. For instance, a high-resolution LiDAR-derived canopy height model – coupled with other predictor variables – may be used to inform the distribution of habitat characteristics that may be associated with the presence of threatened woodland fauna.

2.3 Field assessment of habitat characteristics

The second approach to measuring habitat quality was to take direct measurements of habitat characteristics that are thought to be associated with Northern Brushtail Possum. This field assessment was completed at 170 sites across the study area. An analysis of previous research and knowledge into the habitat preferences and requirements of threatened woodland fauna (summarised in Section 2.1) was used to decide which habitat characteristics to measure in the field. A scoring protocol (Appendix A) that has been previously used to calculate the quality and size of development offsets for Northern Brushtail Possum was adapted to score the habitat characteristics across the survey area. This protocol categorises and weights the measured habitat characteristics on a uniform scoring scale – with low scoring sites presumed to represent lower quality habitat, and high scoring sites presumed to represent higher quality habitat for threatened woodland fauna.

2.4 Evaluation approaches

The outputs of the SDM and the field assessment of habitat characteristics resulted in two separate spatially-explicit habitat quality scoring systems that were mapped to the study area. Discrepancies between the approaches were evaluated to determine if there were specific and/or consistent reasons that contribute to these discrepancies. Finally, an additive approach was used that combined the results of both approaches to produce a map of potential habitat quality for threatened woodland fauna across the study area. These approaches are described in detail in the following sections.

3 SPECIES DISTRIBUTION MODELLING

3.1 Overview

An SDM was developed to describe the statistical relationships between remote camera detections and non-detections of Northern Brushtail Possum, and a set of environmental predictor variables. The SDM was evaluated using standard approaches that evaluate the statistical rigour of the model. The results of the SDM can be used to infer the combination of predictor variables that influence the presence of Northern Brushtail Possum across the study area, and to predict the likelihood of occurrence of this species across the study area.

3.2 Method

The SDM was created using the R statistical computing language (R Core Team 2024). A study area was defined as the spatial extent of the LiDAR-derived canopy height model that was provided by TE H2 (Figure 3-6).

For most SDM applications, the predictor variables must be in the form of raster (or gridded) data, such that a geographic or study area is divided into a set of cells where each cell is represented by the various predictor variables. As a result, all predictor variables must be aligned and trimmed to cover the same spatial extent and of the same spatial resolution. For this study, a spatial resolution of 1 ha (100 m x 100 m grid cell size) was used.

The SDM was formulated with results of recent camera trapping survey results by EcOz in 2023 and supplemented with recent records of Northern Brushtail Possum (i.e. since 2013) that were extracted from the NT Fauna Atlas on NR Maps (DLPE, 2025) and clipped to the extent of the study area. For the camera trap survey results, each day that the species was recorded at a site was counted as an occurrence. As a result, sites that had many days with the species on camera were included multiple times in the SDM.

Predictor values that were used to create the SDM included fire frequency, late season fire frequency, distance to mapped watercourse, distance to second-order watercourse, distance to third-order or greater watercourse, canopy height and canopy variability. The derivation of each of these layers is described below.

3.2.1 Predictor values

Fire

Fires are a regular occurrence in the region. Regional fire history and fire scar mapping was obtained through the [Northern Australia and Rangelands Fire Information](#) (NAFI) website. Late season fires (from August onwards) are typically hotter than those occurring earlier in the Dry season. They are often anthropogenic in origin (i.e. not caused by lightning), and their effect on many native flora and fauna is detrimental.

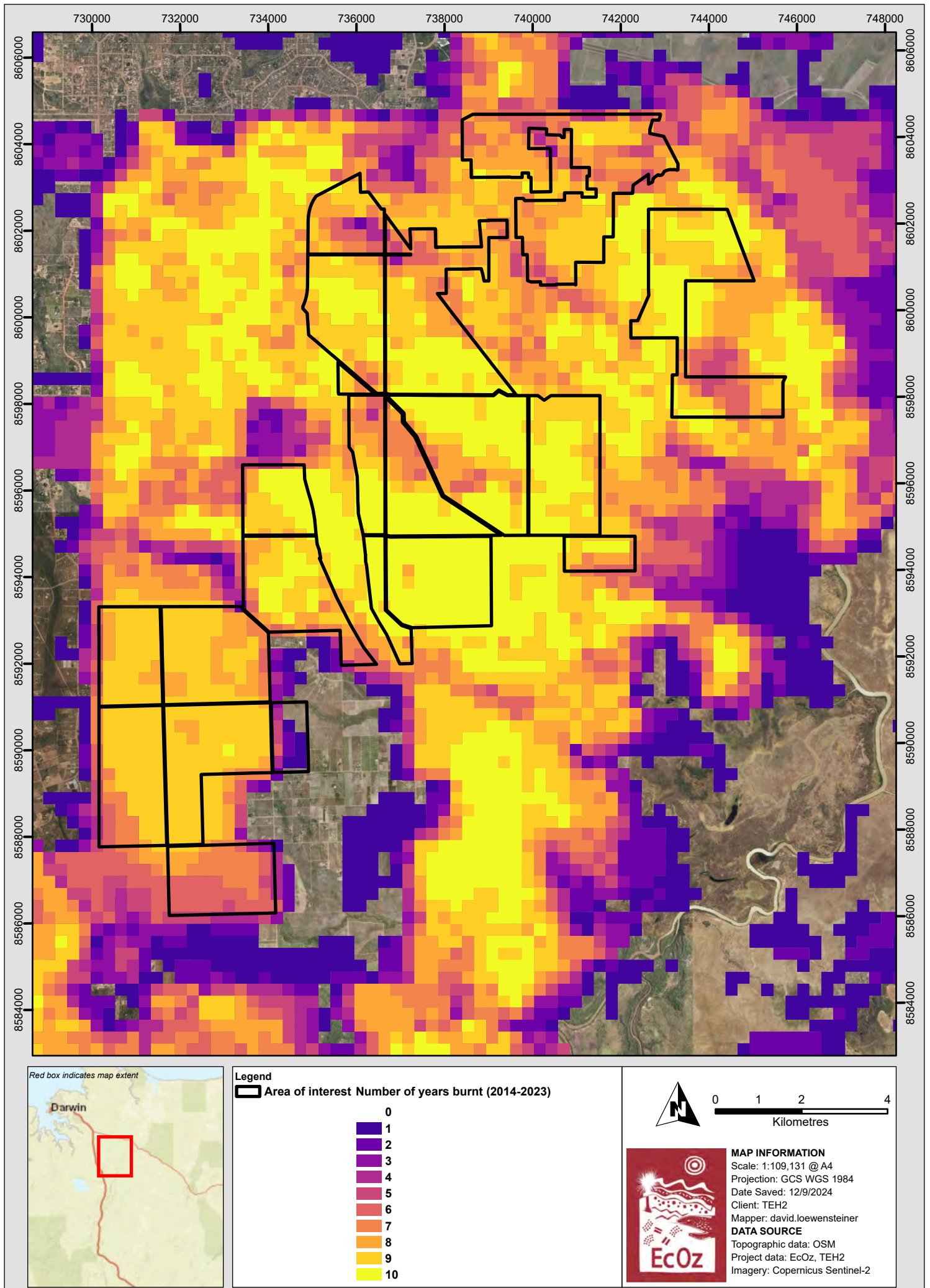
Fire history mapping was acquired for the most recent decade (2014 to 2023). The data from NAFI is in a polygon vector format, with contiguous areas that have the same fire frequency represented within a single polygon. The fire frequency vector layer includes a tally of the number of times that each area has burned in the last decade. The late season fire frequency vector layer includes a tally of the number of times that an area has burned from 1 July onwards each year. These two vector layers (Figure 3-1, Figure 3-2) were transformed to raster layers and re-sampled from a resolution of 275 x 275 m to a resolution of one hectare.

Although the savanna woodlands of the Top End regularly experience fire, it is fire frequency and intensity that are the important drivers influencing the persistence of many threatened woodland fauna and directly linked to declines in populations of many species (Woinarski et al. 2011, Lawes et al. 2015).

The vegetation dynamics in these ecosystems are strongly shaped by fire. For example, many species of fruiting and flowering shrubs and small trees are relatively fire sensitive, and the reduction or removal of these species (Vigilante and Bowman 2004, Vigilante et al. 2004, Atchison 2009) has been identified as a key process driving the decline of many threatened woodland fauna (Woinarski et al. 2011) because those fauna rely on fruiting and flowering shrubs for food resources (Friend and Taylor 1985, Kerle 1985, Friend 1987).

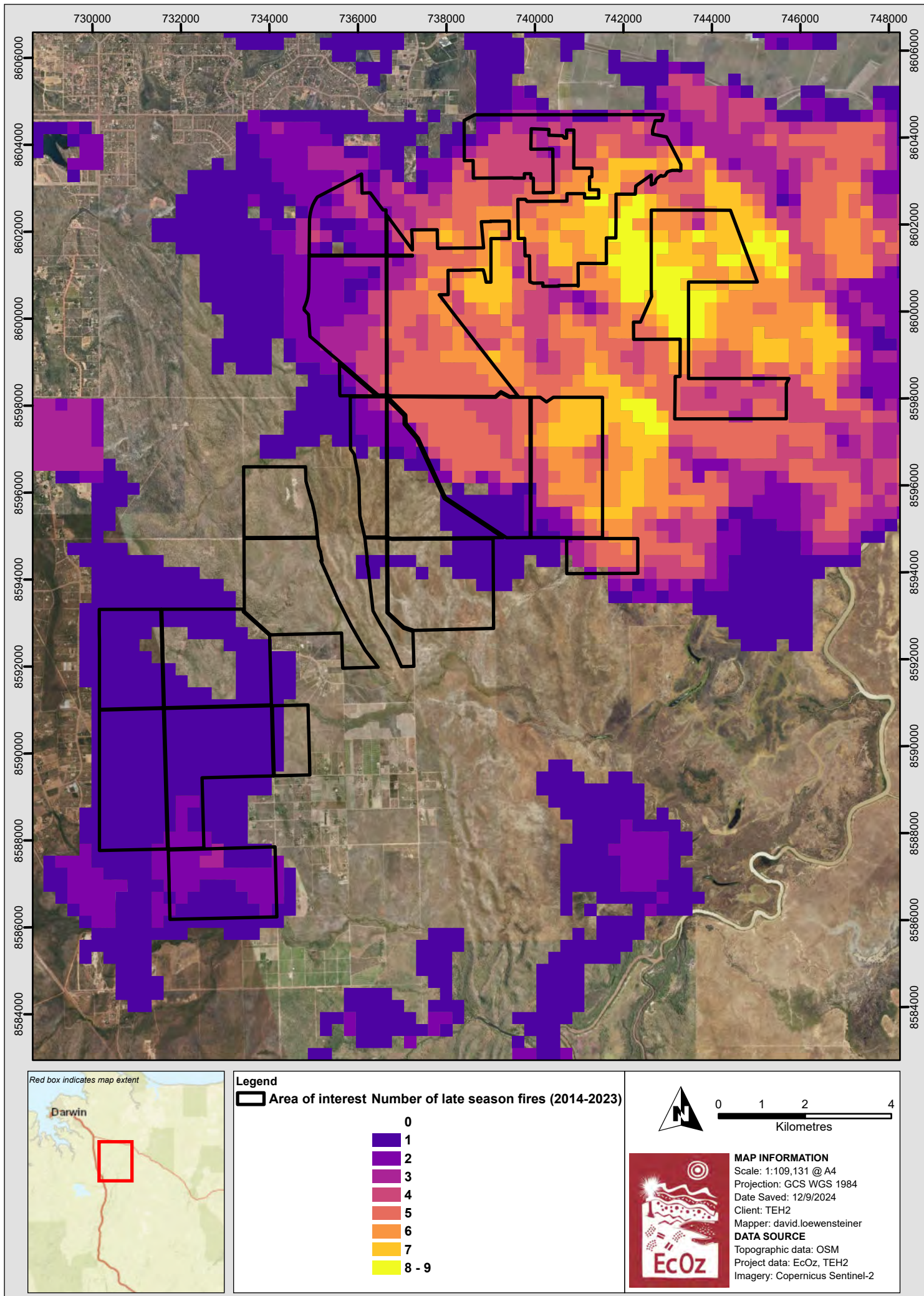
Fires reduce the complexity of, and seasonally remove most, understorey vegetation, which potentially increases the hunting success rates of predators such as cats and dingoes upon threatened woodland fauna (Stobo-Wilson et al. 2020). This increase in hunting effectiveness by predators has been identified as a key process driving the decline of many threatened woodland fauna (Woinarski et al. 2011).

Finally, persistently high fire frequencies and intensities may reduce the availability of tree hollows by decreasing the survival of large, old trees and altering the dynamics by which tree hollows are created (Williams et al. 2003, Woolley et al. 2018). Most species of threatened woodland fauna depend upon tree hollows for nesting and denning (Taylor et al. 2003).



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Figure 3-1. Map of fire frequency (2014-2023) from the study area and surrounds

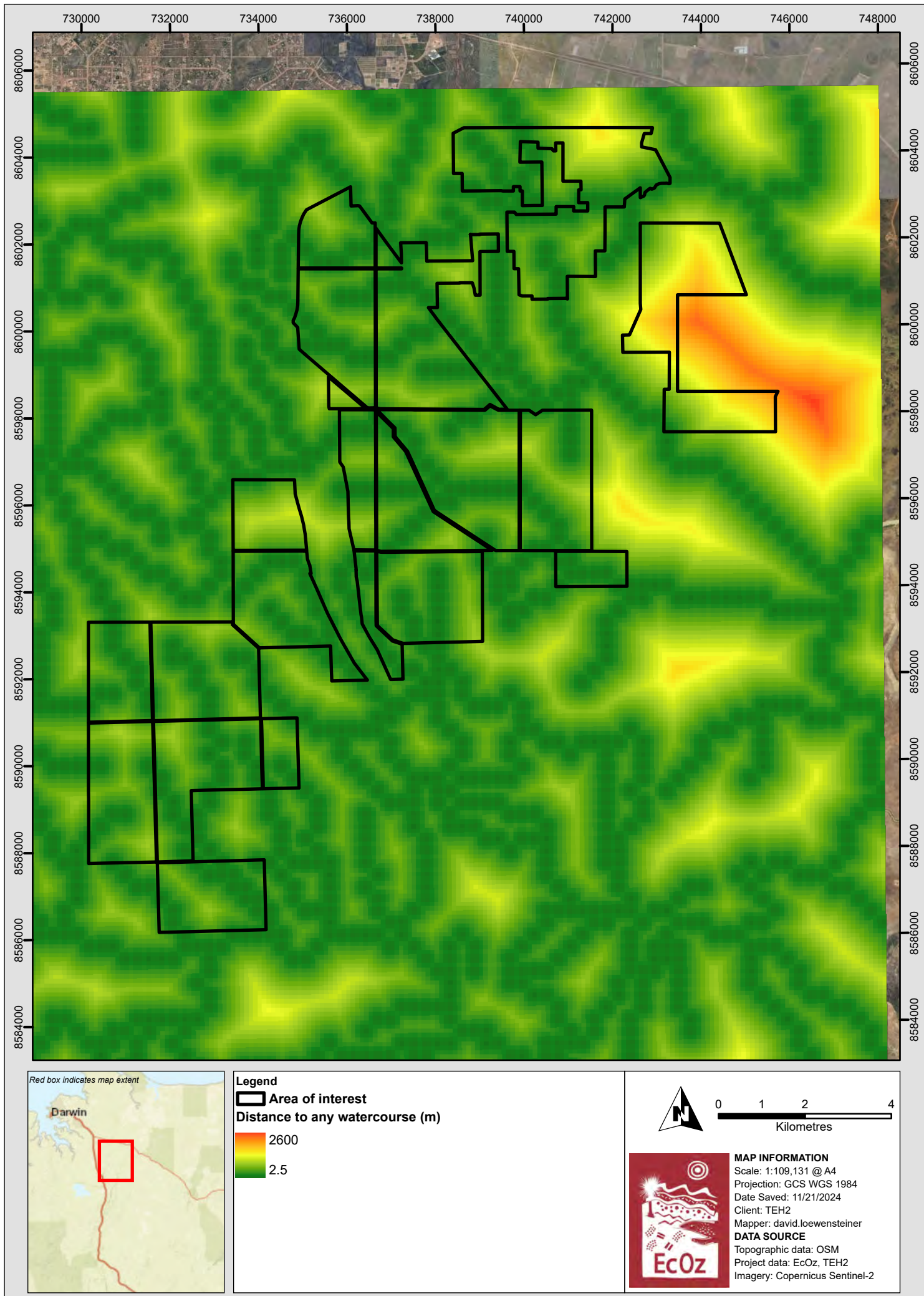


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Figure 3-2. Map of 2014-2023 late season fire frequency in the study area and surrounds

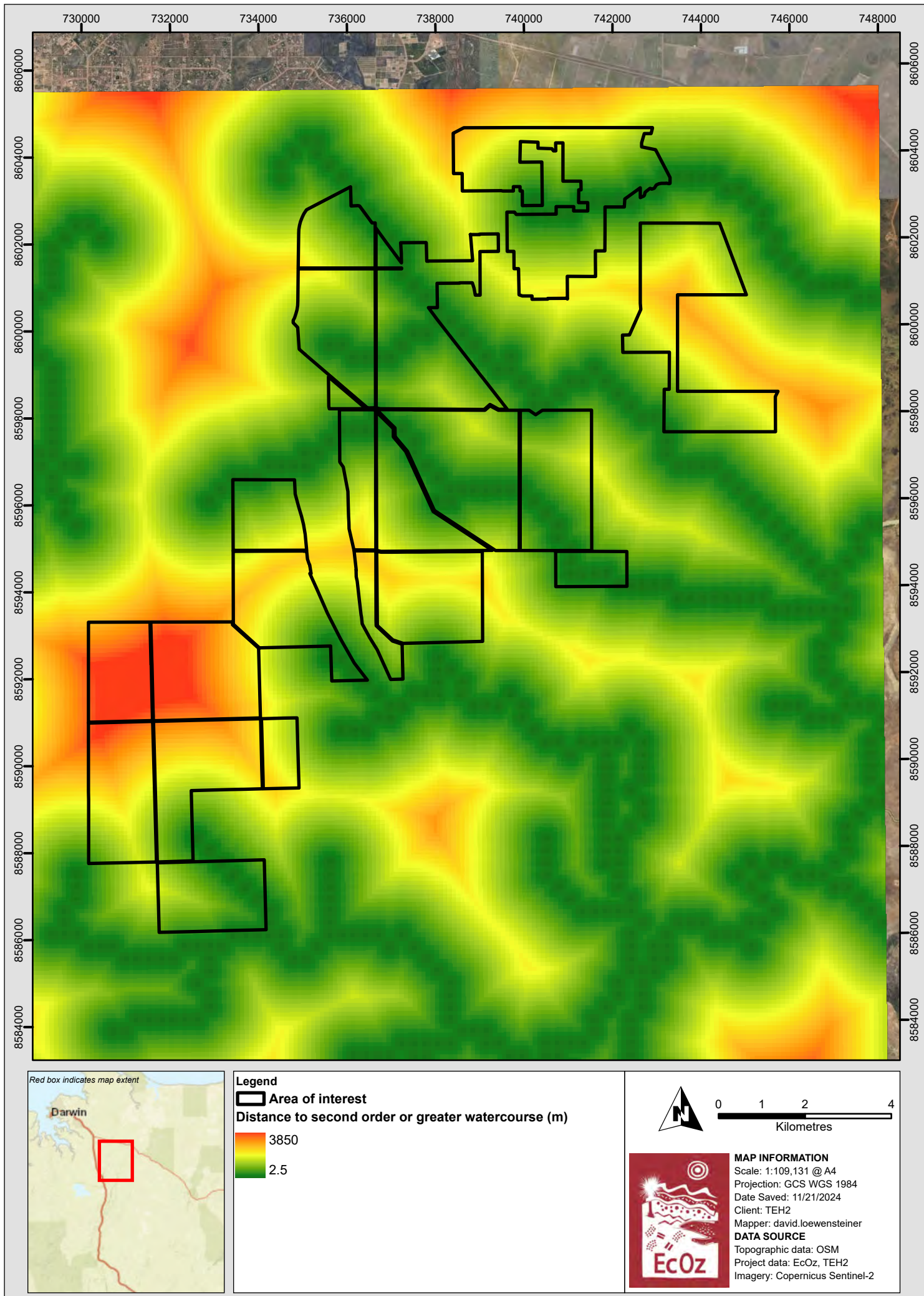
Watercourses

Watercourses were used as a predictor in the SDM because riparian habitat that occurs along some watercourses may act as a refuge to some species of threatened woodland fauna. This refuge may be in the form of protection from fire, where distance to unburnt vegetation is seen as a potential indicator of the persistence of some threatened woodland fauna (Lawes et al. 2015). The watercourse layer from NRM Maps (DLPE, 2025) was downloaded as a vector spatial file. Each watercourse is delineated as a linear feature and attributed according to stream order. Stream order is a classification system that is used to classify watercourses according to size, with first-order streams consisting of the smallest watercourses. Stream orders one through three are considered headwater streams and are likely to only flow in the wet season in the Top End of the NT. The distance to any watercourse (Figure 3-3), distance to watercourses second order and greater (Figure 3-4), and distance to watercourses third order or greater (Figure 3-5) was calculated across a one-hectare scale raster grid across the extent of the study area. For each cell in the raster grid, the distance to the nearest watercourse of that order was calculated.



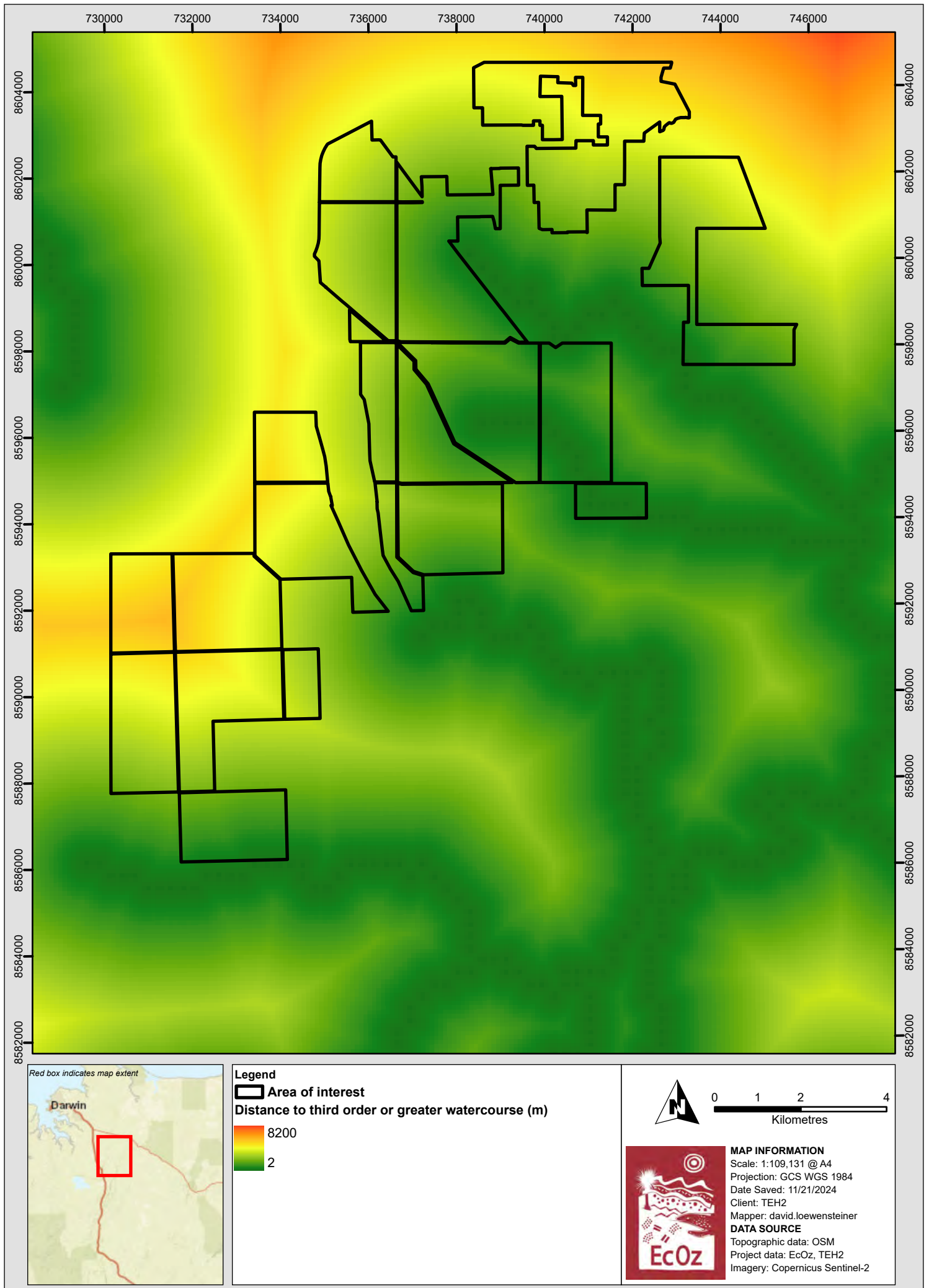
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Figure 3-3. Map of the distance to the nearest mapped watercourse within and near the study area



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Figure 3-4. Map of the distance to the nearest second-order or greater watercourse in or near the vicinity of the study area



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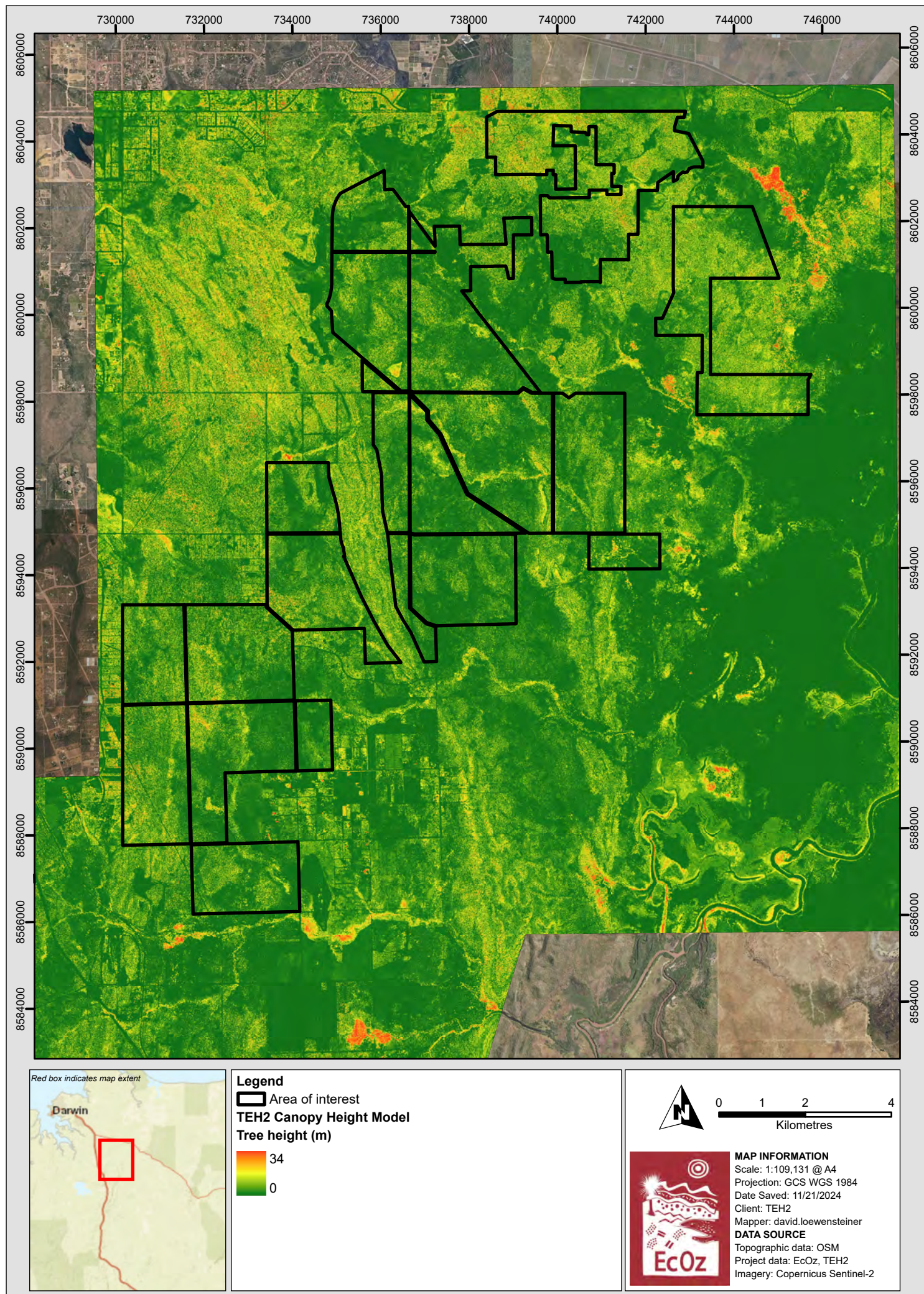
Figure 3-5. Map of distance to the nearest third-order watercourse or greater within or near the vicinity of the study area

Canopy height model

A canopy height model derived from an airborne LiDAR data collection completed using a light aircraft that flew over the site in 2022 was provided by TE H2. LiDAR data is essentially a set of points in three-dimensional space that are geo-referenced. The model was calculated by first classifying ground points from the LiDAR data. This allowed for the creation of a separate digital elevation model of the site. Once ground points are identified, the LiDAR data are normalised so that in the normalised version of the data, the terrain is flattened and assigned an elevation of zero, meaning that every point above the ground is assigned a height relative to the flattened ground – thus representing each point's actual height (as opposed to originally representing the elevation of that point). In locations that are undeveloped, these points and objects generally represent vegetation. The maximum canopy height of each 1-ha grid cell was computed as maximum cell height. The standard deviation of all canopy height values within each 1-ha grid cell was computed to represent the variability of the canopy height within that grid cell.

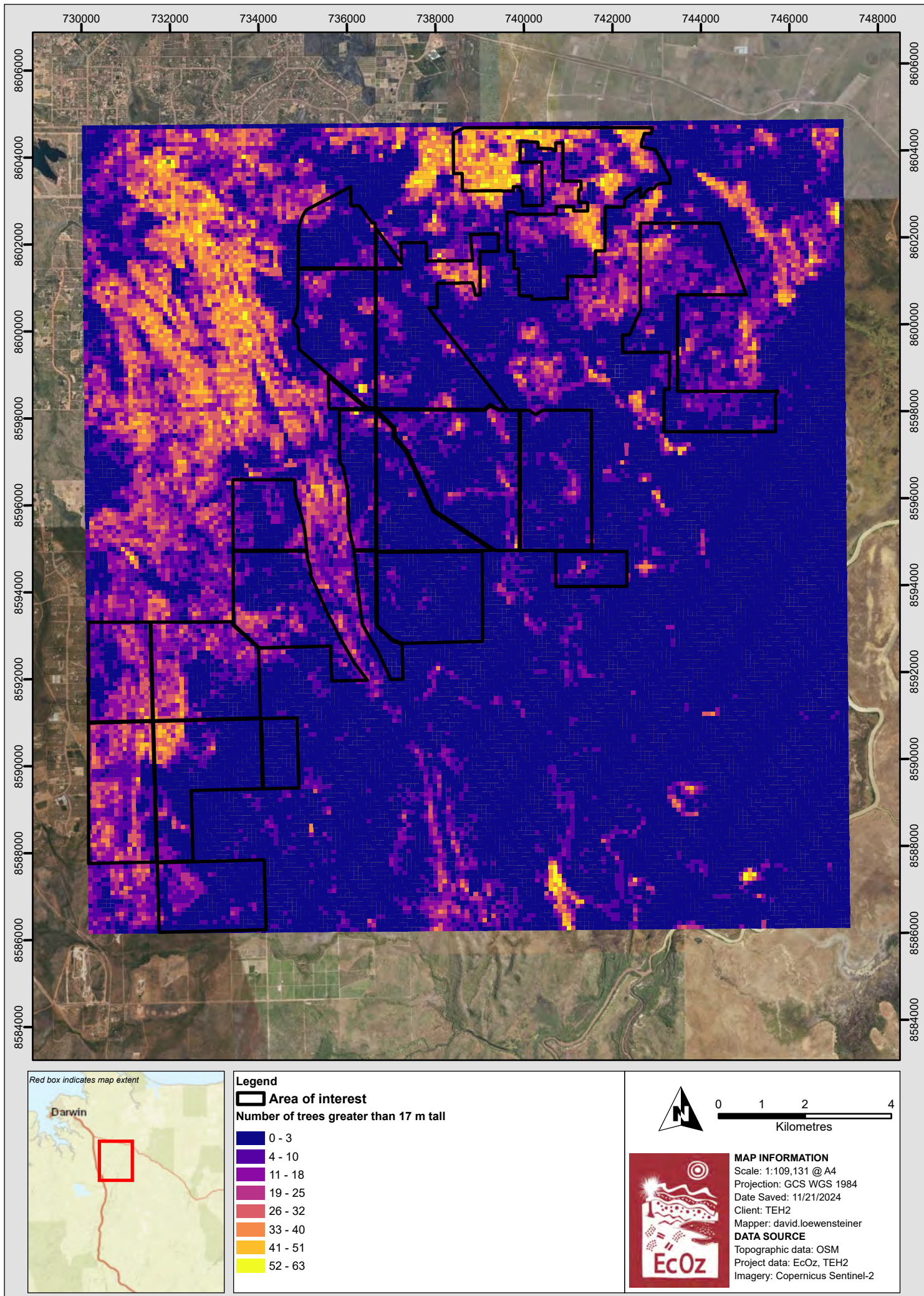
An algorithm to identify individual trees was used based upon the *lidR* package (Roussel et al. 2021) in R. The algorithm identifies local height maxima in the canopy height model and can identify individual canopy trees. As a result, the location and height of each canopy tree in the study area were recorded. The *NT Land Clearing Guidelines* (DEPWS 2024) states that vegetation containing large trees with hollows suitable for fauna habitat is a significant vegetation type. The Flora and Fauna Division of the Department of Lands, Planning and Environment indicates that trees over 17 m tall have a higher propensity of containing hollows; as a result, the number of trees taller than 17 m in each 1-ha grid cell was tallied from across the study area (Figure 3-7).

Canopy height is strongly correlated with tree hollow density, because large hollows are more likely to occur in large diameter trees. The processes that create hollows generally manifest in large (and/or old trees) that are often damaged from fire that allow the infection of micro-organisms and fungi (MacKowski 1984, Perry et al. 1985). The damage is then followed by attack from termites (Mackowski 1984) causing the tree to hollow out, leaving behind a build-up of termite mud-gut. Finally, cyclones and strong wind events cause the tree to drop large limbs, creating openings for rainwater to wash away the mud-gut left behind by termites, resulting in a cavity or hollow that may be used by threatened woodland fauna. The loss of hollows is also mediated by a complex process of tree death because of fire, decay and cyclones (Murphy and Legge 2007). The threatened woodland fauna in the study area are all known to be strongly associated with tall stands of *Eucalyptus miniata* and *E. tetrodonta*-dominated woodlands that produce tree hollows. Northern Brushtail Possum, Black-footed Tree-rat and Bare-rumped Sheath-tail Bat are all dependent upon tree hollows for shelter or roosting (DEWHA 2010).



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Figure 3-6. Map of the LiDAR-derived canopy height model from the study area



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Figure 3-7. Map of the count of the number of trees greater than 17 m tall per hectare across the study area

3.2.2 SDM formulation

The SDM was formulated using a generalised linear model using a binomial error distribution with the glm function in R. The binomial error distribution is suitable for modelling two outcomes – in this case, either the presence or absence of the species at a given location (based on survey results). In the case where the species is present, records are assigned a value of one. Where the species is absent, records are assigned a value of zero. The modelling approach involves using different combinations of the predictor variables to determine which combination best explains or predicts the environmental conditions where the species was present and absent. The various combinations of SDM models are evaluated using several quantitative criteria described below.

All predictor variables were examined for collinearity to ensure that variables were not strongly correlated with each other. Collinearity between variables suggests that those variables are not independent of one another and are therefore measuring similar patterns. For instance, canopy height in a hectare and the number of tall trees in a hectare was strongly correlated. Because the goal of a regression or linear model is to independently determine the influence of each predictor variable on the dependent variable, there cannot be collinearity between predictor variables. As a result, SDM's that contained any combination of collinear variables were removed from further analysis.

The species records (and absences), and associated predictor variables, were randomly split into two groups for training and testing using k-fold partitioning using five folds. The first fold was reserved for SDM testing, with folds two through five used for SDM training. Only the training data were used to formulate the SDM's. The testing data were used to evaluate the SDM's (see below).

3.2.3 SDM validation

There are a range of methods to compare and evaluate SDM's (Liu et al. 2011). Each SDM was statistically validated by randomly splitting the species' records (and absences) into two groups for training and testing. The training records and associated predictor variables were used to formulate each model. Once the SDM was constructed, the testing records and associated predictor variables were used to validate the SDM. Essentially, the SDM should be able to predict values close to one for testing data that are presences, and should predict values close to zero for testing data that are absences.

The testing data were used to validate the SDM using the `pa_evaluate` function in the `predicts` R library. This function is provided the species' presences and absence testing records, and then creates a set of confusion matrices across a range of prediction thresholds from zero to one. The confusion matrices tally the number of true positive detections (when the SDM correctly predicts the presence of the species at that location), true negative detections (when the SDM correctly predicts the absence of the species at that location), false positive (when the SDM incorrectly assigns an absence prediction in the location of a presence prediction) and false negatives (when the SDM incorrectly assigns a presence prediction in the location of an absence prediction). The SDM threshold at which the sum of the true positive rate and the true negative rate is highest is considered an *optimum decision threshold* – where the SDM is best capable of determining both the presence and absence of the species accurately.

3.2.4 SDM evaluation

Each SDM was evaluated using a threshold-independent measure, as opposed to the threshold-dependent measure used in the previous validation step. An area under the receiver operating characteristic curve (AUC) was used to evaluate each model. The AUC represents the probability that the SDM will assess a randomly chosen presence site higher than a randomly chosen absence site. The AUC score of each SDM was calculated in R using the `pa_evaluate` function, with the highest-ranking SDM's considered.

The Akaike's Information Criteria (AIC) is a statistical model evaluation measure that measures the discrepancy between a SDM and a perfectly fit model (Akaike 1974). Amongst a set of models, the SDM with

the smallest AIC has a balance between the statistical simplicity of the model and the ability of the model to fit the observations. In other words, a SDM that is statistically complex, but fits the data perfectly, will have a high AIC score. All candidate SDM's were evaluated using the automated model selection function dredge in the R library MuMIn (Barton 2024). Model dredging is the act of selecting from all possible model combinations. This approach can increase the chance of selecting a model that is statistically well-fit, but is ecologically nonsensical. As a result, it is best to consider a suite of models based upon a *priori* knowledge of the ecology of the species or ecosystems of interest.

P-values are not reported – and individual terms are not designed as significant in the SDM – because hypothesis testing and model selection using AIC should not be used in parallel in stepwise model selection (Akaike 1974). The goal is to either select a well-fitting model, or to determine which predictor variables are statistically responsible for the patterns that the model predicts – not both.

Determining the best SDM in a generalised linear modelling or SDM workflow is not simply a task of picking the model with the best (lowest) AIC score, highest AUC score, or most balanced optimum decision threshold. This is because a generalised linear model can calculate many parameters capable of perfectly fitting the observations – leading to a model that is unable to make predictions beyond the observations. Statistically speaking, a model can have a very high AUC score, but the modelling formulation has used a very large number of complex variable combinations to achieve that output, resulting in a high (poor) AIC score. The AUC and AIC scores were ranked and summed for each model. The five models with the lowest summed rankings were considered.

Biostatistics approaches that use generalised linear models – and, by extension, SDM's – stress a balanced approach to model selection that carefully incorporates the known ecological, behavioural or physiological aspects of the species' biology to help choose a model formulation that is both statistically reasonable and ecologically relevant (Liu et al. 2011).

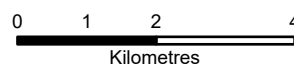
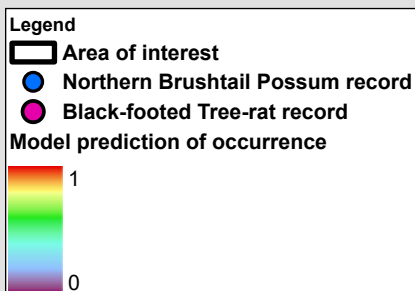
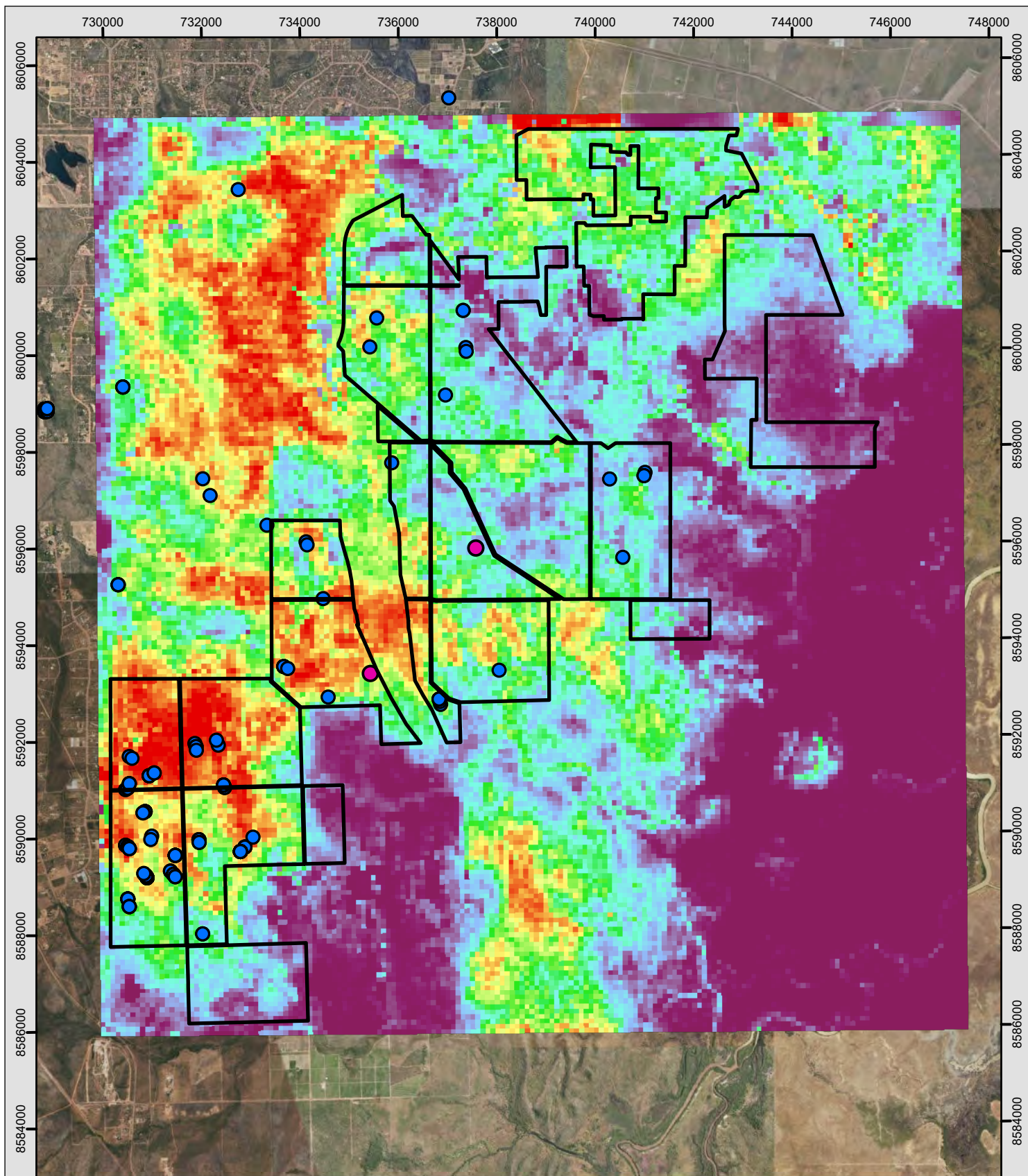
3.3 Results

The model that had a strong ability to predict the occurrences and absences of Northern Brushtail Possum records with the best performing statistical model (lowest AIC) at NT Portion 4477 included the density of tall trees, late season fire frequency, fire frequency and distance to 2nd order or greater watercourses (Figure 3-8). The model predicts very high probability of occurrences in the south-west of the study area. Moderate probability of occurrences is found in the central and northern parts of the study area, with lower probabilities of occurrence to the east and far south. The results of most of the top candidate models had a very similar AUC and optimum decision threshold, with some variability in AIC scores (Table 3-1). All of the models with the lowest summed rankings had very similar spatial predictions patterns.

The optimum decision threshold of 0.563 was applied to classify the model results into areas of high and low likelihood of occurrence. This thresholding was applied across the study area (Figure 3-9) which resulted in 3,438 ha (39%) of the study area classified as having a high likelihood of occurrence for the Northern Brushtail Possum, with 5,373 ha of the study area (61%) classified as having a low likelihood of occurrence for this species.

Table 3-1. Top five model results showing the significant variables, decision threshold and model scores

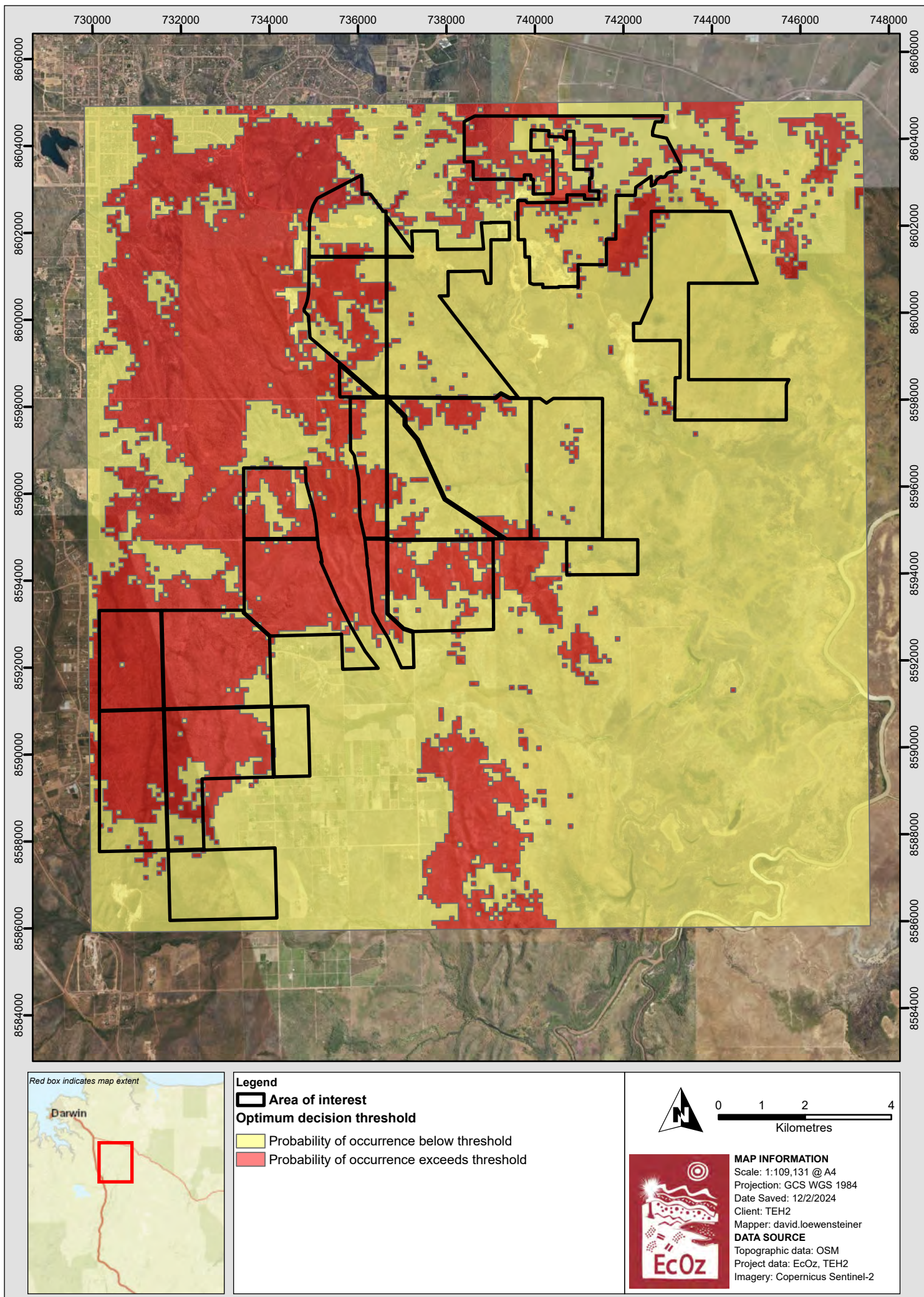
Variables included	Optimum decision threshold	AIC	AUC
• Distance to watercourse • Distance to greater than 2nd order watercourse • Fire frequency • Late season fire frequency • Canopy variability • Tall tree density	0.563	220.9	0.70
• Distance to watercourse • Distance to greater than 2nd order watercourse • Fire frequency • Canopy variability • Tall tree density	0.580	232.3	0.78
• Distance to watercourse • Distance to greater than 2nd order watercourse • Fire frequency • Late season fire frequency • Tall tree density	0.551	237.0	0.79
• Distance to watercourse • Distance to greater than 2nd order watercourse • Late season fire frequency • Tall tree density	0.681	249.5	0.68
• Distance to watercourse • Distance to greater than 2nd order watercourse • Canopy height • Canopy variability • Fire frequency • Late season fire frequency	0.605	242.6	0.77



MAP INFORMATION
 Scale: 1:109,131 @ A4
 Projection: GCS WGS 1984
 Date Saved: 11/28/2024
 Client: TEH2
 Mapper: david.loewensteiner
DATA SOURCE
 Topographic data: OSM
 Project data: EcOz, TEH2
 Imagery: Copernicus Sentinel-2

Figure 3-8. Map of the species distribution model results for Northern Brushtail Possum

Low scoring areas directly to the south are largely agricultural lands and areas to the south-east are floodplain.



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Figure 3-9. Map of binary probability results after thresholding model results according to the optimum decision criteria

3.4 Model interpretation

The model predictor values were evaluated to understand the relationship that relevant predictors have upon the presence and absence of the species. These predictor values are graphed according to the number of sites from which a presence or absence was recorded during the EcOz 2023 surveys relative to the measures derived from predictor variables.

Tall tree density

Tall tree density, as measured by the number of trees taller than 17 m per hectare, was an important predictor in most models. Because the density of tall trees is highly correlated with maximum canopy height, only one of these variables was included in each model. These predictor variables were an important factor in most model formulations. When examined relative to the presence and absence of Northern Brushtail Possum, when no tall trees were present, the ratio between absence and presence of this species is heavily skewed towards the species being absent (Figure 3-10). Once tall trees are present, the ratio between presence and absence begins to equalise, and skews towards this species being more likely to be present than absent (once there are more than ten tall trees per hectare). It is noted that the number of sampling sites from the EcOz 2023 camera trap sampling sites at very high densities of tall trees was small – there are very few areas with greater than 25 to 30 tall trees per hectare in the study area (see Figure 3-7).

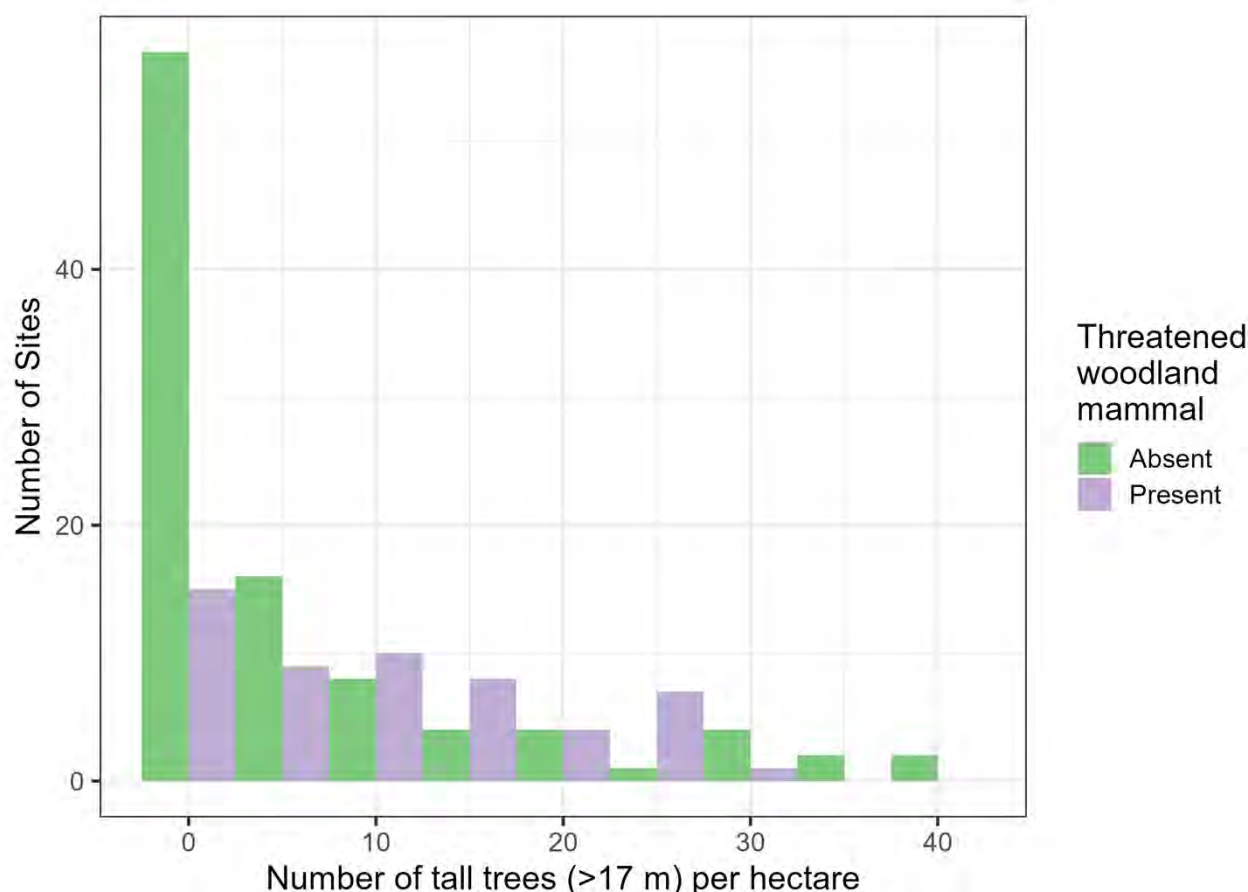


Figure 3-10. Graph of the number of sites that Northern Brushtail Possum were and were not recorded (y-axis), and the number of tall trees per hectare at a site (x-axis)

Canopy height

The maximum canopy height in a hectare was a significant predictor in most model formulations. The presence of Northern Brushtail Possum was positively associated with canopy height (Figure 3-11). At sites with a taller maximum canopy height, there was an increased likelihood of detecting this species. When canopy height is over 15 m, the probability of detecting this species is four to five times greater than not detecting this species. This result is especially pronounced in the south-west of the study area where the model predicts a high likelihood of occurrence in tall-canopied woodlands.

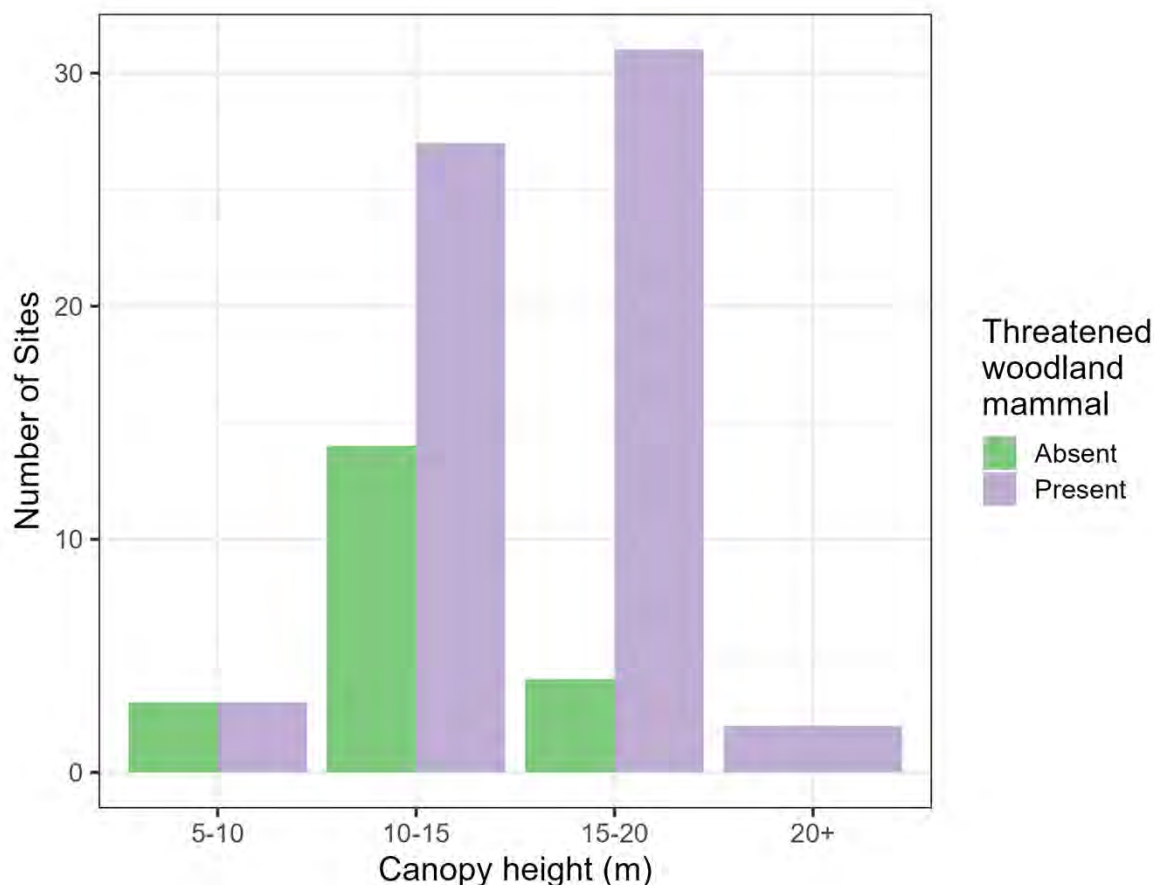


Figure 3-11. Graph of the number of sites that Northern Brushtail Possum were present or absent as a measure of LiDAR-derived canopy height at each site

Late dry season fire

Late dry season fire frequency was strongly negatively associated with the presence of Northern Brushtail Possum. This species is far more likely to be found at sites that have two or fewer late dry season fires in the last ten years (Figure 3-12). At sites with more frequent late dry season fires, this species are far less frequently encountered – with a generally equal likelihood of detecting and not detecting the species when late fire frequency is three out of ten years or greater. Late dry season fire frequency is partially driving the model results in the north-east of the study area, where relatively tall-canopied woodlands (Figure 3-7) have a higher late dry season fire frequency in the last decade (Figure 3-2).

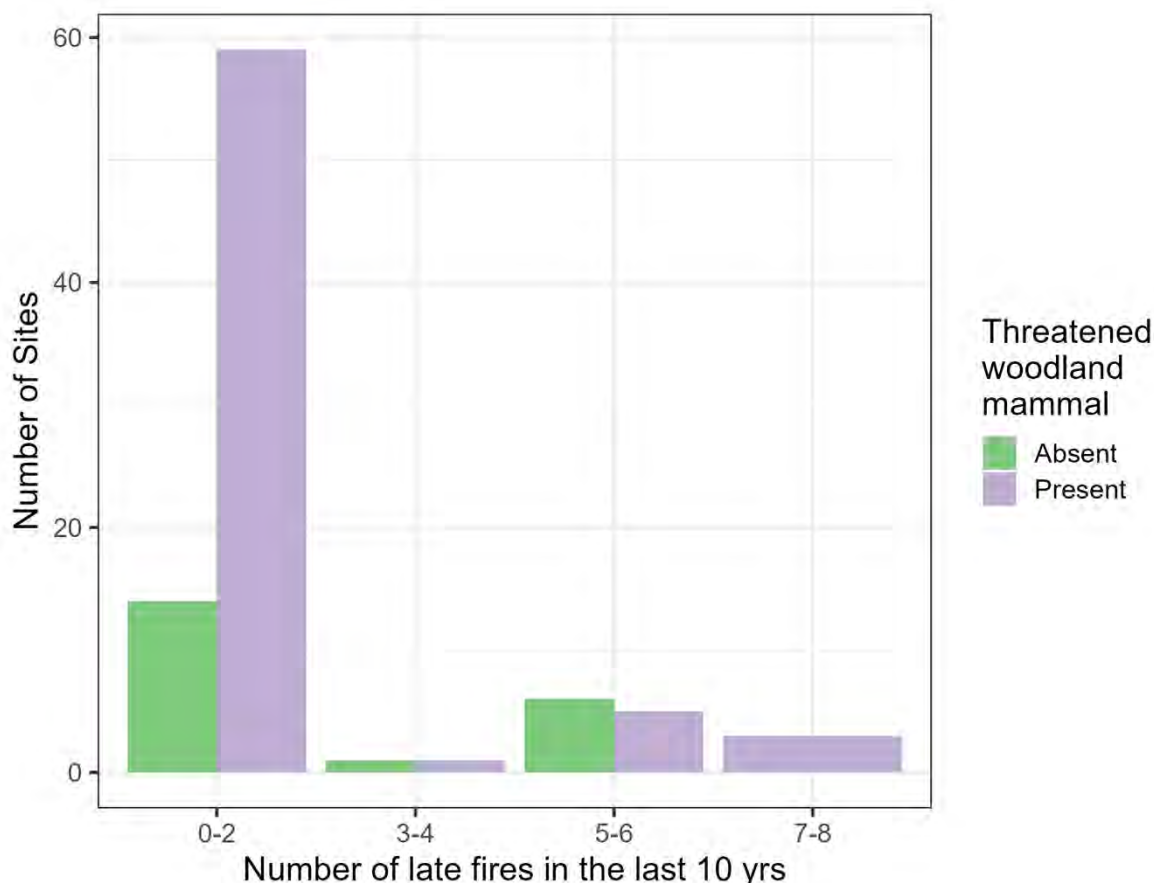


Figure 3-12. Graph of the number of sites that Northern Brushtail Possum were present or absent as a measure of the number of late dry-season fires in the last decade at each site

4 HABITAT CHARACTERISTICS

4.1 Overview

Previous research has furthered our understanding of the habitat characteristics and requirements for the threatened woodland fauna species that are the subject of this report (see Section 2.1). Field measurements of those habitat characteristics can provide insight into the potential quality of that habitat for those species. If habitat characteristics are present, or abundant, it is assumed that the likelihood of the species utilising that area increases. It is important to note that threatened woodland fauna can move across the landscape for food, water and shelter, and may move across daily, seasonal and annual time scales to meet resource needs. So, while detailed measurements were taken by field ecologists across less than a hectare at each field site, this is in the context of a study area that covers thousands of hectares with species that may range across a large area.

4.2 Method

4.2.1 Field survey habitat assessment site selection

Sites were selected using a two-step process. The first step was designed to allow habitat assessment data collected at sites across the study area to be compared with the SDM results from a range of likelihood predictions. The second step ensured that all land unit polygons within the study area were sampled.

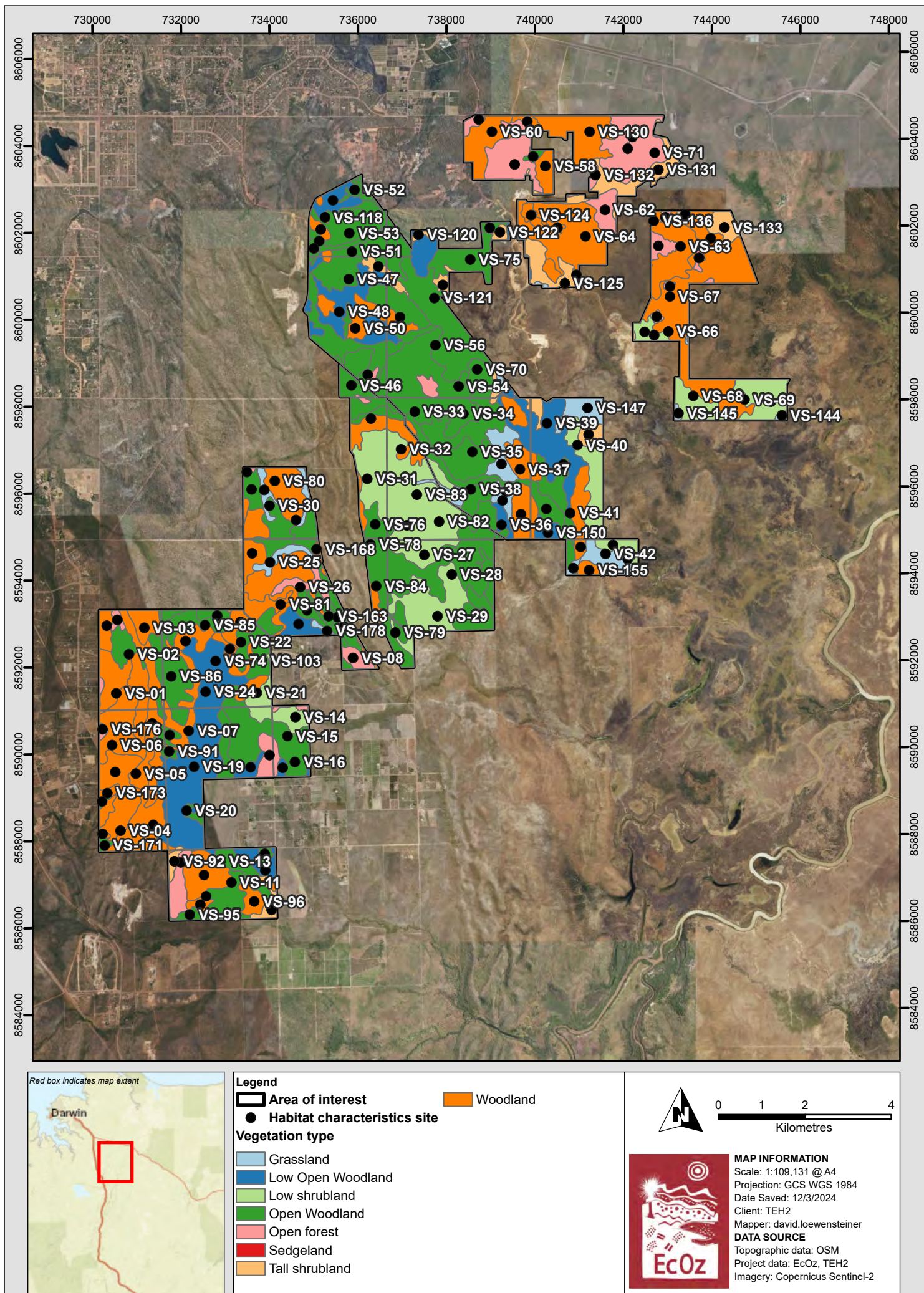
SDM evaluation sites

The first step involved selecting sites that were stratified by the results of the SDM and by cadastre parcel. Within each cadastre parcels across the study area, sites were allocated where the model resulted in high, medium and low predicted likelihood of occurrence areas. There are 21 cadastre parcels, with each parcel allocated at least four habitat assessment sites across the different ranges of model predictions. A total of 84 sites were selected using this method.

Land unit site allocation

The second site selection step used available land unit mapping. A land unit is a reasonably homogenous part of a land surface, distinct from surrounding terrain with consistent properties in landform, soil and vegetation (Jessop and King 1997). As such, each land unit has a characteristic pattern on aerial imagery. Their scale is useful for identifying habitat features that may support threatened species and sensitive vegetation types.

Land unit mapping of the region was obtained from NR Maps (DLPE 2025) at a scale of 1:25,000. There are 175 land unit polygons, representing 27 different land unit types, across the study area. If the land unit polygon was not sampled during the first step of site selection, a habitat assessment site was placed within that land unit polygon. In some instances, polygons cross over cadastre parcels. In these cases, the habitat measurement site was placed in the parcel that contained most of the area of that polygon. There were also multiple instances of very small polygons that encroach into the edges of the study area. In eleven cases, these polygons were not surveyed. A map of the land unit polygons and the location of the sites that were selected is shown on Figure 4-1.



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Figure 4-1. Map of the land unit polygons of the study area and the habitat assessment sites

4.2.2 Field measurements

At each habitat assessment site, the following habitat indicators were recorded or measured in a 50 m x 50 m quadrat:

- Vegetation type (isolated trees, open woodland, woodland, open forest) and dominant tree species.
- Projected percentage of midstorey tree/shrub cover.
- Presence and density of transformer grassy weeds (Gamba Grass and/or Mission Grass).

At each site, the following habitat indicators were measured in a 20 m x 20 m quadrat that was co-located in the 50 x 50 m quadrat:

- Species richness (number of species) of midstorey fruiting and flowering plants.
- Number of trees between 40-50 cm diameter and number of trees over 50 cm diameter at breast height.
- Number of tree hollows visible from the ground with a greater than 10 cm opening diameter.

4.2.3 Habitat scoring

The results of the field measurements at each site were condensed into a composite habitat quality ('site condition') score based upon a scaling and weighting rubric that was developed by DLI (2023) for evaluating terrestrial habitat quality for the Northern Brushtail Possum in the Darwin region (Appendix A). A separate scoring protocol was developed for the Black-footed Tree-rat that very closely mirrors the scoring protocol for Northern Brushtail Possum aside from the inclusion of an indicator for *Pandanus spiralis* abundance. The scoring protocol for Northern Brushtail Possum was used as it broadly encompasses the indicators for Black-footed Tree-rat.

Each of the six habitat indices were categorised according to the scaling criteria, with each characteristic being scaled to a score of zero to five. Each of these characteristics was then multiplied by a weighting to produce a site condition score. The weightings are out of a total of 100 percent, with each characteristic being given a weighting that was determined on the perceived importance of the characteristic to the presence of the species.

4.2.4 Inverse distance weighting

An inverse distance weighting procedure was used to extrapolate the habitat characteristic scores using the gstat R package (Pebesma 2004) across the survey area at a spatial scale of 1 hectare. Inverse distance weighting uses the values associated with a set of points – in this case, habitat score – to predict values for all unmeasured locations. The weighting uses the measured values that surround each prediction location, with the measured values closest to the prediction location more strongly influencing the predicted values than those farther away. The assumption is that each measured habitat assessment site is characteristic of the area surrounding it, and that decreases with distance and in conjunction with other nearby habitat assessment sites.

4.3 Results

Habitat characteristics were measured and scored (out of 10) at 169 sites across the study area. The mean habitat score was 5.18 (range 1.1 – 8.8). The scores were distributed nearly normally, with a grouping of scores from 7.0 to 7.5 (Figure 4-2).

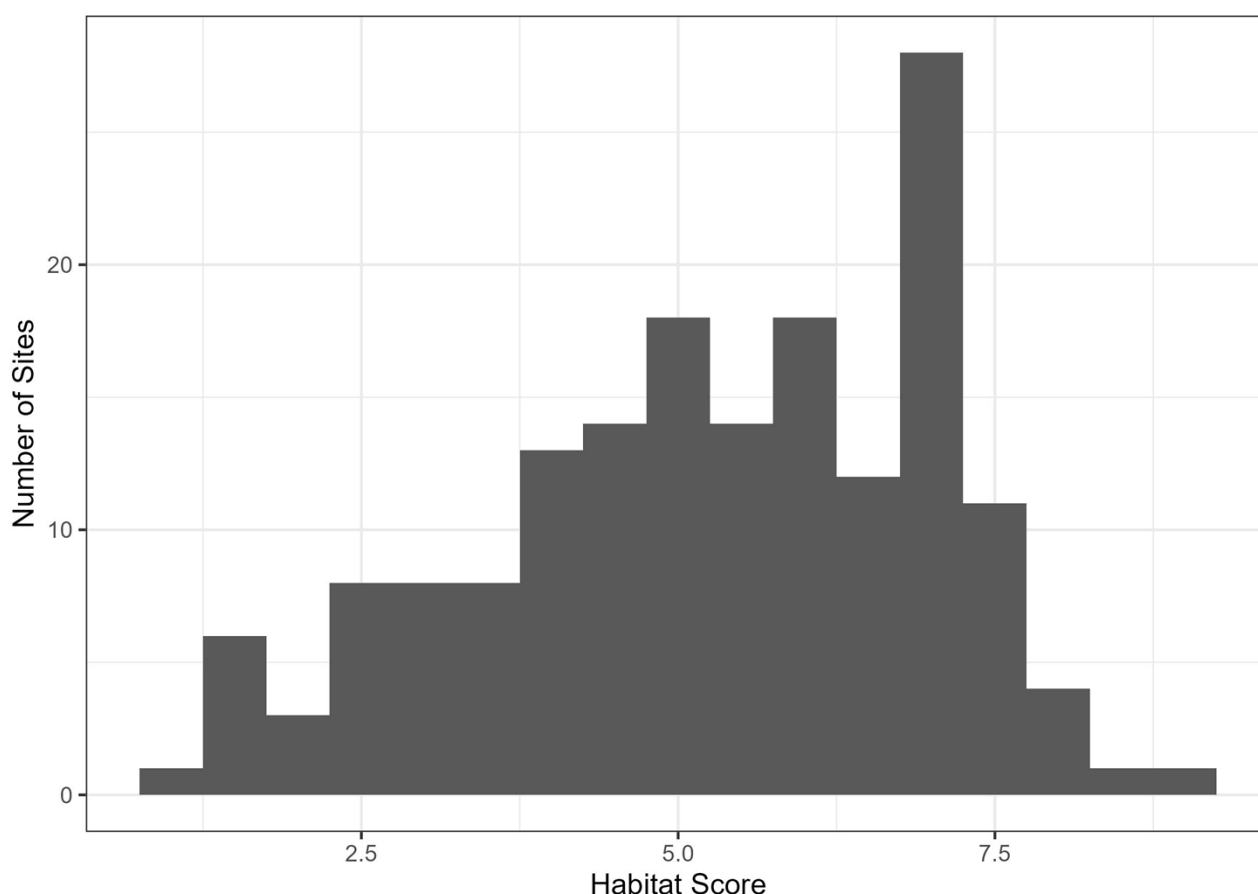
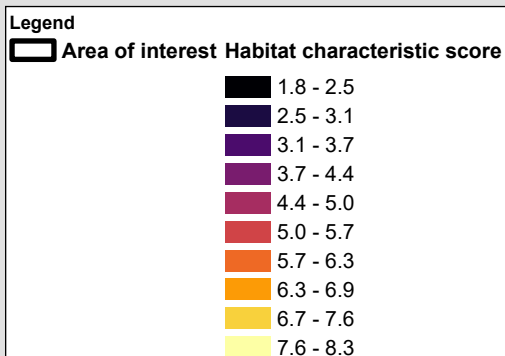
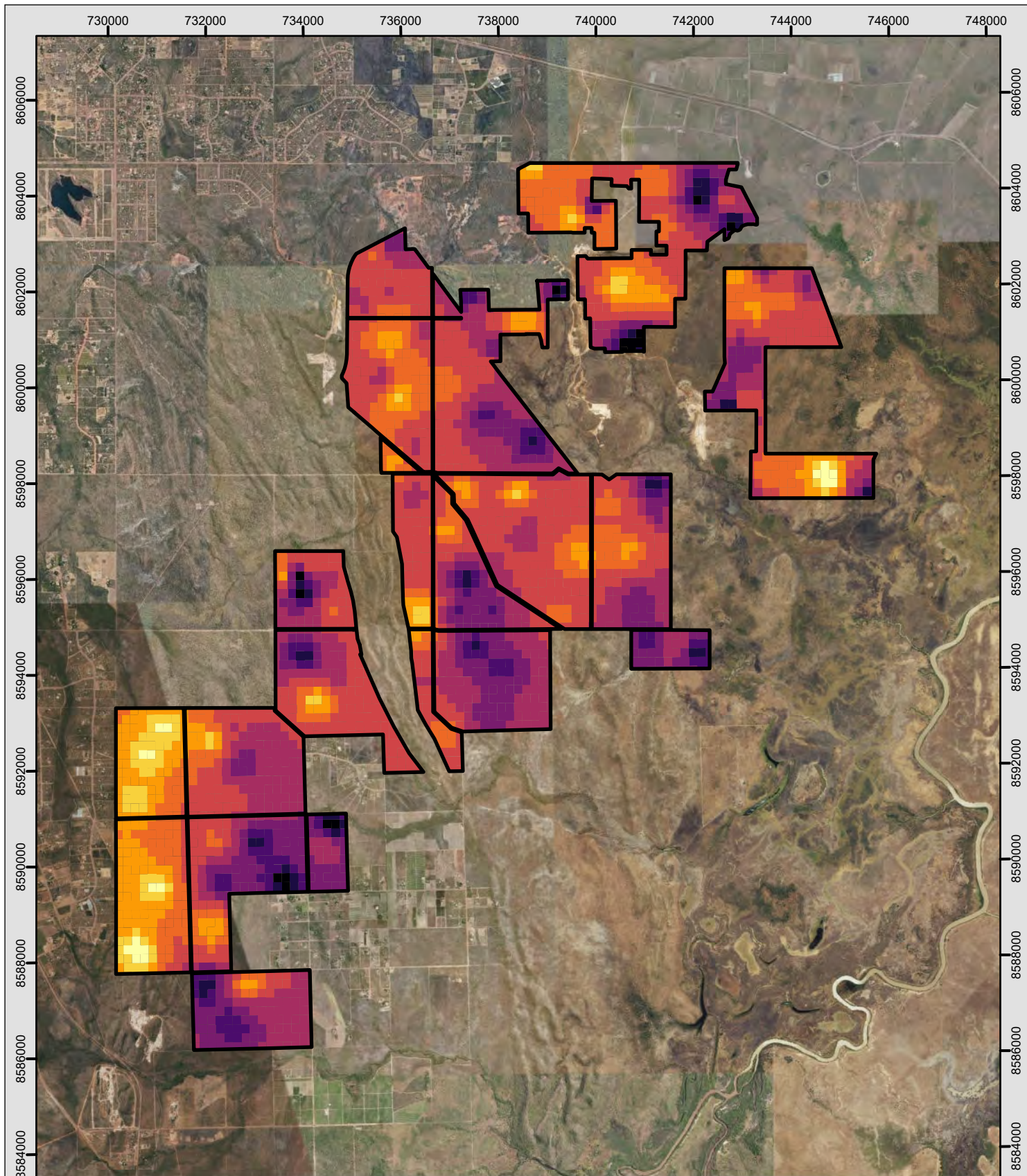


Figure 4-2. Histogram of the distribution of scores at the habitat assessment sites

The inverse distance weighting procedure produced a map with the highest scores in the south-west of the study area, with generally moderate scores in the central portion of the study area, and a mixed scenario in the north-east of the study area with scattered areas of high and low scores.



0 1 2 3
Kilometres



MAP INFORMATION
 Scale: 1:110,000 @ A4
 Projection: GCS WGS 1984
 Date Saved: 5/19/2025
 Client: TEH2
 Mapper: david.loewensteiner
DATA SOURCE
 Topographic data: OSM
 Project data: EcOz, TEH2
 Imagery: Copernicus Sentinel-2

The habitat assessment site scores were intersected with the land unit mapping of the study area (Figure 4-1) to understand the relationship between vegetation type and habitat scores. Woodlands and open forests scored the highest, with sedgeland, grasslands and shrublands scoring the lowest (Figure 4-2). The ecological characteristics of the species and scoring rubric should favour woodlands and open forests. This suggests that there may be further geographic refinement of the inverse distance weighted habitat scores (Figure 4-3), although a procedure for constraining the weighting to specific vegetation type boundaries has not yet been explored.

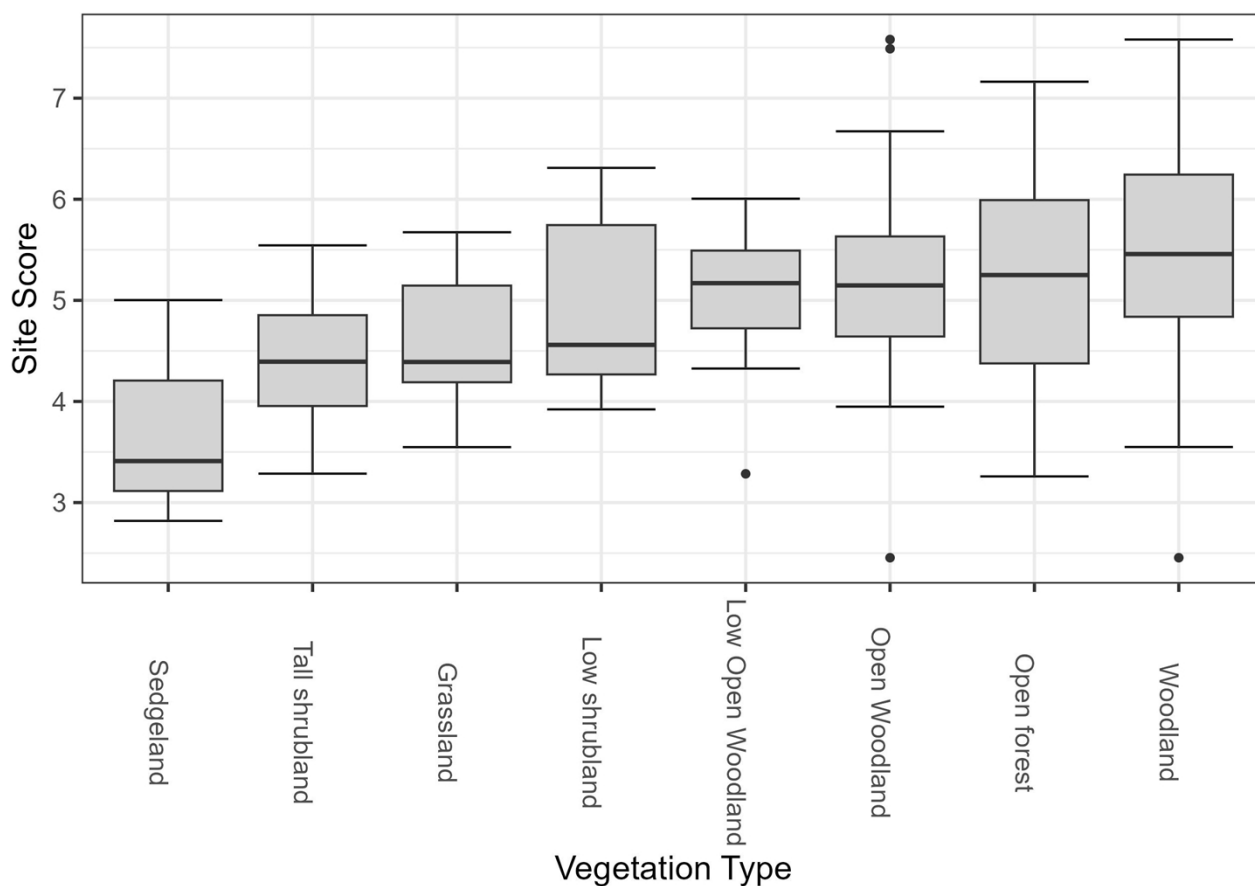


Figure 4-4. Graph of box and whisker plots showing the habitat site scores for each vegetation type found across the study area

5 SDM AND HABITAT ASSESSMENT SITE EVALUATION

5.1 Overview

Because there are limitations to both the SDM and the site measurements of habitat characteristics approaches, discrepancies between the two were evaluated to determine if there were underlying reasons for one approach over- or under-estimating likelihood of occurrence or habitat quality relative to the other approach. For example, the SDM was strongly influenced by late season fire frequency, which is likely to reduce the diversity and abundance of mid-storey foraging resources for Northern Brushtail Possum. However, the relatively coarse spatial and temporal scale of the NAFI data may not accurately reflect fire history at the site level given there were some habitat characteristic sites with midstorey fruiting and flowering food resources despite NAFI mapping indicating a high fire frequency. Further, there were some instances where a habitat characteristic site was low scoring, but adjacent to woodlands that the SDM scored as a high likelihood because of the woodland structural characteristics and canopy variability incorporated within the coarser spatial resolution of the SDM location.

5.2 Method

The geographic location of each habitat characteristic site was intersected with the SDM results to extract the likelihood value that corresponded with each site. The SDM results are scaled from zero to one, while the habitat characteristic scores are scaled from zero to ten. To put them on the same scale, the SDM likelihood values were multiplied by ten.

The habitat characteristic scoring rubric was designed to be generalised and transferable between locations and projects – such that habitat scores between locations are meant to be comparable. Alternatively, the SDM likelihood values are not natively generalisable to other locations because the highest likelihood of probability of occurrence was scored as a one (subsequently scaled to a 10) and the lowest likelihood of probability scored as a zero. In order to directly compare the results of the habitat characteristic data with the SDM results, the habitat characteristic sites were re-scaled from 0 to 10 to match the range of likelihood values produced by the SDM. In other words, a likelihood score of zero in the SDM would be comparable with a score of zero at a habitat characteristic site and a likelihood score of ten in the SDM results would be directly comparable with a habitat characteristic site score of ten. As a result, each habitat characteristic score was re-scaled to a scale of zero to ten using the following steps:

1. the minimum habitat characteristic score from the area of interest was subtracted from the habitat characteristic score
2. dividing that result by the difference between the maximum and minimum habitat characteristic scores from the area of interest
3. multiplying that result by ten

Steps 1 through 3 are represented by the following equations:

$$(\text{Site Score} - \text{Minimum Site Score}) / (\text{Maximum Site Score} - \text{Minimum Site Score}) \times 10$$

The absolute value of the difference between the re-scaled SDM results and the re-scaled habitat characteristic scores were calculated for each site.

5.3 Results

In general, there was agreement between the habitat characteristic site scores and the SDM results, with 100 out of 170 sites within two points of one another on either scale. In locations where the habitat characteristic

scoring and SDM results were very different, an experienced fauna ecologist from EcOz (Dr Chris Brady) examined the potential reasons for discrepancy between the site scoring and the SDM results to determine if there were habitat attributes or SDM predictor variables that appear to be responsible for the discrepancy. In many cases, it was concluded that because each SDM result spanned a larger area than the respective habitat characteristic site, the SDM result can draw from a larger variation in habitat characteristics. In other cases, late fire frequency – particularly in areas in the north-east of the study area – lowered the SDM predictions at some sites that scored well on midstorey cover and species diversity attributes, suggesting that late season fire frequency is not (yet) severe or frequent enough to be overly detrimental to these attributes, or that the NAFI fire data are too coarse to reflect localised heterogeneity in late season fire frequency and extent with regards to impacts on midstorey vegetation.

The mean SDM score from all habitat characteristic sites was 4.65, with a range from 0.24 to 9.67, suggesting that the habitat characteristic sites spanned a wide range of SDM modelled likelihood of occurrences (Figure 5-1).

The mean difference between the SDM results and the re-scaled habitat characteristic scores was 2.13. The direct comparison of the SDM results with the re-scaled habitat characteristic scores shows that, in general, the SDM rarely predicted a high likelihood of occurrence at a site when the habitat characteristic score was low (Figure 5-2 upper left), but more frequently predicted a low likelihood of occurrence when the habitat characteristic score was high (Figure 5-2, bottom right). These results were often driven by the discrepancy between fire frequency and midstorey cover and diversity seen at several sites, as discussed earlier. Although there is some scatter to the relationship between SDM results and the habitat characteristic score, the relationship between the two independent approaches is linear with a positive slope. The habitat characteristic scores and SDM results in the top right and bottom left of Figure 5-2 are generally in agreement with one another (scoring low and low or high and high).

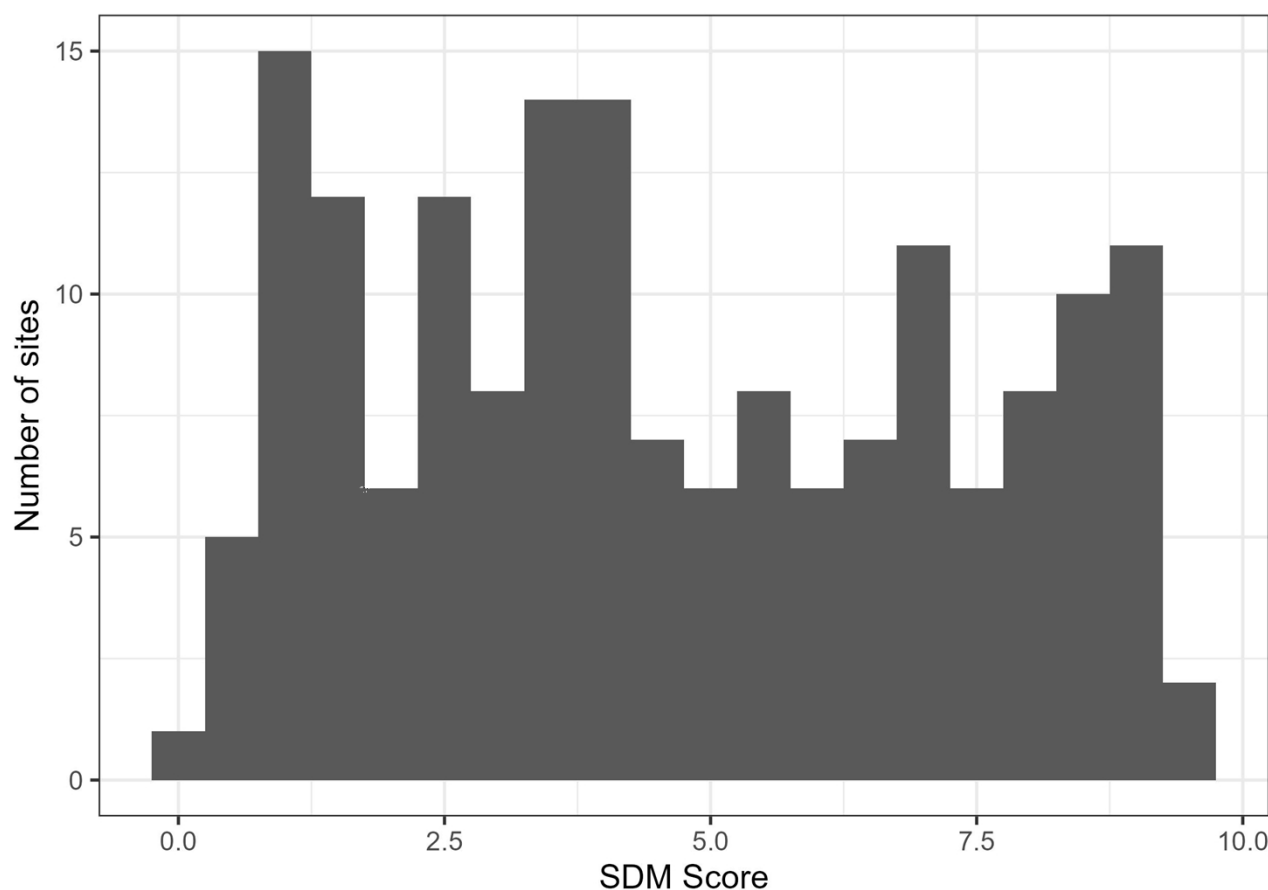


Figure 5-1. Histogram of the number of sites by SDM score

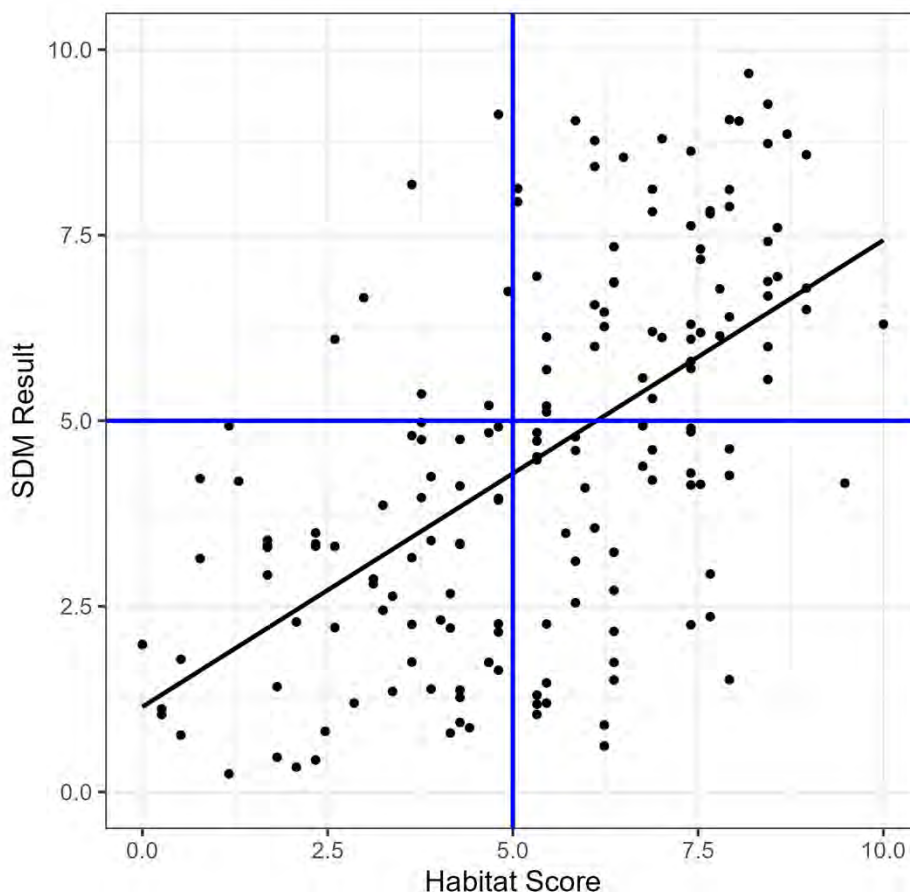
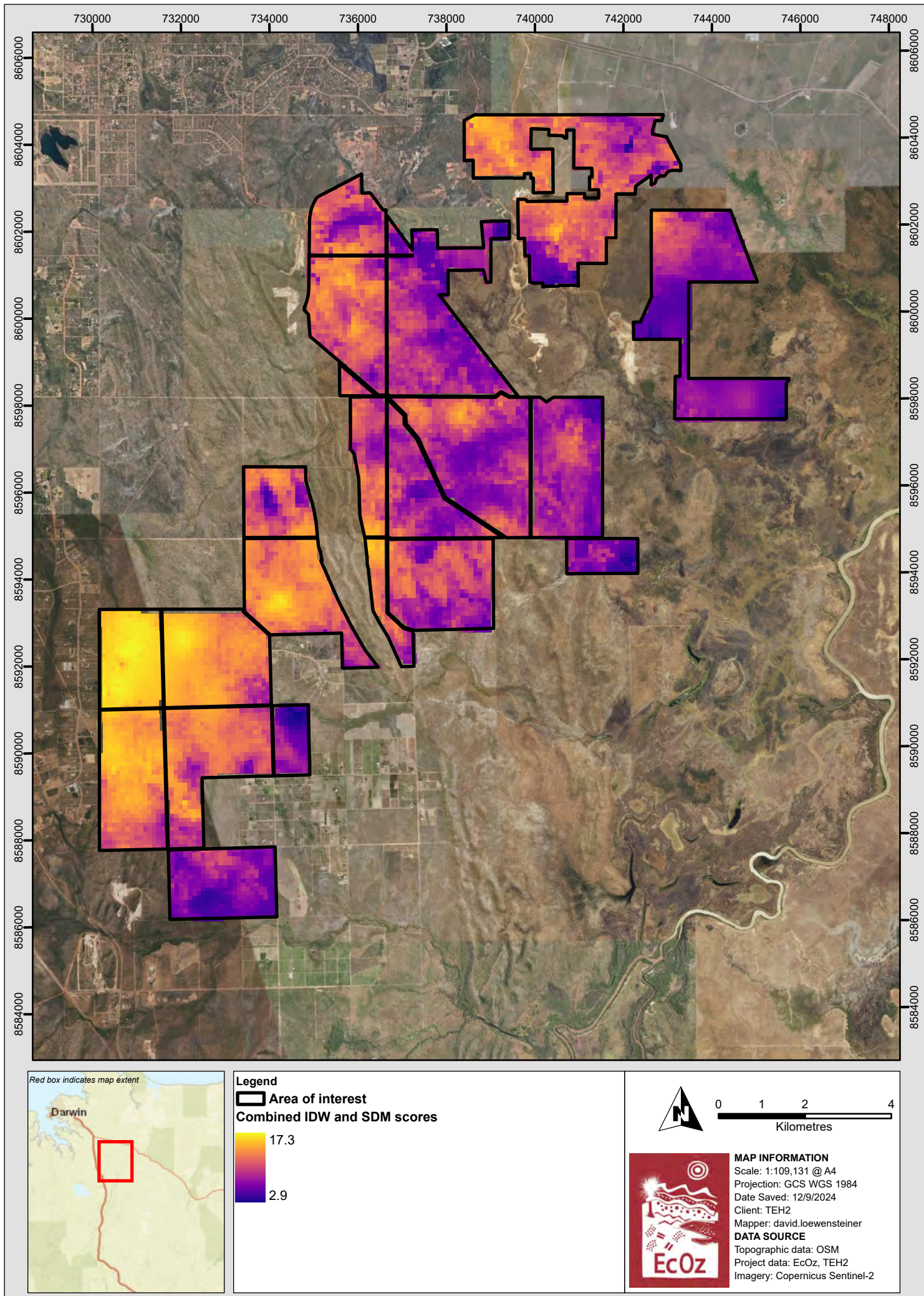


Figure 5-2. Graph of the SDM result compared to the habitat score at each of the 170 habitat characteristic sites. The blue lines are used to divide the graph into quadrats.

There are some geographic patterns where the model and the habitat scoring more often disagreed. A cadastre block in the south-west was consistently modelled with a high likelihood of occurrence, while habitat scores were highly variable in this area. An examination of the site scores and model predictor variables – in conjunction with satellite imagery and field notes – suggests a high degree of patchiness in this area, with patches of woodland that tend to score higher interspersed with open or low woodlands that often score lower. In these instances, the spatial scale of the SDM cells is likely to span and ‘smooth out’ some of this patchiness.

To combine the results of the SDM and the habitat characteristic sites in a single mapped product, the re-scaled SDM scores and re-scaled habitat site characteristic scores rasters were added together such that each was treated equally. There may be opportunities to ‘pick a winner’ where discrepancies exist, but in this instance, the addition of the two layers are likely to emphasise areas that scored well or poorly in both approaches.



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Figure 5-3. Map of the combined IDW and SDM scores from across the study area

6 DISCUSSION

The results of the SDM suggest that areas of high likelihood of occurrence and high habitat quality occur in the south-west of the study area, which coincides with the portions of the area of interest that had the greatest concentration of detections of Northern Brushtail Possum. Fire frequency, fire intensity (as inferred by time of year burnt) and canopy height/density of tall trees were associated with the SDM. These characteristics are associated with important aspects of the ecology or known habitats of the threatened woodland fauna of interest. Infrequent and low intensity fire regimes are considered to be beneficial to threatened woodland fauna for several reasons, including maintaining the diversity and structure of the midstorey vegetation for foraging resources, and maintaining the complexity of the understorey vegetation to reduce predation risks. Tall tree canopies are also considered beneficial for these species because large trees generally contain hollows.

There was general agreement between the habitat quality measured at the habitat characteristic sites and the SDM results, suggesting that independent approaches confirm the location and extent of habitat for threatened woodland fauna in many locations. In cases where the two approaches disagreed, many discrepancies were a result of the SDM interpreting fire frequency and intensity incorrectly as a proxy for midstorey diversity and cover, because in some locations these habitat attributes were scored high despite a high fire frequency.

Threatened fauna surveys were not undertaken in the north-west of the study area during the EcOz 2023 survey because at the time it was not known these parcels would be included in the study area. The lack of survey results from unsampled areas increases uncertainty in the SDM approach because the SDM predictions are based upon the conditions where the species were, and were not, recorded. If the conditions that are present in the north-west of the study area differ markedly from other parts of the study area that were subjected to fauna surveys, the predictions of the SDM would need to be caveated with that fact.

Rigorously interrogating the field and remote-sensing data to resolve discrepancies between the two approaches may help to refine the constraints mapping – although areas of high- and low-quality habitat and likelihood of occurrence are apparent and may be adequate for the next steps of the project. The development of a rule set that resolves discrepancies between the approaches may help to further refine the constraints mapping. Alternatively, the high degree of agreement between approaches in areas determined to be high quality habitat suggests that the combined approach can be used to identify high-quality habitat for threatened woodland fauna.

The next steps to fully mapping areas that should be considered for avoidance should incorporate a holistic approach that considers other identified constraints (e.g. environmental, cultural, hydrogeological) and the potential for habitat connectivity. Retaining individual, isolated areas of habitat for these species may not be a suitable outcome. Corridors that connect areas of high-quality habitat may improve the outcomes for threatened woodlands fauna in a development scenario and should be considered.

7 REFERENCES

- Akaike, H. (1974). A new look at the statistical model identification. *IEEE transactions on automatic control*, 19(6), 716-723.
- Atchison, J., 2009. Human impacts on *Persoonia falcata*. Perspectives on post-contact vegetation change in the Keep River region, Australia, from contemporary vegetation surveys. *Vegetation History and Archaeobotany*, 18, pp.147-157.
- Barton, K.B. (2024). MuMIn: Multi-Model Inference. R package version 1.48.4, <https://CRAN.R-project.org/package=MuMIn>.

- Department of the Environment, Water, Heritage and the Arts (DEWHA). (2010). Survey guidelines for Australia's threatened birds: guidelines for detecting birds listed as threatened under the *Environmental Protection and Biodiversity Conservation Act 1999*. Available at: <https://www.agriculture.gov.au/sites/default/files/documents/survey-guidelines-birds-april-2017.pdf>. [Accessed 5 December 2024].
- Department of Environment, Parks and Water Security (DEPWS). (2024). Land Clearing Guidelines. Available at: https://nt.gov.au/_data/assets/pdf_file/0007/236815/land-clearing-guidelines.pdf. Accessed [23 June 2025]
- Department of Lands Planning and Environment (DLPE). (2025). Natural Resource Maps. Available at: <https://nrmaps.nt.gov.au/nrmaps.html>. Accessed [23 June 2025]
- Department of Sustainability, Environment, Water, Population and Communities (DSEWPC). (2012). *Environmental Protection and Biodiversity Act 1999 Environmental Offsets Policy*. Available at: https://www.dceew.gov.au/sites/default/files/documents/offsets-policy_2.pdf. [Accessed 11 March 2025].
- Department of Logistics and Infrastructure (DLI). (2023). Habitat scoring protocol – Northern Brushtail Possum. 18pp.
- Friend, G.R., Taylor, J.A., 1985. Habitat preferences of small mammals in tropical open-forest of the Northern Territory. *Australian Journal of Ecology*, 10(2), pp.173-185.
- Friend, G.R., 1987. Population ecology of *Mesembriomys-Gouldii* (Rodentia, Muridae) in the wet-dry tropics of the Northern-Territory. *Wildlife Research*, 14(3), pp.293-303.
- Garnett, S., Szabo, J., Dutson, G. (2011). *The Action Plan for Australian Birds 2010*. Collingwood: CSIRO.
- Jessop P.J., King, D. (1997). *The Land Resources of New Crown Station*, NTG Technical Report No. TM96/18.
- Kerle, J.A., 1985. Habitat preference and diet of the northern brushtail possum *Trichosurus arnhemensis* in the Alligator Rivers Region. In *NT Proceedings of the Ecological Society of Australia* (Vol. 13, pp. 161-176).
- Lawes, M.J., Murphy, B.P., Fisher, A., Woinarski, J.C., Edwards, A.C. and Russell-Smith, J., 2015. Small mammals decline with increasing fire extent in northern Australia: evidence from long-term monitoring in Kakadu National Park. *International Journal of Wildland Fire*, 24(5), pp.712-722.
- Legge, S., Murphy, B. P., McGregor, H., Woinarski, J. C., Augusteyn, J., Ballard, G., Zewe, F. (2017). Enumerating a continental-scale threat: how many feral cats are in Australia? *Biological Conservation*, 206, 293-303.
- Liu, C., White, M., Newell, G. (2011). Measuring and comparing the accuracy of species distribution models with presence–absence data. *Ecography*, 34(2), 232-243.
- Mackowski, C.M. (1984). The ontogeny of hollows in blackbutt (*Eucalyptus pilularis*) and its relevance to the management of forests for possums, gliders and timber. *Possums and gliders*, pp. 553-567.
- McGregor, H. W., Legge, S., Jones, M. E., Johnson, C.N. (2014). Landscape management of fire and grazing regimes alters the fine-scale habitat utilisation by feral cats. *PloS one*, 9(10), e109097.
- McGregor, H., Legge, S., Jones, M. E., Johnson, C.N. (2015). Feral cats are better killers in open habitats, revealed by animal-borne video. *PloS one*, 10(8), e0133915.
- McGregor, H. W., Legge, S., Jones, M. E., Johnson, C.N. (2016). Extraterritorial hunting expeditions to intense fire scars by feral cats. *Scientific reports*, 6(1), 22559.
- Murphy, S.A., Legge, S.M. (2007). The gradual loss and episodic creation of Palm Cockatoo (*Probosciger aterrimus*) nest-trees in a fire and cyclone-prone habitat. *Emu-Austral Ornithology*, 107(1) pp. 1-6.

- Northrup, J. M., Vander Wal, E., Bonar, M., Fieberg, J., Laforge, M. P., Leclerc, M., Gerber, B.D. (2022). Conceptual and methodological advances in habitat-selection modeling: guidelines for ecology and evolution. *Ecological Applications*, 32(1), e02470.
- Pebesma, E.J. (2004). Multivariate geostatistics in S: the gstat package. *Computers and Geosciences*. 2004, pp. 683-91.
- Penton, C.E., Davies, H.F., Radford, I.J., Woolley, L.A., Rangers, T.L. Murphy, B.P. 2021. A hollow argument: understory vegetation and disturbance determine abundance of hollow-dependent mammals in an Australian tropical savanna. *Frontiers in Ecology and Evolution*, 9, p.739550.
- Perry, D.H., Lenz, M., Watson, J.A.L. (1985). Relationships between fire, fungal rots and termite damage in Australian forest trees. *Australian Forestry*, 48(1), pp. 46-53.
- Price, O. and Baker, B. (2007). Fire regimes and their correlates in the Darwin region of northern Australia, *Pacific Conservation Biology*, Vol 13: 177-88.
- R Core Team. (2024). R: A language and environment for statistical computer. R Foundation for Statistical Computing, Vienna, Austria.
- Rankmore, B. R., & Price, O. F. (2004). Effects of habitat fragmentation on the vertebrate fauna of tropical woodlands, Northern Territory. *Conservation of Australia's forest Fauna*, 3452-473.
- Rankmore, B. R. (2006). *Impacts of habitat fragmentation on the vertebrate fauna of the tropical savannas of northern Australia; with special reference to medium-sized mammals*. Charles Darwin University (Australia).
- Rankmore, B.R., Friend, G.R. (2008). Black-footed Tree-rat *Mesembiomys gouldii*. In 'The mammals of Australia'. Third edition. (Eds. S. Van Dyck and R. Strahan). pp. 591-593. Reed New Holland: Chatswood.
- Rather, T. A., Kumar, S., & Khan, J. A. (2020). Multi-scale habitat modelling and predicting change in the distribution of tiger and leopard using random forest algorithm. *Scientific reports*, 10(1), 11473.
- Roussel, J.R., Auty, D., Coops, N. C., Tompalski, P., Goodbody, T. R. H., Sánchez Meador, A., Bourdon, J.F., De Boissieu, F., Achim, A. (2021). lidR : An R package for analysis of Airborne Laser Scanning (ALS) data. *Remote Sensing of Environment*, 251. e112061.
- Setterfield, S. A., Rossiter-Rachor, N. A., Douglas, M. M., Wainger, L., Petty, A. M., Barrow, P., Ferdinands, K. B. (2013). Adding fuel to the fire: The impacts of non-native grass invasion on fire management at a regional scale. *PLoS One*, 8(5), e59144.
- Stobo-Wilson, A. M., Stokeld, D., Einoder, L. D., Davies, H. F., Fisher, A., Hill, B. M., Maheny, T., Gillespie, G. R. (2020). Bottom-up and top-down processes influence contemporary patterns of mammal species richness in Australia's monsoonal tropics. *Biological Conservation*, 247, 108638.
- Stobo-Wilson, A.M., Stokeld, D., Einoder, L.D., Davies, H.F., Fisher, A., Hill, B.M., Mahney, T., Murphy, B.P., Stevens, A., Woinarski, J.C., Rangers, B., (2020). Habitat structural complexity explains patterns of feral cat and dingo occurrence in monsoonal Australia. *Diversity and Distributions*, 26(7), pp.832-842.
- Stobo-Wilson, A. M., Murphy, B. P., Legge, S. M., Caceres-Escobar, H., Chapple, D. G., Crawford, H. M., Woinarski, J. C. (2022). Counting the bodies: Estimating the numbers and spatial variation of Australian reptiles, birds and mammals killed by two invasive mesopredators. *Diversity and Distributions*, 28(5), 976-991.
- Taylor, R., Woinarski, J., Chatto, R. (2003). Hollow use by vertebrates in the top end of the northern territory. *Australian Zoology*, 32, pp. 462-476.
- Threatened Species Scientific Committee (2015). Conservation Advice: *Mesembriomys gouldii gouldii*, Black-footed tree-rat (Kimberley and mainland Northern Territory). Australian Government. Department

of Climate Change, Energy, the Environment and Water.

<https://environment.gov.au/biodiversity/threatened/species/pubs/87618-conservation-advice.pdf>

[Accessed 28 May 2025].

- Vigilante, T. and Bowman, D.M., 2004. Effects of fire history on the structure and floristic composition of woody vegetation around Kalumburu, North Kimberley, Australia: a landscape-scale natural experiment. *Australian Journal of Botany*, 52(3), pp.381-404.
- Vigilante, T., Bowman, D.M., Fisher, R., Russell-Smith, J., Yates, C., 2004. Contemporary landscape burning patterns in the far North Kimberley region of north-west Australia: human influences and environmental determinants. *Journal of Biogeography*, 31(8), pp.1317-1333.
- Woinarski, J. C. Z. (2004b). *Threatened plants and animals in Kakadu National Park: a review and recommendations for management*. Department of Infrastructure, Planning and Environment.
- Woinarski, J. C. Z., Westaway, J. (2008). Hollow formation in the *Eucalyptus miniata*–*E. tetrodonta* open forests and savanna woodlands of tropical northern Australia. *Final report to Land and Water Australia. Department of Natural Resources, Environment, The Arts and Sport, Darwin*.
- Woinarski, J.C.Z., Legge, S., Fitzsimons, J.A., Traill, B.J., Burbidge, A.A., Fisher, A., Firth, R.S., Gordon, I.J., Griffiths, A.D., Johnson, C.N, McKenzie, N.L. (2011). The disappearing mammal fauna of northern Australia: context, cause, and response. *Conservation Letters*, 4(3), pp.192-201.
- Woinarski, J. C.Z., Burbidge, A., Harrison, P. (2014). *The action plan for Australian mammals 2012*. CSIRO publishing.
- Woolley, L.A., Murphy, B.P., Radford, I.J., Westaway, J., Woinarski, J.C., 2018. Cyclones, fire, and termites: the drivers of tree hollow abundance in northern Australia's mesic tropical savanna. *Forest Ecology and Management*, 419, pp.146-159.

APPENDIX A SCALING AND WEIGHTING OF SITE CONDITION ATTRIBUTES OF RELEVANCE TO THE NORTHERN BRUSHTAIL POSSUM

Attribute	Indicator	Scale						Weighting (of site condition score)
		0	1	2	3	4	5	
Vegetation community and associated canopy species	Suitable broad vegetation communities. Indicated by dominant canopy species. Includes woodlands dominated by <i>E. tetrodonta</i> and/or <i>E. miniata</i> communities, and other woodland communities dominated by various eucalypt, Corymbia or other non-eucalypt canopy species that are also known to provide habitat for the subspecies in the Darwin region. Dominant canopy species recorded within each 20 m quadrat.	Vegetation community with no to isolated canopy trees (e.g. shrubland).	NA	NA	Woodland dominated by non-preferred eucalypt, Corymbia or non-eucalypt canopy species	NA	Woodland/ forest dominated by preferred <i>E. miniata</i> and/or <i>E. tetrodonta</i> (these two species constitute at least one of the three dominant canopy species).	20%
Mid-storey tree and shrub cover	% mid-storey tree and shrub cover within each 20 m quadrat.	0%	<5%	5-20%	21-50%	51-80%	>80%	20%
Mid-storey tree and shrub diversity (no. of species)	Diversity of mid-storey tree and shrubs within 50 m quadrat that provide fruiting and flowering resources (all mid-storey vegetation including those with fleshy and hard fruits, and floral resources such as nectar).	0	1-3	4-6	7-9	10-12	>13	20%
Density of large old trees	Number of large old trees per hectare (extrapolated from data collected within each 50 m quadrat). Trees over 40 cm diameter at breast height are classified as large (DEPWS, 2021).	0	1 – 7 trees @ 40 cm DBH / ha <u>or</u> one tree @ 50 cm DBH / ha	8 – 14 trees @ 40 cm DBH / ha <u>or</u> two trees @ 50 cm DBH / ha	15 - 21 trees @ 40 cm DBH / ha <u>or</u> three trees @ 50 cm DBH / ha	22 -29 trees @ 40 cm DBH / ha <u>or</u> four trees @ 50 cm DBH / ha	30 or more trees @ 40 cm DBH / ha or five <u>or</u> more trees @ 50 cm DBH / ha	20%

Attribute	Indicator	Scale						Weighting (of site condition score)
		0	1	2	3	4	5	
Hollow count	Count of medium (10-19 cm diameter entrance) and large (>20 cm) hollows from ground level within each 50 m quadrat.	0	1-2	3-4	5-6	7-8	>9	15%
Grassy weeds ²	% ground cover of high-threat grassy weeds within each 20 m quadrat.	>10%	NA	NA	>0-10%	NA	0%	5%

² Mission Grass (*Cenchrus polystachios*) or Gamba Grass (*Andropogon gayanus*)

APPENDIX B LAND UNIT AND THREATENED SPECIES HABITAT VERIFICATION



Land unit and threatened species habitat verification

TE H2 Australia Pty Ltd



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Appendices

Appendix A	Survey Site Data
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1 INTRODUCTION

TE H2 Australia Pty Ltd (TE H2) engaged EcOz Environmental Consultants (EcOz) to undertake ecological surveys to support an environmental approval application for a proposed solar farm on Koolpinyah Station, approximately 40 km south-east of Darwin in the Northern Territory (NT). Three of the studies required across the study area were (a) verification of land unit¹ mapping, (b) quantification of habitat quality for key threatened mammals, and (c) preliminary Darwin Cycad mapping. These studies were undertaken concurrently in late 2024.

The purpose of this report is to describe the method and results of the surveys. The updated land unit map will be included within the overarching ecology report for the project; the habitat quality assessment data feeds into a woodland fauna constraints mapping report and will also be used to inform biodiversity offset calculations.

2 METHOD

2.1 Land unit verification

The land unit mapping relevant to this project was undertaken by Fogarty et al. (1984)² and Lynch (1985) at a scale of 1:25,000. Within the study area, 27 types of land units are mapped – these are summarised in Table 3-2, and their extents shown in Figure 2-1 and Figure 2-2. Most of the study area comprises plains (43%) and rises (33%), interspersed with drainage systems (11%) and low hills (10%). Alluvial plains, swamps and ‘marine’ (here referring to the western Adelaide River floodplain) comprise the remaining area.

To ground-truth the verification of mapped land units, vegetation, soil and landform attributes were collected by EcOz between October and December 2024 across the study area (Figure 2-1, Figure 2-2). At each site, a 20 x 20 m quadrat was assessed to National Vegetation Information System (NVIS) Level 5 (association) with a minimum of three dominant species per stratum (upper, mid and ground) recorded. A height range and percentage cover for each dominant species was recorded, in addition to the vegetation community class of the stratum (e.g. open woodland). Surface soil composition was assessed, with the following attributes collected: soil colour, a broad description of soil type, drainage and the presence of rock outcropping. General landform information – including a slope, aspect and disturbance – was also collected at each site.

Upon completion of the ground survey, site data were compared to the land unit descriptions. Survey sites were considered to match their nominal land unit when recorded landform, slope, drainage, dominant species and vegetation composition were consistent with the land unit description. Where one or more elements were inconsistent with the nominal land unit, the site data were assessed against adjacent land units – and other land units within the same class – to determine if a different land unit more closely matched. Where a land unit could not confidently be assigned based on values collected, it was assigned to a ‘Partial’ match category.

This process was undertaken acknowledging that there is likely to be variation within land units, and that sites may represent an ecotone or transitional zone between two or more vegetation communities (Brocklehurst et. al. 2007). The impact of fire and disturbance at each site was also factored into the assessment.

¹ A land unit is a reasonably homogenous part of a land surface, distinct from surrounding terrain with consistent properties in landform, soil and vegetation (Jessop & King 1997). As such, each land unit has a characteristic pattern on aerial imagery. Their scale is useful for identifying habitat features that may support threatened species and sensitive vegetation types.

² As compiled in the dataset: GTRDWN Land Resources of the Elizabeth, Darwin and Blackmore Rivers – Greater Darwin Area, Northern Territory (2010)

Where possible, refinement of land unit boundaries was completed using aerial imagery and field data. Where a land unit was altered, changes were limited to land units that had an obvious visual boundary across multiple aerial images.

Due to the size of the study area, and the number of discrete land unit areas that occur within it, the boundaries of land units were not assessed on the ground, and data were collected as a series of discrete points. As a result, at sites where the vegetation was assessed as more closely conforming to a different land unit, if aerial imagery did not contain a substantial difference in vegetation composition, slope or landform, it was not considered appropriate to refine the mapping.

Soil data collected in the field were limited to surface soil attributes and landform characteristics, and detailed soil descriptions were not undertaken. As a result, land units were primarily assessed against vegetation, landform and drainage. This is considered appropriate in this instance to broadly compare nominal land units against field data, as per Brocklehurst et al. (2007); the classification of soil is not a mandatory requirement for vegetation survey and mapping.

2.2 Threatened species habitat mapping

To support the assessment of habitat suitability for two threatened mammal species that have been recorded in the study area – Northern Brushtail Possum and Black-footed Tree-rat – species-specific habitat values were collected by EcOz at each vegetation check site.

The habitat data collected is necessary to identify, map and characterise (e.g. from a habitat quality perspective) threatened species' habitat within each land unit, and the differences in quality/condition of habitat across the study area. The habitat mapping informs the design of the project through the application of the mitigation hierarchy (avoid, minimise, offset) to the project, the assessment of the significance of any residual significant impacts, and loss/gain accounting under the Commonwealth environmental offsets policy (if required).

The data collected during the habitat assessment incorporated a suite of attributes – including the presence, quantity and condition of habitat features known, or predicted, to influence the occurrence of the relevant threatened species. Specifically, the data aimed to capture the suite of 'site-level' denning / shelter, foraging and breeding habitat attributes required by Black-footed Tree-rat and Northern Brushtail Possum, as outlined in policy documents such as species' Conservation Advice (TSSC 2015, TSSC 2021).

The following provides a summary of the data collected within a 50 x 50 m quadrat co-located with each 20 x 20 m vegetation mapping quadrat:

- Presence and density of large trees – any tree species meeting the threshold of 30 cm diameter at breast height (DBH) or above was recorded. Tree species, health status (live or dead), and DBH were recorded.
- Presence and counts of hollows³ were recorded from ground-level. Data recorded include tree species, health status (live or dead), hollow size category (small = < 10 cm diameter, medium = 10 to 20 cm, and large > 20 cm) and counts.
- Diversity, structure and cover (%) of fruiting / flowering midstorey flora species, and the presence of mistletoe – the cover and structure categories follow those identified in Brocklehurst et al. (2007).
- The amount (count) and cover % of mature⁴ *Pandanus spiralis* (which provide foraging and shelter resources).

³ Limitations associated with conducting hollow counts from the ground are acknowledged and likely represent a fraction of the number of hollows present within some trees.

⁴ Mature *Pandanus* were defined as plants with stems greater than 130 cm tall.

- Ground layer characteristics – including the type and cover of understorey species, leaf litter depth and cover, logs, rock outcropping etc.

Data on threatening processes (e.g. the presence, cover and density of weeds, fire history and signs of feral animals) were recorded within the 50 m x 50 m quadrats, and incidental records of weeds and feral animals were collected while traversing the site. Methods associated with each are outlined below:

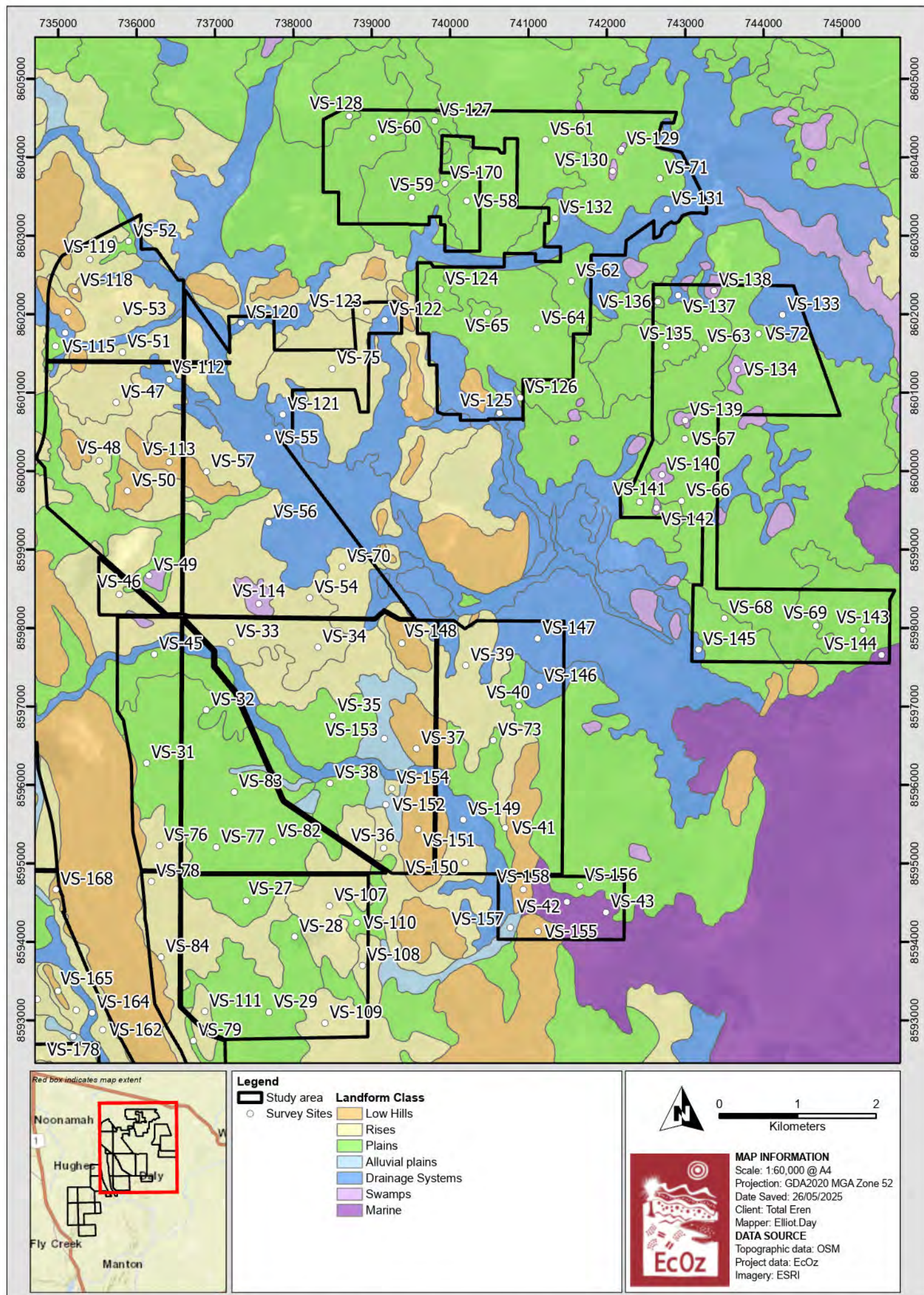
- Weeds – data collection followed the *NT Weed Data Collection Guidelines* (WMB 2015) with the following information collected at each detailed or incidental survey site: species, photographs and infestation level based on the size (diameter) and density. The survey focused on weed species declared under the NT Weeds Management Act or high-risk environmental weeds. A hand-held GPS unit was used to record a corresponding GIS coordinate for each weed record. Density categories used in the assessment are:
 - o A = Absent, no weeds of this species in this area.
 - o B = < 1%, Very few, not many weeds – e.g. single plant, perhaps with seedlings.
 - o C = 1 -10%, More than one or two isolated plants but not a lot – e.g. a few small plants.
 - o D = 11-50%, A lot, up to half the area covered – e.g. a tree, dense patches of weeds.
 - o E = > 50%, Dominant cover is weed, more than half covered – e.g. thickets, monocultures.
- Feral animals – observations of feral animal species (e.g. pigs, buffalo, horse) and the severity of impacts were recorded at each survey site. Severity of impacts was recorded on a scale of zero (i.e. no observations of uprooting, trampling or grazing impacts and no scats) to five (loss of understorey vegetation, increased occurrence of bare ground from uprooting / wallows, erosion, weed invasion from assisted dispersal etc).
- Fire – impacts of fire were recorded on a scale of zero to five, with zero being no visible signs of fire (no fire scars, high leaf litter cover and depth, logs on ground, good structure in all strata) to five being severely impacted (dominated by annual grasses, reduced complexity in structure and species diversity).

2.3 Cycad mapping

The Darwin Cycad (*Cycas armstrongii*) is a small to medium-sized cycad with a slender trunk listed as Vulnerable under NT legislation. The Darwin Cycad occurs in open grassy woodlands where adequate drainage appears to be a limiting factor (Liddle 2009). It also occurs on rocky outcrops, undulating hills and plains (Kerrigan et al. 2006). Prime cycad habitat has deep loamy, well-drained soil and the species is frequently associated with *Eucalyptus miniata* and *Eucalyptus tetrodonta* (Liddle 2009).

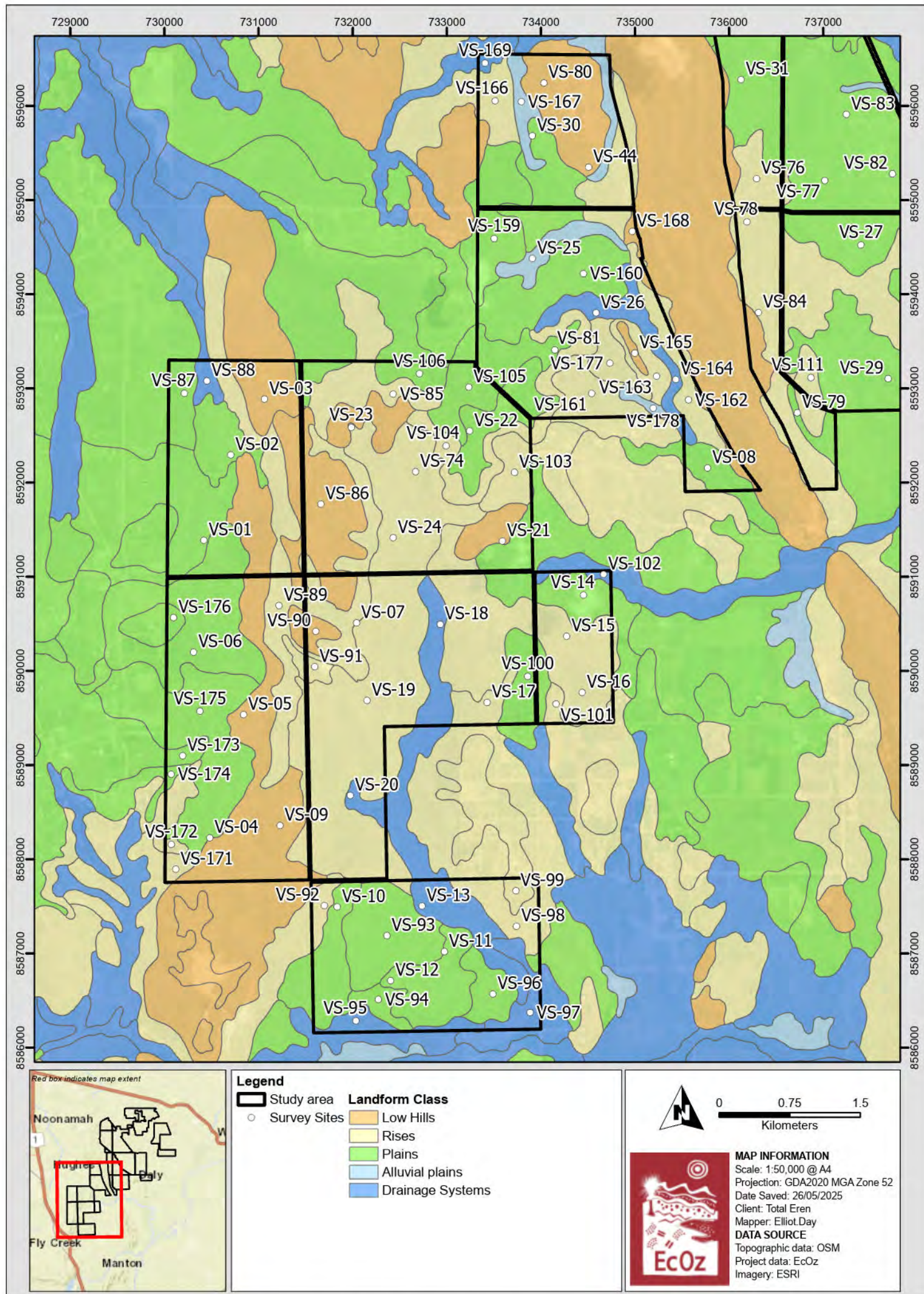
The NT Government considers Darwin Cycad densities of 400 to 700 mature stems per hectare to be high density, and more than 700 mature stems per hectare to be very high density. High and very high density stands of cycads are important for maintaining the species' diversity and function (Stokeld et al. 2020).

To obtain a preliminary understanding of Darwin Cycad presence and extent within the study area, the number of mature cycad stems (> 50 cm tall) was recorded within each 20 x 20 m vegetation check site.



Path: Z:\01 EcOz_Documents\05 EcOz M-Files GIS\2024\IEZ24222 - Ecological Constraints Mapping\1. Project Files\2. Report Maps\IEZ24222 - Land unit verification\IEZ24222 - Land unit verification.aprx | Figure 2-1. Map of vegetation survey sites (north east)

Figure 2-1. Map of vegetation survey sites (north east)



Path: Z:\01 EcOz_Documents\05 EcOz M-Files GIS\2024\EZ24222 - Ecological Constraints Mapping\1. Project Files\2. Report Maps\EZ24222 - Land unit verification\EZ24222 - Land unit verification.aprx | Figure 2-2. Map of vegetation survey sites (south west)

Figure 2-2. Map of vegetation survey sites (south west)

3 RESULTS

3.1 Land unit verification

A total of 178 sites were visited within the study area, comprising 26 of the 27 landforms mapped (see Figure 3-1 for indicative photographs of each landform class), and 140 of the 175 individual land units that occur within, or intersect, the study area. The 35 land units not visited comprised 16 land unit types and 404 ha (4.5% of the total study area). With a mean size of 11 ha, these were predominantly small patches at the edge of the study area, or riparian areas that could not be accessed. Land unit type 8a comprises approximately 1.08 ha or 0.01% of the total area within the study area and was not assessed. The full list of sites and field data collected can be found in Appendix A.

The survey indicated that land unit mapping within the study area was generally consistent with Fogarty et al. (1984) and Lynch (1985), with 156 of the 178 sites matching (105) or partially matching (51) the nominal land unit.

Table 3-1 summarises the 22 sites that were found to more closely match a different land unit. Discrepancies were related to the absence of any listed dominant species, or inappropriate slope and drainage, and were not associated with any particular land unit or location within the study area. Of the 22 sites, 12 matched an adjacent or nearby unit (indicating boundary realignment may be required), and 10 require further investigation.



Low hills (VS-155)



Rises (VS-34)



Plains / Flat (VS-174)



Alluvial plains (VS-152)



Drainage systems (VS-164)



Swamps (VS-49)



Marine (VS-43)

Figure 3-1. Indicative photographs of each landform class

Table 3-1. Sites that did not match their nominal land unit

Site	Nominal land unit	Suggested land unit	Major discrepancies	Matching adjacent unit
VS-10	3a	3e	Vegetation species, structure and drainage	No
VS17	2b2	5b2	Drainage	Yes
VS-18	5b2	2a1 / 2b1	Vegetation structure and drainage	No
VS-21	1b	4e2	Slope, vegetation species and structure	Yes
VS-26	5b1	2b1 / 5b1	Slope, drainage	Yes
VS-32	4e2	3b	On boundary of 4e2 / 3b, vegetation species and structure more closely match 3b	Yes
VS-42	8a1	8b	Vegetation species	No
VS-43	8a1	8a1 / 6a1	Vegetation, more detailed soil check required to confirm match	Yes
VS-44	1b	2b1	Landform / slope	No
VS-50	1b	2b1 / 2b2	Slope	No
VS-80	1b	2a1	Landform and drainage	No
VS-96	3c	3e	Drainage and vegetation species	No
VS-104	1c	2b2	Vegetation species	Yes
VS-113	1b	2b1	Slope	Yes
VS-117	1b	2a1c	Slope	Yes
VS-118	1b	1b / 2b2	Slope	Yes
VS-126	3c	6b	Drainage and vegetation structure (disturbed)	Yes
VS-134	8b	3c / 8b	Vegetation species	Yes
VS-139	8b	5b1/6a2	Vegetation species	No
VS-144	8a1	8b	Vegetation species	No
VS-145	6a1	4e2 / 5b1	Vegetation structure, drainage	No
VS-172	1c	1c / 6a2	Vegetation species, drainage	Yes

3.2 Land unit boundary adjustment

Based on the survey findings and assessment of aerial imagery, 46 of the 175 land unit polygons within the study area were adjusted. The changes are predominantly located where a strong visual boundary can be observed across multiple aerial images – particularly at the boundaries of land units 5b2 (drainage systems), 8a1 (floodplains) and 8b (swamps) which were refined to more closely align with slope or vegetation extent. An example of land unit boundary changes associated with a riparian corridor (land unit 5b2) is displayed in Figure 3-2. Although boundaries were shifted up to 180 m for some land units (Figure 3-2), the overall change in area within polygons was low, with a mean change of 2.3 ha and a median change of 0.9 ha. The revised land units are summarised in Table 3-2, and mapped in Figure 3-4 and Figure 3-5.



Figure 3-2. Example of land unit boundary changes along a riparian corridor

The white boundary representing the original Lynch (1985) mapping, and the purple boundary representing the adjustment

Table 3-2. Land units relevant to the study area

Differences between original and revised land unit areas are a consequence of polygon boundary revision, and excising disturbed areas. The majority of loss to disturbance is in land units 6b, 2a1, 2b2 and 1a (198 of the 255 ha).

Land unit	Landform class	Landform	Soil	Vegetation	No. survey sites	Area (ha)	
						Originally mapped	Revised
1a	Low hills	Flat hillcrests	Rudosols	Open woodland to open forest of <i>E. tetradonta</i> , <i>E. miniata</i> over annual <i>Sorghum</i> sp., <i>Heteropogon triticeus</i>	2	127.7	127.6
1b		Steep ridges		Woodland of <i>E. miniata</i> , <i>E. tectifera</i> , <i>C. foelscheana</i> over <i>Sorghum plumosum</i>	17	740.5	716.6
1c	Rises	Rises and short steep slopes	Rudosols	Woodland of <i>E. miniata</i> , <i>C. bleeseri</i> over <i>Sorghum</i> spp.	4	248.5	248.7
2a1		Rises		Open woodland of <i>E. miniata</i> , <i>E. tetradonta</i> , or <i>C. foelscheana</i> , <i>C. confertifolia</i> , <i>E. tectifera</i> over mixed grasses	16	1,069.5	1,013.4
2a2		Rises (adjacent to estuarine areas)		Tall shrubland or open forest of mixed species over sparse grasses	1	12.9	
2b1		Sideslopes	Kandosols	Open woodland to woodland of <i>E. miniata</i> , <i>E. tetradonta</i> , <i>C. foelscheana</i> , <i>E. tectifera</i> over <i>Sorghum</i> spp.	13	661.1	655.4
2b2				Low open to open woodland of mixed species over sparse grasses	15	944	915.1
3a	Plains	Flat to gently undulating upland surfaces	Kandosols	Open Forest of <i>E. tetradonta</i> , <i>E. miniata</i> over mixed grasses	8	414.0	403.5
3b				Woodland of <i>E. miniata</i> , <i>E. tetradonta</i> over <i>Sorghum</i> spp.	9	635.4	624.6
3c		Gently undulating upland surface	Kandosols	Woodland of <i>E. miniata</i> , <i>E. tetradonta</i> over <i>Sorghum</i> spp.	12	681.7	675.0

Land unit	Landform class	Landform	Soil	Vegetation	No. survey sites	Area (ha)	
						Originally mapped	Revised
3d			Rudosols	Open woodland of <i>E. miniata</i> over Sorghum spp.	4	117.2	117.3
3e		Flat to gently undulating upland surface	Hydrosols	Woodland of <i>C. polycarpa</i> , <i>Erythrophleum chlorostachys</i> over mixed grasses; wet season watertable	2	28.7	
4a		Gentle lower slopes	Hydrosols	Open woodland of <i>C. polycarpa</i> , <i>Lophostemon lactifluus</i> over <i>Themeda triandra</i> , <i>Eriachne burkittii</i> ; wet season watertable	4	138.6	
4b				Open woodland of <i>C. polycarpa</i> over mixed grasses; wet season watertable	7	375.1	376.6
4c				Open forest of Eucalyptus spp. over mixed grasses; wet season watertable	2	60.5	
4e1		Sloping margins to upland plateau surface	Kandosols	Woodland to open forest of mixed species including <i>E. miniata</i> , <i>Acacia auriculiformis</i> , <i>C. papuana</i> over mixed shrubs - labelled in DEPWS (2010) as monsoon vine thickets ⁵	4	341.7	339.9
4e2			Hydrosols	Low shrubland to low woodland of <i>Corymbia bella</i> , <i>Grevillea pteridifolia</i> , <i>Syzygium eucalyptoides</i> subsp. <i>bleeseri</i>	15	983.3	975.0
5a	Alluvial plains	Narrow upland alluvial plains	Hydrosols	Grassland of <i>Sorghum stipoideum</i> , <i>Eriachne burkittii</i> , <i>Paspalum scrobiculatum</i> with emergent trees	6	160.1	159.2
5b1	Drainage systems	Drainage floors within upland terrain	Hydrosols	Woodland to open forest of <i>Lophostemon lactifluus</i> , <i>C. bella</i> , <i>Melaleuca viridiflora</i> over mixed grasses	4	50.7	50.9
5b2		Incised drainage floors within upland terrain		Open shrubland to open woodland of <i>C. polycarpa</i> , <i>Melaleuca</i> spp., <i>E. alba</i> over <i>Eriachne</i> spp., <i>Sorghum</i> spp.	7	264.6	259.0
6a1		Broad lowland plains		Grassland of mixed grasses with emergent trees	2	61.1	
6a2				Open woodland or woodland of <i>Lophostemon lactifluus</i> , <i>C. polycarpa</i> , <i>E. alba</i> , <i>Melaleuca viridiflora</i> over <i>Eriachne burkittii</i> , <i>Sorghum stipoideum</i>	3	249.7	244.6
6b				Tall shrubland to low open woodland of <i>Grevillea</i> spp., <i>Melaleuca</i> spp., <i>Lophostemon lactifluus</i> over annual <i>Sorghum</i> sp., <i>Heteropogon triticeus</i>	9	322.3	234.7

⁵ Vegetation described as 'Monsoon vine thicket' in the GTRDW survey dataset is recorded as woodland to open forest of mixed *Eucalyptus* and *Corymbia* species in source survey 'Land Resources of the Humpty Doo Area' (Lynch B.T. 1985). See Section 3.5.2 for further discussion.

Land unit	Landform class	Landform	Soil	Vegetation	No. survey sites	Area (ha)	
						Originally mapped	Revised
8a		Upland depressions and floodways		Grassland of <i>Eriachne</i> spp., annual <i>Sorghum</i> sp. with scattered trees and shrubs	0	1.1	1.3
8a1	Marine	Extensive plain	Vertosols	Grassland/sedgeland with emergent trees and small patches of samphire to low closed forest of mangrove species; wet season flooding	3	69.3	66.8
8b	Swamps	Swamp depressions	Hydrosols	Open to closed forest of <i>Melaleuca</i> spp.	7	49.5	54.6
8c		Freshwater billabongs and seasonal fringes		Sedgeland, herbland and open water	2	3.3	1.2
-	Disturbed	-	-	Significantly modified by human activity.	5	-	255.6

3.2.1 Significantly disturbed sites

Five sites within the study area were found to be significantly disturbed as a result of human activity – VS-122, VS-125, VS-126, VS-130 and VS-131 (Figure 3-3). Disturbance was generally associated with historic mining and land clearing activities, and all sites were located in the north of the study area (Figure 3-4). Although the disturbed sites all lacked the vegetation structure necessary to match their nominal land units, recruitment within the sites was generally consistent with the described vegetation.

Preliminary aerial image analysis of existing disturbance identified approximately 255 ha of significant disturbance (exclusive of roads) within the study area.



VS-122



VS-126

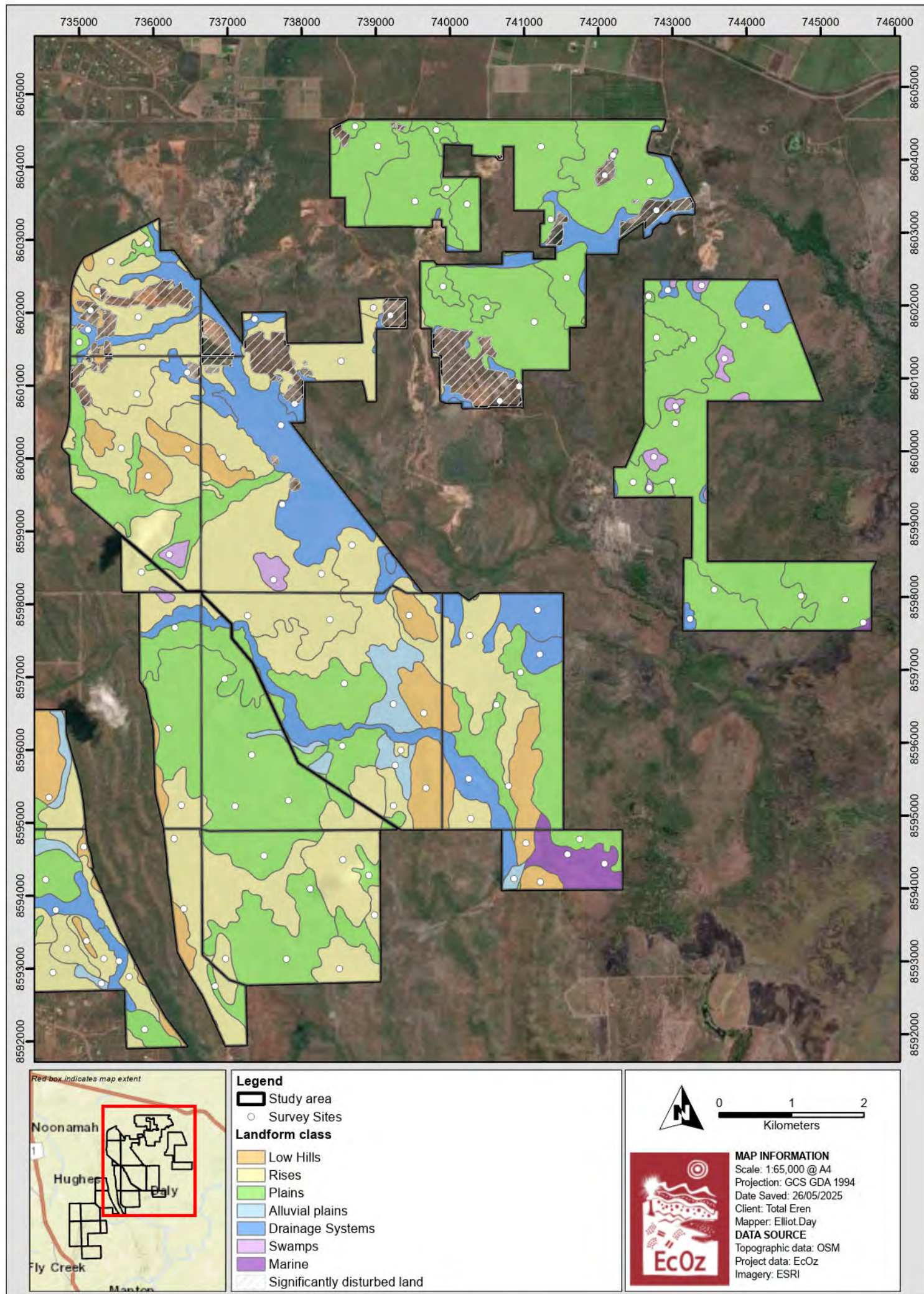


VS-130



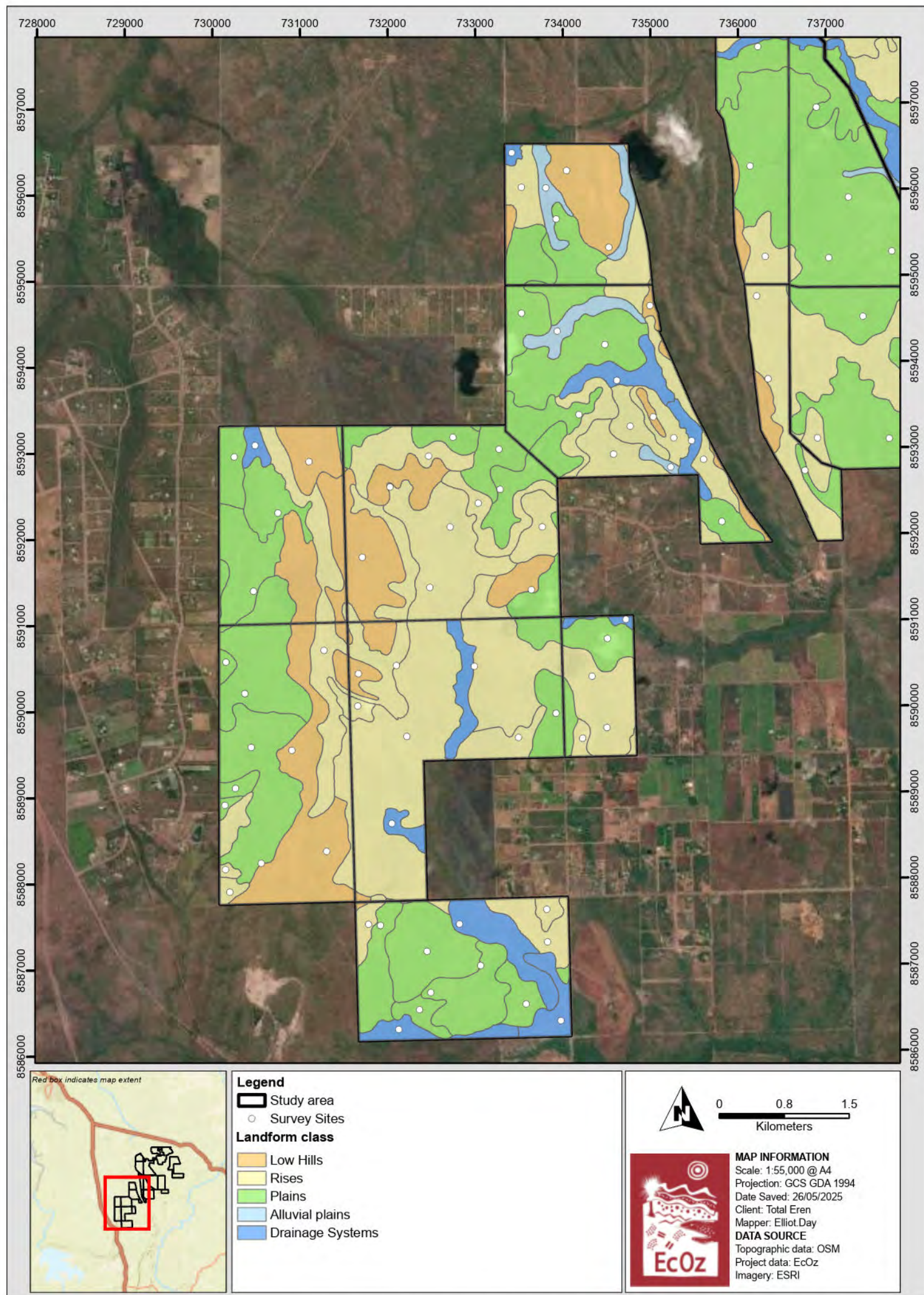
VS-131

Figure 3-3. Photographs of highly disturbed sites



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Figure 3-4. Map of refined land unit boundaries (north east)



Path: Z:\01 EcOz_Documents\05 EcOz M-Files GIS\2024\EZ24222 - Ecological Constraints Mapping\1. Project Files\2. Report Maps\EZ24222 - Land unit verification\EZ24222 - Land unit verification.aprx | Figure 3-5. Map of refined land unit boundaries (south west)

Figure 3-5. Map of refined land unit boundaries (south west)

3.3 Threatened species habitat mapping

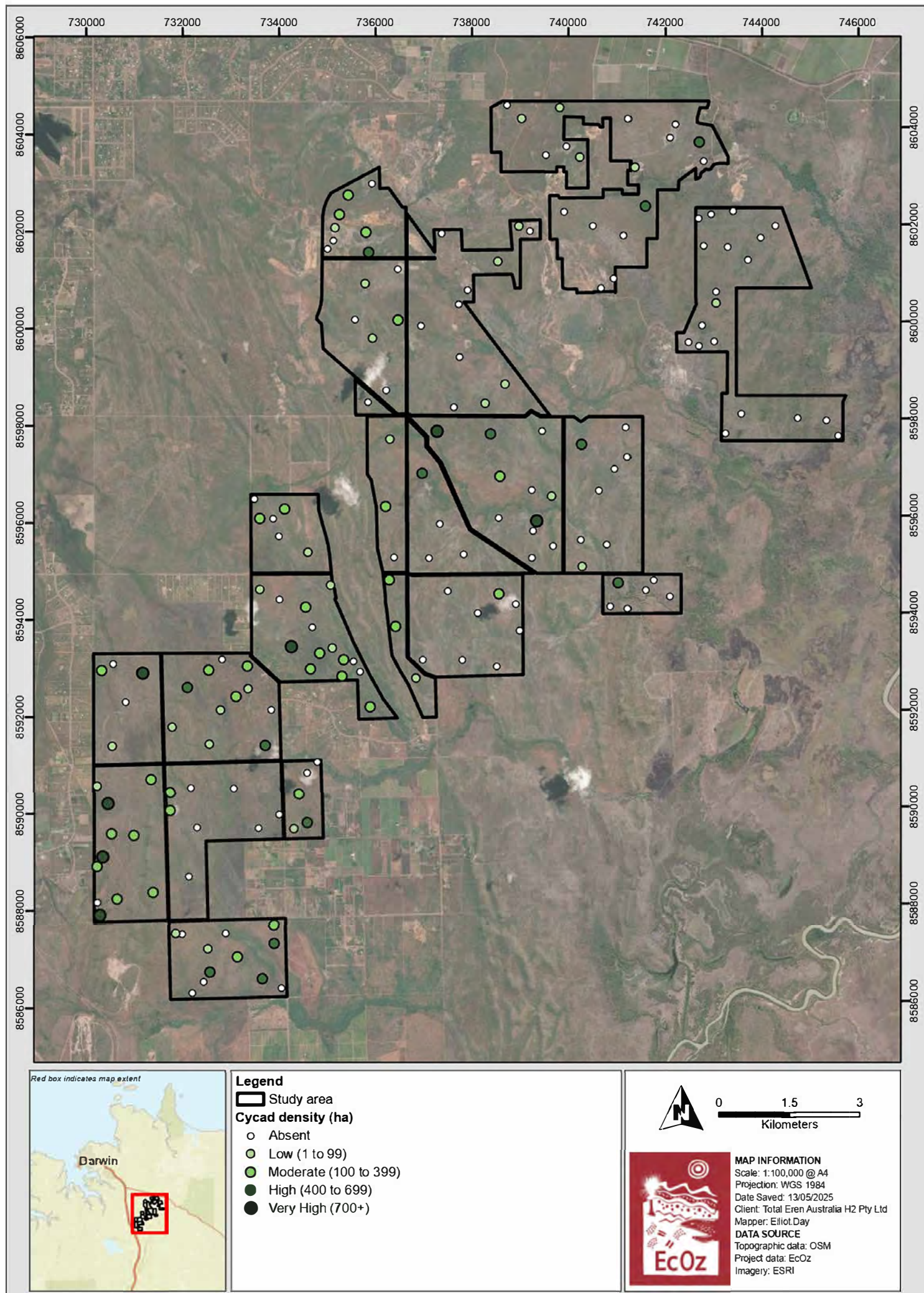
Habitat quality data were collected at all the 178 sites that were surveyed for the land unit mapping. The results are presented in Appendix A. Those data were collected to inform an impact avoidance assessment and preliminary offset calculations, both of which are reported on in other documents.

3.4 Darwin Cycad mapping

Darwin Cycads were present at 81 of the 178 vegetation check sites (Table 3-3, Figure 3-6). Most of the sites (61 of 81) had a low or moderate density of cycads, 13 sites had a high density, and 7 sites had a very high density. High and very high-density sites occurred more frequently in the south-west of the study area; however, they were also recorded in the central and northern portions of the study area. High and very-high density cycads most frequently occurred in land unit 3b; however, the species was present throughout the plains and rises landform classes, and otherwise not strongly associated with any one land unit.

Table 3-3. Darwin Cycad density survey results

Density classification	Cycad density (no. per hectare)	No. of sites
Absent	0	97
Low	1 to 99	29
Moderate	100 to 399	32
High	400 to 699	13
Very High	Greater than 700	7



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Figure 3-6. Map of Darwin Cycad density

3.5 Other findings

3.5.1 Unmapped Melaleuca swamps

Melaleuca swamps are located in multiple locations in the north of the study area and are associated with land unit 8b. In addition to known swamps, three unmapped Melaleuca swamps were identified during the survey, located at VS-42, VS-144 and VS-153 (Figure 3-7, Figure 3-10).

Site VS-42 comprised of a *Melaleuca dealbata* woodland over mixed shrubs, located on the northern side of a drainage line within land unit 8a1. Aerial imagery suggests that the swamp comprises approximately 8.7 ha on the northern side of the drainage line, with an additional 4 ha located on the southern side. Due to the open nature of the vegetation, and inconclusive aerial imagery analysis, the extent of the Melaleuca swamp requires field verification.

Site VS-144 comprised woodland of *Melaleuca* sp. located in between land unit 4e2 and 8a1 at the eastern boundary of the study area. The swamp comprises approximately 2 ha.

VS-153 comprised a *Melaleuca cajuputi* woodland within a wider floodplain. VS-153 was located partially within a 0.34 ha dense patch of Melaleuca, with scattered trees extending further across the floodplain. The boundary of the swamp requires further field verification.



VS-42



VS-144



VS-153

Figure 3-7. Photographs of unmapped Melaleuca swamps

3.5.2 Monsoon rainforest

Monsoon rainforests are considered a sensitive and significant vegetation type under the NT *Land Clearing Guidelines* (DEPWS 2024). Monsoon rainforests are areas of vegetation with a dense tree canopy (greater than 70 % foliage cover) that occur in regions with a monsoonal wet/dry climate. In the Northern Territory, monsoon rainforests commonly occur in small discrete patches within the frequently-burnt savanna dominated by eucalypts or paperbarks (*Melaleuca sp.*). There are approximately 15,000 patches across the Northern Territory – ranging in size from 1 to 4,000 ha with a median size of 3.6 ha (DLRM 2013).

A total of 117.3 ha of monsoon rainforest is modelled within the study area (DEPWS 2000). One site – VS-45 was located within modelled monsoon rainforest and was not found to contain sufficient canopy cover or species diversity to constitute the vegetation type.

Land unit 4e1

A total of 341.67 ha of the study area is mapped as land unit 4e1, described as sloping margins to upland plateau surface supporting monsoon vine thicket vegetation (DEPWS 2000). Four vegetation sites were visited within land unit 4e1 (Figure 3-10). Three of the sites (VS-66, VS-67, VS-72) were not found to have appropriate vegetation structure or species diversity to constitute monsoon vine thicket. A fourth site – VS-69 – contained sufficient density and diversity of relevant species to support a 'partial match' assessment.

A review of the Lynch (1985) mapping indicates that land unit 4e1 was originally described as woodland to open forest of mixed species over a mixed shrub layer. As a result, all sites occurring within land unit 4e1 were considered to match the original land unit description and are not considered to be monsoon vine thicket vegetation, with the exception of site VS-69 which is in a transitional stage. The extent of the monsoon vine thicket vegetation was not ground verified and is unable to be confidently determined based on available aerial imagery.



Figure 3-8. Photographs of site VS-69

3.5.3 Unmodelled sandsheet heath

Sandsheet heath vegetation is mapped in multiple locations in the north of the study area (DENR 2014), and nine vegetation sites⁶ were located within or adjacent to modelled patches (Figure 3-10). These mapped patches fall within the drainage systems and swamps landform classes.

Of the nine sites, one (VS-146) was identified as containing sandsheet heath, with the remaining sites either significantly disturbed or not found to support sandsheet heath vegetation at the time of the survey (Figure 3-9).

One additional site (VS-129) was found to support sandsheet heath vegetation despite not being mapped as such (Figure 3-9). The site is within land unit 8c and is located 150 m north of a mapped (but disturbed) sandsheet patch. The extent of sandsheet heath patches were not verified as part of this assessment.



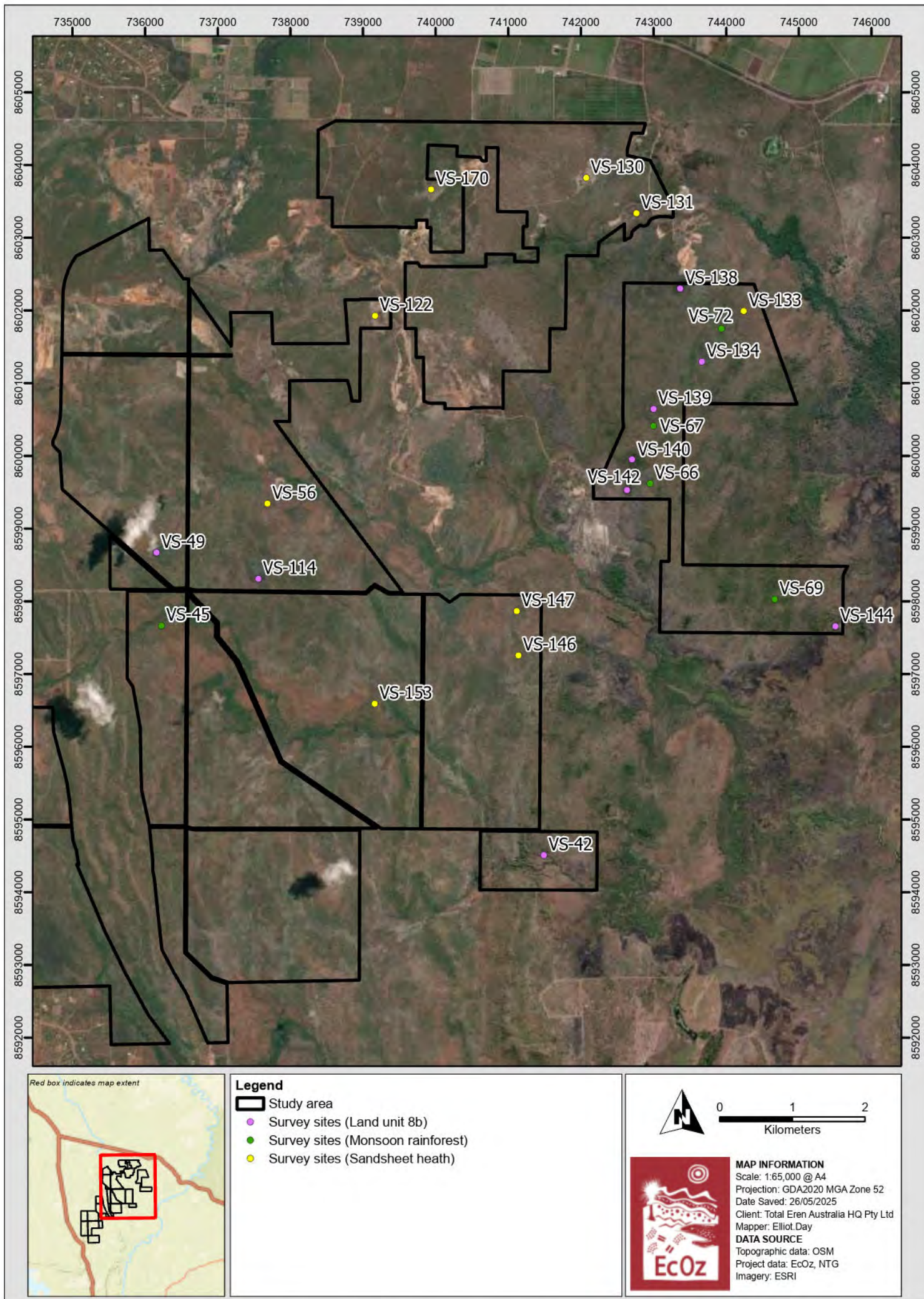
VS-146



VS-129

Figure 3-9. Photographs of sandsheet heath sites

⁶ VS-56, VS-122, VS-130, VS-131, VS-133, VS-146, VS-147, VS-153 and VS-170.



Path: Z:\01 EcOz_Documents\05 EcOz M-Files GIS\2024\EZ24222 - Ecological Constraints Mapping\1. Project Files\2. Report Maps\EZ24222 - Land unit verification\EZ24222 - Land unit verification.aprx | Figure 3-10. Map of survey sites discussed in Section 3.5

Figure 3-10. Map of survey sites discussed in Section 3.5

4 CONCLUSION

The survey indicated that land units within the study area are largely consistent with Fogarty et al. (1984) and Lynch (1985) with 87.6% of sites matching or partially matching their nominal unit. Of the 22 (12.4%) of sites that did not match their nominal land unit, 12 were characteristic of an adjacent or nearby unit, indicating an overall high level of accuracy in the source dataset, with some boundary adjustment required.

Because individual check sites were utilised for land unit mapping verification, post-survey land unit boundary refinement was largely restricted to drainage systems, swamps and alluvial plains where a clear visual boundary was present across successive aerial images. Further refinement was completed with the support of contour mapping and field data. Identified boundary discrepancies were generally within 50 m of existing mapped boundaries. Additionally, approximately 255 ha of the study area was determined to be highly modified as a result of human activity and was assigned the new category 'disturbed'.

The plains and rises landform class comprises 76% of the study area, which have less pronounced aerial boundaries. As a result, boundary refinement was not completed between these areas without supporting site data and contour mapping. It is considered likely that there are boundary discrepancies within these landform classes due to the nature of 1:25,000 scale mapping.

Due to the large size of the study area, priority areas for further investigation have been identified. These include identifying any additional occurrences of land unit 8b (melaleuca swamps), refining boundary mapping at identified swamps (sites VS-42, VS-144 and VS-153), and refining the extent of monsoon vine thicket and sandsheet heath within their associated land units.

5 REFERENCES

- Bowman, DMJS, Woinarski, JCZ, 1994, Biogeography of Australian rainforest mammals: implications for the conservation of rainforest mammals, *Pacific Conservation Biology*, 1, 98 – 106
- Brocklehurst P., Lewis D., Napier D., and Lynch D. (2007) Northern Territory Guidelines and Field Methodology for Vegetation Survey and Mapping. Technical Report N. 02/2007D. Department of Natural Resources, Environment and the Arts, Palmerston, Northern Territory.
- Department of Environment and Natural Resources (2014), Sandsheet Heath Vegetation in the Darwin Region. Department of Environment and Natural Resources, Palmerston, Northern Territory
- Department of Environment, Parks and Water Security (2000) Data set: Monsoon Vine – Forest Distribution in the Northern Territory (ANZLIC: 2DBC771203306B6E040CD9B0F274EFE)
- Department of Environment, Parks and Water Security (2010) Data set: Land unit compilations at various scales (ANZLIC: 8F67A0A8909520BFE0530101007F30EC)
- Department of Environment, Parks and Water Security (2024) Land Clearing Guidelines, Northern Territory Planning Scheme. Northern Territory Department of Environment, Parks and Water Security, Palmerston, NT.
- Department of Land and Resource Management (2013). Sensitive Vegetation in the Northern Territory – Monsoon Rainforest. Northern Territory Department of Land and Resource Management, Palmerston, NT.
- Fogarty P.J, Lynch B., and Wood B.G (1984) Land Resources of the Elizabeth, Darwin and Blackmore Rivers. (2004). Report no. 15/84D. Land Conservation Unit. Conservation Commission of the Northern Territory, Darwin, NT.
- Kerigan R., Cowie I., Liddle D. (2006) Threatened species of the Northern Territory – *Cycas armstrongii*. Threatened species information sheet. Northern Territory Department of Natural Resources, Environment and the Arts.
- Liddle D.T. (2009) Management Program for Cycads in the Northern Territory of Australia. 2009 – 2014. Northern Territory Department of Natural Resource, Environment, the Arts and Sport, Palmerston, Northern Territory.
- Lynch B.T. (1985) Land Resources of the Humpty Doo Area. Technical Memorandum Number 85/6. Conservation Commission of the Northern Territory.
- Russell-Smith, J, Bowman, DMJS, 1992, Conservation of monsoon rainforest isolates in the Northern Territory, Australia, *Biological Conservation* 59, 51–63.
- Stokeld, D., Leiper, I., Cuff, N., Cowie, I., Lewis, D., and Einoder, L. (2020). Mapping the Future project – Gunn Point. Biodiversity Assessment of the Gunn Point Area. Technical Report 4/2020, Department of Environment and Natural Resources, Darwin, NT.
- Threatened Species Scientific Committee (2015) Conservation Advice *Mesembriomys gouldii gouldii* Black-footed tree-rat (Kimberly and Mainland Northern Territory). Canberra: Department of the Environment.
- Threatened Species Scientific Committee (2021) Conservation Advice *Trichosurus vulpecula arnhemensis*, Northern Brushtail Possum. Canberra: Department of Agriculture, Water and the Environment.

APPENDIX A SURVEY SITE DATA

Check site	VS-01		Coordinates		-12.733565, 131.122141			
Aspect	West		Land unit (nominal)		3c	Land unit (adjusted)	3b/3c	
Surface soils	Grey Loam		Landform		Plains/Flat Moderately well drained			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	7	93	5	15	17	Quartz-Laterite <1%	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	4		5		1		1	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	5		14		11		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	3		6		2		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		1		Absent (0)		Last year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		Absent		Minor impact scars on some trees/shrubs			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)		<i>Erythrophleum chlorostachys</i>			14		8
			<i>Eucalyptus miniata</i>			7		7
			<i>Livistona humilis</i>			0		0
Mid stratum	Sparse Shrubland (5-20%)		<i>Livistona humilis</i>			1		5
			<i>Planchonia careya</i>			3		4
			<i>Buchanania obovata</i>			3		3
Ground stratum	Closed Hummock Grassland (>80%)		<i>Sorghum sp. (annual)</i>			10		70
			<i>Eriachne ciliata</i>			5		15
			<i>Heteropogon contortus</i>			10		5
Other notes	Test pit							
								

Check site	VS-02		Coordinates		-12.725356, 131.124707			
Aspect	South		Land unit (nominal)		4a	Land unit (adjusted)	4a/3b/3c	
Surface soils	Grey Silt		Landform		Plains/Flat Poorly drained			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	1	99	50	5	14	<1% Laterite	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	6		35		1		1	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	2		7		4		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	6		2		3		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		0		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		<1%		Some trees/shrubs killed			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)		<i>Erythrophleum chlorostachys</i>			12		4
			<i>Eucalyptus tetrodonta</i>			10		12
			<i>Corymbia polysciada</i>			9		1
Mid stratum	Sparse Shrubland (5-20%)		<i>Terminalia ferdinandiana</i>			1		6
			<i>Buchanania obovata</i>			1		4
			<i>Planchonia careya</i>			1		2
Ground stratum	Sparse Tussock Grassland (5-20%)		<i>Heteropogon contortus</i>			15		5
			<i>Syzygium eucalyptoides</i> subsp. <i>bleeseri</i>			30		5
			<i>Buchanania obovata</i>			50		3
Other notes	Hyptis present, pandanus nearby							
								

Check site	VS-03		Coordinates		-12.719968, 131.127956			
Aspect	South East		Land unit (nominal)		1b	Land unit (adjusted)	1a/1c	
Surface soils	Brown-grey Loam		Landform		Mid Slope Moderately well drained			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	1	33	66	30	30	5	Sandstone <5%	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	4		20		1		5	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	4		15		4		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	10		3		6		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		29		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		Absent		No damage			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)		<i>Eucalyptus tetrodonta</i>			10		10
			<i>Corymbia polysciada</i>			10		8
			<i>Eucalyptus miniata</i>			6		2
Mid stratum	Sparse Shrubland (5-20%)		<i>Terminalia ferdinandiana</i>			1		15
			<i>Livistona humilis</i>			1		5
			<i>Xanthostemon paradoxus</i>			10		5
Ground stratum	Isolated Hummock Grasses (<5%)		<i>Sorghum sp. (annual)</i>			10		10
			<i>Cycas armstrongii</i>			30		4
			<i>Buchanania obovata</i>			20		4
Other notes	-							
								

Check site	VS-04		Coordinates		-12.762112, 131.122959		
Aspect	South West		Land unit (nominal)		3c	Land unit (adjusted)	-
Surface soils	Grey Other		Landform		Mid Slope Rapidly drained (deep slope / sandy soil)		
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping
	0	35	65	50	20	20	Sandstone <1%
Habitat values (50x50)							
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)
	7		20		2		15
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead
	7		9		12		Both
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall
	5		2		2		0
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire
	0		9		Absent (0)		This year
Threatening processes	Feral animal damage		Weed density		Fire impacts		
	Absent		Absent		Some trees/shrubs killed		
Vegetation (20x20)							
Upper stratum	Vegetation Structure		Dominant species			Height (m)	Cover (%)
	Open Woodland (5-20%)		<i>Eucalyptus tetrodonta</i>			12	4
			<i>Eucalyptus miniata</i>			14	1
			N/A			0	0
Mid stratum	Open Shrubland (21-50%)		<i>Terminalia platyphylla</i>			1	15
			<i>Brachychiton megaphyllus</i>			1	6
			<i>Livistona humilis</i>			1	5
Ground stratum	Open Hummock Grassland (21-50%)		<i>Heteropogon contortus</i>			0	30
			<i>Cycas armstrongii</i>			0.3	15
			<i>Terminalia platyphylla</i>			0.2	5
Other notes	Track adjacent to plot Abundant large hollows outside of plot						
							

Check site	VS-05		Coordinates		-12.750263, 131.126166			
Aspect	North West		Land unit (nominal)		1b	Land unit (adjusted)	1b/3c	
Surface soils	Grey Other		Landform		Mid Slope Rapidly drained (deep slope / sandy soil)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	5	40	30	70	15	28	Sandstone >30%	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	7		30		2		5	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	7		9		10		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	6		0		1		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		10		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		Absent		Minor impact scars on most trees/shrubs			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)		<i>Erythrophleum chlorostachys</i>			8		5
			<i>Eucalyptus miniata</i>			10		3
			<i>Corymbia polysciada</i>			10		1
Mid stratum	Open Shrubland (21-50%)		<i>Terminalia platyphylla</i>			1		10
			<i>Livistona humilis</i>			1		9
			<i>Cycas armstrongii</i>			1		2
Ground stratum	Sparse Hummock Grassland (5-20%)		<i>Heteropogon contortus</i>			0		10
			<i>Terminalia platyphylla</i>			0.1		3
			<i>Petalostigma quadriloculare</i>			0.4		2
Other notes	- Mistletoe (dead) just outside plot. Planchonia present (nectar sp count¿) abundant large hollows outside of plot.							
								

Check site	VS-06		Coordinates		-12.74431 131.121228			
Aspect	South West		Land unit (nominal)		3b	Land unit (adjusted)	-	
Surface soils	Yellow-brown Loam		Landform		Lower SlopeModerately well drained			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	2	98	45	5	31	<1% Laterite	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	4		40		1		1	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	5		3		4		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	1		4		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		31		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		Absent		Some trees/shrubs killed			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)		<i>Eucalyptus miniata</i>			6		7
			<i>Eucalyptus tetrodonta</i>			7		5
			<i>Livistona humilis</i>			0		0
Mid stratum	Sparse Shrubland (5-20%)		<i>Cycas armstrongii</i>			1		10
			<i>Planchonia careya</i>			2		3
			<i>Terminalia platyphylla</i>			1		2
Ground stratum	Sparse Hummock Grassland (5-20%)		<i>Eucalyptus miniata</i>			20		45
			<i>Heteropogon contortus</i>			10		10
			<i>Eriachne ciliata</i>			10		5
Other notes	-							



Check site	VS-07		Coordinates		-12.741364 131.137145			
Aspect	South		Land unit (nominal)		1c	Land unit (adjusted)	-	
Surface soils	Brown Other		Landform		Lower Slope Moderately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	20	79	60	40	24	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	3		15		2		15	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	5		10		4		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	15		1		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		0		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		11-50%		Some trees/shrubs killed			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Woodland (21-50%)		<i>Eucalyptus miniata</i>			17		20
			<i>Erythrophleum chlorostachys</i>			16		8
			<i>Terminalia ferdinandiana</i>			11		5
Mid stratum	Sparse Shrubland (5-20%)		<i>Livistona humilis</i>			2.5		5
			<i>Terminalia ferdinandiana</i>			1.5		3
			<i>Brachychiton megaphyllus</i>			1.5		1
Ground stratum	Open Resprouts (21-50%)		<i>Brachychiton megaphyllus</i>			0		5
			Unknown Shrub (see notes)			0.3		4
			<i>Erythrophleum chlorostachys</i>			0.2		2
Other notes	- Other weed = Passiflora foetida							
								

Check site	VS-08		Coordinates		-12.726225 131.171349			
Aspect	North East		Land unit (nominal)		4c	Land unit (adjusted)	-	
Surface soils	Brown Other		Landform		Lower SlopeModerately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	1	99	30	25	0	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	2		10		3		15	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	3		8		0		Alive	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	9		1		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		9		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Very Low		Absent		Some trees/shrubs killed			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Woodland (21-50%)		<i>Erythrophleum chlorostachys</i>			9		6
			<i>Eucalyptus miniata</i>			15		5
			<i>Brachychiton diversifolius</i>			18		2
Mid stratum	Sparse Shrubland (5-20%)		<i>Unknown Shrub</i>			1.5		3
			<i>Cycas armstrongii</i>			1		2
			<i>Unknown Shrub</i>			1		2
Ground stratum	Open Tussock Grassland (21-50%)		<i>Sorghum sp.</i>			0		10
			<i>Unknown Shrub</i>			0.3		3
			<i>Unknown Grass</i>			0.2		3
Other notes	Bush track adjacent to plot.							



Check site	VS-09		Coordinates		-12.760867 131.129821			
Aspect	South East		Land unit (nominal)		1b	Land unit (adjusted)	-	
Surface soils	Grey Other		Landform		Mid Slope Rapidly drained (deep slope / sandy soil)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	70	25	50	5	9	Sandstone <5%	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	2		10		3		15	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	1		6		5		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	6		0		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		7		Common (6-10)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		Absent		Some trees/shrubs killed			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)		<i>Eucalyptus tetradonta</i>			8		8
			<i>Corymbia polysciada</i>			6		5
			<i>Eucalyptus miniata</i>			9		2
Mid stratum	Sparse Shrubland (5-20%)		<i>Livistona humilis</i>			1		8
			<i>Terminalia ferdinandiana</i>			2		4
			<i>Xanthostemon paradoxus</i>			3		2
Ground stratum	Sparse Hummock Grassland (5-20%)		<i>Erythrophleum chlorostachys</i>			0		20
			<i>Heteropogon contortus</i>			0.2		15
			<i>Cycas armstrongii</i>			0.15		7
Other notes	-							



Check site	VS-10		Coordinates		-12.768641 131.13547			
Aspect	N/A		Land unit (nominal)		3a	Land unit (adjusted)	3e	
Surface soils	Grey Other		Landform		Drainage (broad swampl/floodplain) Very poorly drained (Seasonal waterlogging / inundation expected)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	0	100	90	2	0	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	4		5		2		1	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	3		2		0		Alive	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	2		0		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	2		0		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Low		Absent		Minor impact scars on most trees/shrubs			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Isolated Trees (<5%)		<i>Gardenia megasperma</i>			6		1
			<i>Corymbia polysciada</i>			7		1
			N/A			0		0
Mid stratum	Sparse Shrubland (5-20%)		<i>Livistona humilis</i>			1.5		10
			<i>Terminalia ferdinandiana</i>			2		2
			<i>Planchonia careya</i>			2		1
Ground stratum	Isolated Hummock Grasses (<5%)		<i>Petalostigma quadriloculare</i>			0		5
			<i>Sorghum sp. (annual)</i>			0.1		2
			<i>Buchanania obovata</i>			0.2		1
Other notes	Verticordia Cunninghamii present. Planchonia counted as nectar & fruiting. Persoonia present ground story.							
								

Check site	VS-11		Coordinates		-12.772839 131.146007			
Aspect	East		Land unit (nominal)		3d	Land unit (adjusted)	3e	
Surface soils	Light brown Loam		Landform		Plains/Flat Poorly drained (seasonally waterlogged most years)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	0	100	65	3	4	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	5		15		2		5	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	4		2		0		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	4		1		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		5		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		Absent		Some trees/shrubs killed			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)		<i>Erythrophleum chlorostachys</i>			6		6
			<i>Terminalia ferdinandiana</i>			10		5
			<i>Corymbia polysciada</i>			6		4
Mid stratum	Sparse Shrubland (5-20%)		<i>Planchonia careya</i>			1		4
			<i>Buchanania obovata</i>			1		4
			<i>Xanthostemon paradoxus</i>			5		3
Ground stratum	Sparse Tussock Grassland (5-20%)		<i>Petalostigma quadriloculare</i>			0		7
			<i>Buchanania obovata</i>			0.2		5
			<i>Heteropogon contortus</i>			0.2		5
Other notes	-							



Check site	VS-12		Coordinates		-12.775675 131.140764			
Aspect	South		Land unit (nominal)		3d	Land unit (adjusted)	3e	
Surface soils	Brown-grey Other		Landform		Plains/Flat Poorly drained (seasonally waterlogged most years)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	10	90	70	1	9	<5% Laterite	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	3		5		2		1	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	4		3		2		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	3		0		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	5		24		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Very Low		1-10%		Some trees/shrubs killed			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Isolated Trees (<5%)		<i>Erythrophleum chlorostachys</i>			6		3
			<i>Terminalia grandiflora</i>			3		2
			N/A			0		0
Mid stratum	Sparse Shrubland (5-20%)		<i>Livistona humilis</i>			1		7
			<i>Cycas armstrongii</i>			0.5		5
			<i>Pandanus spiralis</i>			1.5		2
Ground stratum	Isolated Hummock Grasses (<5%)		<i>Heteropogon contortus</i>			0		5
			<i>Cycas armstrongii</i>			0.1		3
			<i>Petalostigma quadriloculare</i>			0.1		2
Other notes	- Hyptis							
								

Check site	VS-13		Coordinates		-12.768488 131.143777			
Aspect	N/A		Land unit (nominal)		5b2	Land unit (adjusted)	5b1 / 5b2	
Surface soils	Brown-grey Loam		Landform		Drainage (broad swamp/floodplain) Very poorly drained (Seasonal waterlogging / inundation expected)			
	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
Ground cover (%)	0	0	100	50	85	29	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	2		0		3		1	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	5		5		3		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	5		4		7		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	49		0		Abundant (>10)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		Absent		Minor impact scars on some trees/shrubs			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Woodland (21-50%)		<i>Melaleuca dealbata</i>			8		30
			<i>Lophostemon lactifluus</i>			8		20
			N/A			0		0
Mid stratum	Open Shrubland (21-50%)		<i>Pandanus spiralis</i>			1.6		20
			<i>Livistona humilis</i>			1.5		3
			<i>Melaleuca leucadendra</i>			1.5		2
Ground stratum	Open Hummock Grassland (21-50%)		<i>Unknown Grass (see notes)</i>			0		25
			<i>Pandanus spiralis</i>			1		25
			<i>Melaleuca leucadendra</i>			0.2		1
Other notes	- Grevillea outside of plot.							
								

Check site	VS-14		Coordinates		-12.738518 131.159323			
Aspect	N/A		Land unit (nominal)		4 e 2	Land unit (adjusted)	-	
Surface soils	Brown Other		Landform		Plains/Flat Moderately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	0	100	80	5	0	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	6		10		3		2	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	0		0		0		Alive	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	2		0		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	16		0		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Very Low		11-50%		Some trees/shrubs killed			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Isolated Trees (<5%)		<i>Terminalia grandiflora</i>			12		2
			N/A N/A			0 0		0 0
Mid stratum	Sparse Shrubland (5-20%)		<i>Pandanus spiralis</i>			2		10
			<i>Ficus aculeata</i>			4		5
			<i>Verticordia cunninghamii</i>			1		3
Ground stratum	Open Tussock Grassland (21-50%)		<i>Andropogon gayanus</i>			0		15
			<i>Heteropogon triticeus</i>			0.05		3
			<i>Unknown Grass (see notes)</i>			0.05		2
Other notes	-							
								

Check site	VS-15		Coordinates		-12.742485 131.157705			
Aspect	East		Land unit (nominal)		2a1	Land unit (adjusted)	2a1 / 2a2	
Surface soils	Brown Other		Landform		Mid Slope Moderately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	5	95	75	10	0	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	4		10		3		5	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	4		5		0		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	0		0		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		13		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		<1%		Some trees/shrubs killed			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)		<i>Eucalyptus miniata</i>			7		9
			<i>Planchonia careya</i>			7		1
			<i>N/A</i>			0		0
Mid stratum	Sparse Shrubland (5-20%)		<i>Livistona humilis</i>			2		6
			<i>Planchonia careya</i>			3		3
			<i>Cycas armstrongii</i>			1		2
Ground stratum	Open Tussock Grassland (21-50%)		<i>Heteropogon triticeus</i>			0		6
			<i>Buchanania obovata</i>			0.1		3
			<i>Cycas armstrongii</i>			0.2		3
Other notes	-							
								

Check site	VS-16		Coordinates		-12.747861 131.159271			
Aspect	North East		Land unit (nominal)		2a1	Land unit (adjusted)	-	
Surface soils	Brown Other		Landform		Mid Slope Rapidly drained (deep slope / sandy soil)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	5	8	87	80	15	0	Quartz <5%	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	2		2		2		3	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	0		2		0		Dead	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	1		0		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		17		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		1-10%		Some trees/shrubs killed			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)		<i>Eucalyptus miniata</i>			5		15
			N/A			0		0
			N/A			0		0
Mid stratum	Sparse Shrubland (5-20%)		<i>Cycas armstrongii</i>			1		6
			<i>Livistona humilis</i>			1		4
			<i>Planchonia careya</i>			2		2
Ground stratum	Sparse Resprouts (5-20%)		<i>Erythrophleum chlorostachys</i>			0		10
			<i>Buchanania obovata</i>			0.5		1
			<i>Eucalyptus tectifera</i>			0.2		1
Other notes	- Outcropping quartz and sandstone							
								

Check site	VS-17		Coordinates		-12.748905 131.14998			
Aspect	West		Land unit (nominal)		2b2	Land unit (adjusted)	5b2	
Surface soils	Grey Clay		Landform		Drainage (broad swamp/floodplain) Very poorly drained			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	1	99	80	2	1	<1% Laterite	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	2		5		2		1	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	0		0		0		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	1		0		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		0		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		Absent		Some trees/shrubs killed			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Isolated Trees (<5%)		<i>Corymbia sp.</i>			8		2
			<i>Planchonia careya</i>			6		2
Mid stratum	Sparse Shrubland (5-20%)		<i>Buchanania obovata</i>			7		1
			<i>Planchonia careya</i>			2.5		5
			<i>Syzygium eucalyptoides subsp. bleeseri</i>			1		2
			<i>Corymbia sp.</i>			1		1
Ground stratum	Sparse Tussock Grassland (5-20%)		<i>Buchanania obovata</i>			20		6
			<i>Heteropogon triticeus</i>			10		5
			<i>Syzygium eucalyptoides subsp. bleeseri</i>			20		2
Other notes	Shrubs/resprout 8% of ground cover							
								

Check site	VS-18		Coordinates		-12.741441 131.145334			
Aspect	West		Land unit (nominal)		5b2	Land unit (adjusted)	2a1 / 2b1	
Surface soils	Grey Other		Landform		Lower Slope Moderately well drained			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	2	97	85	1	0	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	2		5		1		2	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	3		6		0		Alive	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	2		0		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		0		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		Absent		Minor impact scars on most trees/shrubs			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Isolated Trees (<5%)		<i>Eucalyptus miniata</i>			9		1
			<i>Livistona humilis</i> <i>Livistona humilis</i>			0 0		0 0
Mid stratum	Sparse Shrubland (5-20%)		<i>Verticordia cunninghamii</i>			1		5
			<i>Planchonia careya</i>			5		3
			<i>Livistona humilis</i>			3		2
Ground stratum	Sparse Tussock Grassland (5-20%)		<i>Heteropogon triticeus</i> N/A N/A			10		4
Other notes	Track through site to old camp with tin sheets and beer bottles Ground cover 4% resprout/ low shrub. Ground storey two and three heterodox on sp are unknown grass sp.							



Check site	VS-19		Coordinates		-12.7488 131.138236			
Aspect	East		Land unit (nominal)		2b2	Land unit (adjusted)	-	
Surface soils	Brown-grey Other		Landform		Plains/Flat Moderately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	2	98	60	15	17	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	3		11		1		10	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	6		2		1		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	8		1		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		0		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		Absent		Some trees/shrubs killed			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Isolated Trees (<5%)		N/A			0		0
			N/A			0		0
Mid stratum	Sparse Shrubland (5-20%)		Syzygium eucalyptoides subsp. bleeseri			1		6
			Terminalia ferdinandiana			2		2
			Eucalyptus patellaris			4		2
Ground stratum	Open Resprouts (21-50%)		Syzygium eucalyptoides subsp. bleeseri			0		45
			Heteropogon triticeus			0.1		1
			Unknown Grass			0.05		1
Other notes	Weeds in vicinity: Gamba, Passiflora, Hyptis. Minor pig damage in vicinity.							



Check site	VS-20		Coordinates		-12.757935 131.13667		
Aspect	N/A		Land unit (nominal)		5b2	Land unit (adjusted)	-
Surface soils	Grey Other		Landform		Drainage (broad swamp/floodplain) Very poorly drained (Seasonal waterlogging / inundation expected)		
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping
	0	0	100	2	90	0	-
Habitat values (50x50)							
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)
	3		45		1		1
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead
	2		6		1		Alive
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall
	3		6		4		0
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire
	87		0		Abundant (>10)		2+ years
Threatening processes	Feral animal damage		Weed density		Fire impacts		
	Low		1-10%		Minor impact scars on some trees/shrubs		
Vegetation (20x20)							
Upper stratum	Vegetation Structure		Dominant species			Height (m)	Cover (%)
	Woodland (21-50%)		<i>Lophostemon lactifluus</i>			16	30
			<i>Melaleuca nervosa</i>			18	10
			<i>Acacia auriculiformis</i>			16	2
Mid stratum	Shrubland (51-80%)		<i>Pandanus spiralis</i>			1.5	45
			<i>Timon timonius</i>			4	10
			<i>Planktonic careya</i>			6	3
Ground stratum	Sparse Tussock Grassland (5-20%)		Unknown Grass			0	10
			Unknown Grass			0.1	3
			<i>Pandanus spiralis</i>			0.5	2
Other notes	-						



Check site	VS-21		Coordinates		-12.733409 131.15134			
Aspect	South		Land unit (nominal)		1b	Land unit (adjusted)	4e2	
Surface soils	Light brown Other		Landform		Mid Slope Moderately well drained			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	2	98	80	5	4	Quartz <1%	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	2		2		0		0	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	4		2		0		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	1		2		1		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		23		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		Absent		Some trees/shrubs killed			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)		Corymbia polycarpa			7		5
			Erythrophleum chlorostachys			8		2
			Planchonia careya			7		1
Mid stratum	Sparse Shrubland (5-20%)		Livistona humilis			1		5
			Cycas armstrongii			1		4
			Brachychiton megaphyllus			1		1
Ground stratum	Sparse Tussock Grassland (5-20%)		Heteropogon triticeus			20		8
			Cycas armstrongii			30		4
			Corymbia polycarpa			30		1
Other notes	Small costeans in larger area Ground story 5% resprout/cycads							



Check site	VS-22		Coordinates		-12.722861 131.148049			
Aspect	West		Land unit (nominal)		3d	Land unit (adjusted)	-	
Surface soils	Yellow-brown Loam		Landform		Plains/Flat Moderately well drained			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	2	4	94	60	30	4	<5% Laterite	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	3		3		0		0	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	5		2		0		Alive	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	6		2		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		1		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		Absent		Some trees/shrubs killed			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)		<i>Eucalyptus miniata</i>			10		12
			<i>Corymbia polysciada</i>			12		2
			<i>Corymbia bleeseri</i>			12		2
Mid stratum	Sparse Shrubland (5-20%)		<i>Livistona humilis</i>			2		5
			<i>Erythrophleum chlorostachys</i>			1		3
			<i>Terminalia ferdinandiana</i>			2		3
Ground stratum	Open Forbland (20-50%)		<i>Eucalyptus tetradonta</i>			40		10
			<i>Eucalyptus miniata</i>			40		7
			<i>Petalostigma quadriloculare</i>			20		4
Other notes	- Resprout cover 30%							



Check site	VS-23		Coordinates		-12.722627 131.136473		
Aspect	North East		Land unit (nominal)		2b2	Land unit (adjusted)	2b2/1b
Surface soils	Brown Loam		Landform		Lower SlopeModerately well drained		
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping
	0	0	100	1	80	23	<1% Laterite
Habitat values (50x50)							
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)
	4		7		1		3
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead
	3		6		6		Both
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall
	7		4		4		0
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire
	0		27		Absent (0)		Last year
Threatening processes	Feral animal damage		Weed density		Fire impacts		
	Absent		Absent		Minor impact scars on most trees/shrubs		
Vegetation (20x20)							
Upper stratum	Vegetation Structure		Dominant species			Height (m)	Cover (%)
	Open Woodland (5-20%)		<i>Eucalyptus tetrodonta</i>			12	12
			<i>Erythrophleum chlorostachys</i>			12	3
			<i>Eucalyptus miniata</i>			12	1
Mid stratum	Sparse Shrubland		<i>Cycas armstrongii</i>			50	7
			<i>Livistona humilis</i>			1	3
			<i>Brachychiton megaphyllus</i>			1	2
Ground stratum	Hummock Grassland (50-80%)		<i>Heteropogon contortus</i>			10	35
			<i>Cycas armstrongii</i>			20	5
			<i>Livistona humilis</i>			20	4
Other notes	-						
							

Check site	VS-24		Coordinates		-12.733164 131.140656			
Aspect	South East		Land unit (nominal)		2b2	Land unit (adjusted)	-	
Surface soils	Light brown Other		Landform		Mid Slope Moderately well drained			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	13	87	70	15	7.5	Quartz <1%	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	6		25		1		2	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	3		2		0		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	8		2		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		2		Scattered (1-5)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		Absent		Some trees/shrubs killed			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Woodland (20-50%)		<i>Erythrophleum chlorostachys</i>			8		10
			<i>Xanthostemon paradoxus</i>			7		10
			<i>Eucalyptus tetrodonta</i>			9		1
Mid stratum	Sparse Shrubland (5-20%)		<i>Livistona humilis</i>			1		8
			<i>Planchonia careya</i>			2		2
			<i>Terminalia ferdinandiana</i>			6		2
Ground stratum	Sparse Forbland (5-20%)		<i>Eucalyptus tetrodonta</i>			40		10
			<i>Planchonia careya</i>			30		3
			<i>Heteropogon triticeus</i>			20		3
Other notes	- For land is actually resprout (15%)							
								

Check site	VS-25		Coordinates		-12.706261 131.154051			
Aspect	North East		Land unit (nominal)		5a	Land unit (adjusted)	4a/5a	
Surface soils	Brown-grey Other		Landform		Lower SlopePoorly drained (seasonally waterlogged most years)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	1	99	70	10	0	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	2		5		1		4	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	2		0		0		Dead	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	2		0		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		0		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Low		Absent		Some trees/shrubs killed			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)		<i>Corymbia latifolia</i>			7		5
			<i>Planchonia careya</i>			5		1
			<i>Buchanania obovata</i>			5		1
Mid stratum	Isolated Shrubs (<5%)		<i>Corymbia latifolia</i>			1		2
			<i>Buchanania obovata</i>			1		1
			<i>Planchonia careya</i>			1		1
Ground stratum	Open Resprouts (21-50%)		<i>Syzygium eucalyptoides subsp. bleeseri</i>			0		15
			Unknown Grass			0.1		10
			<i>Heteropogon triticeus</i>			0.1		5
Other notes	-							



Check site	VS-26		Coordinates		-12.711428 131.160314			
Aspect	North		Land unit (nominal)		5b1	Land unit (adjusted)	2b1 / 5b1	
Surface soils	Brown Other		Landform		Lower SlopeModerately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	6	93	70	15	3	<1% Laterite	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	4		5		4		5	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	8		8		0		Alive	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	5		0		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		0		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Very Low		Absent		Some trees/shrubs killed			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)		<i>Eucalyptus tectifica</i>			8		10
			<i>Corymbia polysciada</i>			8		5
			N/A			0		0
Mid stratum	Sparse Shrubland (5-20%)		<i>Gardenia megasperma</i>			4		5
			<i>Planchonia careya</i>			7		4
			<i>Buchanania obovata</i>			1.5		1
Ground stratum	Open Tussock Grassland (21-50%)		<i>Heteropogon triticeus</i>			0		20
			<i>Eucalyptus tectifica</i>			0.4		4
			<i>Grevillea mismosoides</i>			0.1		1
Other notes	- Adjacent to cycad patch.							



Check site	VS-27		Coordinates		-12.704701 131.186165			
Aspect	N/A		Land unit (nominal)		4 e2	Land unit (adjusted)	4e2/4c	
Surface soils	Grey Clay		Landform		Plains/Flat Poorly drained (seasonally waterlogged most years)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	1	98	50	1	0	<1% Laterite	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	2		3		2		2	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	1		3		0		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	2		0		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		0		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Moderate		Absent		Most trees/shrubs killed			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Isolated Trees (<5%)		<i>Corymbia polysciada</i>			10		3
			<i>Erythrophleum chlorostachys</i>			9		2
			N/A			0		0
Mid stratum	Sparse Shrubland (5-20%)		<i>Planchonia careya</i>			4		3
			<i>Buchanania obovata</i>			2		2
			<i>Corymbia polysciada</i>			6		1
Ground stratum	Open Tussock Grassland (21-50%)		<i>Sorghum sp.</i>			0		15
			<i>Heteropogon triticeus</i>			0.2		10
			<i>Xanthostemon paradoxus</i>			0.15		3
Other notes	Litter (bottle)							
								

Check site	VS-28		Coordinates		-12.708779 131.191874			
Aspect	N/A		Land unit (nominal)		4 e2	Land unit (adjusted)	4e2/2a1	
Surface soils	Brown Other		Landform		Plains/Flat Moderately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	1	99	70	1	3	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	3		10		2		5	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	1		4		0		Alive	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	3		1		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		0		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Moderate		Absent		Some trees/shrubs killed			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Isolated Trees (<5%)		<i>Corymbia latifolia</i>			8		3
			<i>Erythrophleum chlorostachys</i>			8		1
Mid stratum	Sparse Shrubland (5-20%)		N/A			0		0
			<i>Planchonia careya</i>			2		3
			<i>Corymbia latifolia</i>			2		1
Ground stratum	Open Tussock Grassland (21-50%)		<i>Buchanania obovata</i>			1.5		1
			<i>Sorghum sp.</i>			0		15
			<i>Heteropogon triticeus</i>			0.15		8
Other notes			<i>Xanthostemon paradoxus</i>			0.1		6
								

Check site	VS-29		Coordinates		-12.717506 131.188938			
Aspect	N/A		Land unit (nominal)		4 e2	Land unit (adjusted)	-	
Surface soils	Brown-grey Other		Landform		Plains/Flat Moderately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	1	99	40	4	3	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	5		6		1		2	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	0		0		0		Alive	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	2		0		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		0		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Low		Absent		Most trees/shrubs killed			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)		<i>Terminalia grandiflora</i>			4		2
			<i>Ficus aculeata</i>			5		1
			<i>Syzygium eucalyptoides subsp. bleeseri</i>			6		1
Mid stratum	Open Shrubland (21-50%)		Unknown Shrub (see notes)			1		15
			<i>Planchonia careya</i>			1.5		5
			<i>Livistona humilis</i>			1.5		3
Ground stratum	Open Tussock Grassland (21-50%)		<i>Sorghum sp.</i>			0		30
			Unknown Grass (see notes)			0.15		2
			Unknown Grass (see notes)			0.15		2
Other notes	- Unknown large tree dead and unidentifiable. Many pig scats, some digging.							



Check site	VS-30		Coordinates		-12.69449 131.153933			
Aspect	North		Land unit (nominal)		4a	Land unit (adjusted)	4a/5a	
Surface soils	Brown Other		Landform		Lower SlopePoorly drained (seasonally waterlogged most years)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	0	100	20	1	8	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	4		1		1		0	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	3		0		0		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	2		0		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	3		0		Absent (0)		0	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	High		Absent		Some trees/shrubs killed			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Isolated Trees (<5%)		Corymbia foelscheana/C. latifolia			5		1
			Erythrophleum chlorostachys			7		1
			N/A			0		0
Mid stratum	Isolated Shrubs (<5%)		Pandanus spiralis			1		2
			Corymbia foelscheana/C. latifolia			1		1
			Ficus aculeata			1		1
Ground stratum	Hummock Grassland (51-80%)		Heteropogon contortus			0		25
			Eucalyptus tetrodonta			0.1		15
			Heteropogon contortus			0.1		10
Other notes	-							



Check site	VS-32		Coordinates		-12.682762 131.181271			
Aspect	South		Land unit (nominal)		4 e2	Land unit (adjusted)	3b	
Surface soils	Brown Sand		Landform		Mid Slope Moderately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	1	99	70	10	0	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	3		5		4		10	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	18		22		1		Alive	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	6		2		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		20		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Low		Absent		Some trees/shrubs killed			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Woodland (21-50%)		Eucalyptus miniata			18		12
			Erythrophleum chlorostachys			10		8
			Brachychiton diversifolius			16		5
Mid stratum	Sparse Shrubland (5-20%)		Cycas armstrongii			1.5		5
			Planchonia careya			5		3
			Cochlospermum fraseri			4		2
Ground stratum	Open Resprouts (21-50%)		Sorghum sp.			0		15
			Petalostigma quadriloculare			0.2		4
			Brachychiton megaphyllus			0.3		4
Other notes	-							



Check site	VS-33		Coordinates		-12.674933 131.184126			
Aspect	South West		Land unit (nominal)		2a1	Land unit (adjusted)	-	
Surface soils	Grey Clay		Landform		Lower SlopeModerately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	1	99	60	15	3	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	2		7		1		1	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	5		5		2		Alive	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	3		1		2		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		30		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Very Low		Absent		Some trees/shrubs killed			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Woodland (21-50%)		<i>Eucalyptus miniata</i>			9		20
			<i>Terminalia ferdinandiana</i>			20		6
			<i>Erythrophleum chlorostachys</i>			12		1
Mid stratum	Sparse Shrubland (5-20%)		<i>Cycas armstrongii</i>			1.1		9
			<i>Terminalia ferdinandiana</i>			2.5		2
			<i>Planchonia careya</i>			3		1
Ground stratum	Open Resprouts (21-50%)		<i>Sorghum sp.</i>			0		15
			<i>Terminalia ferdinandiana</i>			0.3		4
			<i>Petalostigma quadriloculare</i>			0.4		3
Other notes	-							



Check site	VS-34		Coordinates		-12.675422 131.19432			
Aspect	South East		Land unit (nominal)		2a1	Land unit (adjusted)	-	
Surface soils	Light brown Clay		Landform		Mid Slope Moderately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	2	97	60	10	8	<1% Laterite	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	4		15		3		6	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	10		8		0		Alive	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	6		3		2		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		17		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		Absent		Some trees/shrubs killed			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Woodland (21-50%)		<i>Eucalyptus miniata</i>			17		17
			<i>Corymbia polysciada</i>			10		7
			<i>Erythrophleum chlorostachys</i>			11		1
Mid stratum	Sparse Shrubland (5-20%)		<i>Planchonia careya</i>			3		8
			<i>Terminalia ferdinandiana</i>			2		7
			<i>Cycas armstrongii</i>			1.5		3
Ground stratum	Open Tussock Grassland (21-50%)		<i>Sorghum sp.</i>			0		25
			<i>Eucalyptus tetradonta</i>			0.4		5
			<i>Heteropogon triticeus</i>			0.2		3
Other notes	- Very small scattered Unburnt patches in plot and vicinity.							



Check site	VS-35		Coordinates		-12.683333 131.196115			
Aspect	South West		Land unit (nominal)		4b	Land unit (adjusted)	-	
Surface soils	Grey Sand		Landform		Lower SlopeModerately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	2	2	95	60	5	4	<5% Laterite	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	4		15		3		10	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	0		2		0		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	1		0		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		8		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Very Low		Absent		Minor impact scars on most trees/shrubs			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)		<i>Erythrophleum chlorostachys</i>			9		4
			<i>Terminalia grandiflora</i>			7		2
			<i>Melaleuca nervosa</i>			11		1
Mid stratum	Open Shrubland (21-50%)		<i>Buchanania obovata</i>			2		8
			<i>Xanthostemon paradoxus</i>			1.5		6
			<i>Cycas armstrongii</i>			1.5		2
Ground stratum	Open Tussock Grassland (21-50%)		<i>Sorghum sp.</i>			0		15
			<i>Xanthostemon paradoxus</i>			0.05		10
			<i>Syzygium eucalyptoides subsp. bleeseri</i>			0.3		2
Other notes	-							



Check site	VS-36		Coordinates		-12.698503 131.202231			
Aspect	North East		Land unit (nominal)		2b2	Land unit (adjusted)	-	
Surface soils	Grey Clay		Landform		Mid Slope Moderately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	1	99	35	10	3	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	3		10		2		5	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	19		17		2		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	7		4		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		0		Scattered (1-5)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		Absent		Minor impact scars on some trees/shrubs			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Woodland (21-50%)		<i>Eucalyptus patellaris</i>			20		20
			<i>Corymbia bleeseri</i>			25		15
			<i>Erythrophleum chlorostachys</i>			10		1
Mid stratum	Sparse Shrubland (5-20%)		<i>Planchonia careya</i>			5		5
			<i>Corymbia foelscheana</i>			1.5		2
			<i>Buchanania obovata</i>			1.5		1
Ground stratum	Open Tussock Grassland (21-50%)		<i>Themeda triandra</i>			0		15
			<i>Heteropogon triticeus</i>			0.15		5
			<i>Brachychiton megaphyllus</i>			0.15		2
Other notes	-							



Check site	VS-37		Coordinates		-12.687003 131.205983			
Aspect	West		Land unit (nominal)		1b	Land unit (adjusted)	-	
Surface soils	Grey Clay		Landform		Mid Slope Rapidly drained (deep slope / sandy soil)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	10	80	50	25	21	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	3		20		3		7	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	6		5		1		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	5		4		2		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		2		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		Absent		Some trees/shrubs killed			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Forest (51-80%)		Eucalyptus miniata			18		40
			Erythrophleum chlorostachys			10		15
			Corymbia polysciada			19		5
Mid stratum	Sparse Shrubland (5-20%)		Cycas armstrongii			2		2
			Brachychiton megaphyllus			1.1		2
			Planchonia careya			3		1
Ground stratum	Open Tussock Grassland (21-50%)		Unknown Grass			0		8
			Brachychiton megaphyllus			0.6		7
			Erythrophleum chlorostachys			0.2		6
Other notes	- Extensive sandstone rocks scattered on slope from outcropping up slope of site.							



Check site	VS-38		Coordinates		-12.691081 131.19587			
Aspect	N/A		Land unit (nominal)		4b	Land unit (adjusted)	4b/5b2	
Surface soils	Grey Clay		Landform		Drainage (broad swampl/floodplain) Very poorly drained (Seasonal waterlogging / inundation expected)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	0	100	60	10	0	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	2		25		1		1	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	2		9		0		Alive	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	3		3		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	82		0		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Very Low		Absent		Minor impact scars on most trees/shrubs			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)		Corymbia bella			9		7
			N/A			0		0
			N/A			0		0
Mid stratum	Sparse Shrubland (5-20%)		Pandanus spiralis			1.5		6
			Melaleuca nervosa			4		6
			Barringtonia acutangula			2		2
Ground stratum	Open Tussock Grassland (21-50%)		Unknown Grass (see notes)			0		15
			Barringtonia acutangula			0.1		4
			Unknown Grass (see notes)			0.1		4
Other notes	-							
								

Check site	VS-39		Coordinates		-12.67738 131.211692			
Aspect	South East		Land unit (nominal)		2b2	Land unit (adjusted)	-	
Surface soils	Grey Clay		Landform		Upper Slope Moderately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	1	99	50	5	11	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	3		2		2		2	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	9		9		1		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	7		1		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		26		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		Absent		Some trees/shrubs killed			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)		<i>Eucalyptus miniata</i>			14		15
			<i>Erythrophleum chlorostachys</i>			15		3
			<i>Eucalyptus tectifica</i>			22		2
Mid stratum	Sparse Shrubland (5-20%)		<i>Cycas armstrongii</i>			1.5		4
			<i>Planchonia careya</i>			2		1
			<i>Buchanania obovata</i>			4		1
Ground stratum	Open Tussock Grassland (21-50%)		<i>Sorghum sp.</i>			0		35
			<i>Corymbia sp.</i>			0.4		4
			<i>Corymbia sp.</i>			0.5		2
Other notes								



Check site	VS-40		Coordinates		-12.681947 131.217972			
Aspect	East		Land unit (nominal)		4 e 2	Land unit (adjusted)	4e2/2b2	
Surface soils	Grey Other		Landform		Plains/Flat Moderately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	10	90	40	20	0	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	6		15		2		3	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	6		6		2		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	2		0		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		0		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		Absent		Minor impact scars on some trees/shrubs			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Woodland (21-50%)		<i>Eucalyptus tectifica</i>			8		18
			<i>Erythrophleum chlorostachys</i>			12		12
			N/A			0		0
Mid stratum	Open Shrubland (21-50%)		<i>Xanthostemon paradoxus</i>			4		10
			<i>Planchonia careya</i>			2		7
			<i>Calytrix exstipulata</i>			2		5
Ground stratum	Open Hummock Grassland (21-50%)		<i>Sorghum sp. (annual)</i>			0		40
			<i>Petalostigma quadriloculare</i>			0.2		4
			<i>Xanthostemon paradoxus</i>			0.1		4
Other notes	- Rock outcropping in 50x50							



Check site	VS-42		Coordinates		-12.704513 131.223812			
Aspect	South		Land unit (nominal)		8a1	Land unit (adjusted)	8b	
Surface soils	Brown Other		Landform		Plains/Flat Very poorly drained (Seasonal waterlogging / inundation expected)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	0	100	50	25	0	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	1		2		0		0	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	2		0		1		Alive	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	8		6		3		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		0		Common (6-10)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Low		11-50%		Minor impact scars on some trees/shrubs			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Woodland (21-50%)		Melaleuca dealbata			10		40
			N/A			0		0
Mid stratum	Sparse Shrubland (5-20%)		Unknown Shrub (see notes)			1		7
			Planchonia careya			1		2
			Corymbia sp.			6		2
Ground stratum	Hummock Grassland (51-80%)		Unknown Grass (see notes)			0		20
			Unknown Shrub (see notes)			0.2		10
			Unknown Shrub (see notes)			0.1		5
Other notes	- Large trees with multiple stems, largest stem only included. All melaleuca							



Check site	VS-41		Coordinates		-12.696038 131.216498			
Aspect	West		Land unit (nominal)		2b2	Land unit (adjusted)	-	
Surface soils	Brown Other		Landform		Lower Slope Rapidly drained (deep slope / sandy soil)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	47	53	75	3	6	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	3		25		3		10	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	4		2		0		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	1		0		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		0		Scattered (1-5)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		Absent		Some trees/shrubs killed			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)		<i>Eucalyptus tectifica</i>			12		6
			<i>Erythrophleum chlorostachys</i>			11		4
			N/A			0		0
Mid stratum	Open Shrubland (21-50%)		<i>Terminalia ferdinandiana</i>			3		10
			<i>Xanthostemon paradoxus</i>			5		8
			<i>Eucalyptus tectifica</i>			3		5
Ground stratum	Open Hummock Grassland (21-50%)		<i>Sorghum sp. (annual)</i>			0		20
			<i>Petalostigma quadriloculare</i>			0.2		8
			<i>Eucalyptus miniata</i>			0.3		3
Other notes	- Pandanus & cycad & large hollows in large miniata outside of plot nearby. Turkey bush in 20x20							



Check site	VS-43		Coordinates		-12.70568 131.228411			
Aspect	South		Land unit (nominal)		8a1	Land unit (adjusted)	6a1 / 8a1	
Surface soils	Brown Loam		Landform		Drainage (broad swamp/floodplain) Very poorly drained (Seasonal waterlogging / inundation expected)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	0	100	60	10	0	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	0		0		1		15	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	2		0		0		Alive	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	0		0		1		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		0		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Very Low		<1%		Minor impact scars on some trees/shrubs			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Isolated Trees (<5%)		<i>Melaleuca dealbata</i>			8		5
			N/A			0		0
			N/A			0		0
Mid stratum	Isolated Shrubs (<5%)		<i>Planchonia careya</i>			1.5		1
			N/A			0		0
			N/A			0		0
Ground stratum	Open Hummock Grassland (21-50%)		Unknown Grass (see notes)			0		25
			N/A			0		0
			N/A			0		0
Other notes	- M.dealbata with 2x trunks at 50+dbh. Lots of pandanus nearby							
								

Check site	VS-44		Coordinates		-12.697464 131.159467			
Aspect	South		Land unit (nominal)		1b	Land unit (adjusted)	2b1?	
Surface soils	Brown Other		Landform		Lower SlopeModerately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	6	93	15	5	10	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	3		2		2		1	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	3		4		1		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	7		1		1		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	1		1		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Moderate		Absent		Minor impact scars on most trees/shrubs			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)		Corymbia foelscheana			6		15
			Erythrophleum chlorostachys			8		3
			Buchanania obovata			6		1
Mid stratum	Sparse Shrubland (5-20%)		Livistona humilis			0.5		3
			Terminalia ferdinandiana			1 1		2
			Corymbia foelscheana					1
Ground stratum	Sparse Hummock Grassland (5-20%)		Xanthostemon paradoxus			0		25
			Sorghum sp. (annual)			0.1		20
			Corymbia polycarpa			0.1		5
Other notes	-							



Check site	VS-45		Coordinates		-12.676402 131.175108			
Aspect	North West		Land unit (nominal)		3b	Land unit (adjusted)	-	
Surface soils	Light brown Sand		Landform		Lower SlopeModerately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	0	100	40	25	13	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	5		8		4		10	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	4		2		0		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	5		2		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	3		1		Scattered (1-5)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		Absent		Some trees/shrubs killed			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Woodland (21-50%)		<i>Erythrophleum chlorostachys</i>			12		20
			<i>Terminalia grandiflora</i>			12		2
			<i>Timonius timons</i>			10		1
Mid stratum	Sparse Shrubland (5-20%)		<i>Pandanus spiralis</i>			3		2
			<i>Planchonia careya</i>			4		2
			<i>Terminalia grandiflora</i>			1.5		2
Ground stratum	Open Resprouts (21-50%)		<i>Sorghum sp.</i>			0		15
			<i>Eucalyptus tetradonta</i>			0.3		8
			<i>Syzygium eucalyptoides subsp. bleeseri</i>			0.4		7
Other notes	-							



Check site	VS-46		Coordinates		-12.669533 131.170947			
Aspect	N/A		Land unit (nominal)		2a1	Land unit (adjusted)	2a1/2a2	
Surface soils	Brown Loam		Landform		Plains/Flat Moderately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	0	100	5	40	24	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	5		25		1		3	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	4		7		4		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	7		3		1		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		0		Absent (0)		2+ years	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		Absent		No damage			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)		Erythrophleum chlorostachys			7		10
			N/A			0		0
			N/A			0		0
Mid stratum	Open Shrubland (21-50%)		Terminalia ferdinandiana			2		10
			Terminalia ferdinandiana			2		7
			Petalostygma smithii			1.5		3
Ground stratum	Sparse Hummock Grassland (5-20%)		Sorghum sp. (annual)			0		40
			Eucalyptus tetradonta			0.3		3
			Syzygium suborbiculare			0.4		2
Other notes	- Cycad and pandanus in 50x50.. Milkwood present in 50m plot.							



Check site	VS-47		Coordinates		-12.647435 131.170388			
Aspect	South East		Land unit (nominal)		2a1	Land unit (adjusted)	2a1 / 2b2	
Surface soils	Grey Other		Landform		Plains/Flat Moderately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	5	95	50	5	18	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	3		5		5		3	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	5		3		2		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	3		1		1		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		2		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		Absent		Minor impact scars on most trees/shrubs			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)		<i>Xanthostemon paradoxus</i>			9		10
			<i>Erythrophleum chlorostachys</i>			6		3
			<i>Eucalyptus miniata</i>			10		2
Mid stratum	Sparse Shrubland (5-20%)		<i>Terminalia ferdinandiana</i>			1		3
			<i>Buchanania obovata</i>			1		2
			<i>Planchonia careya</i>			7		2
Ground stratum	Sparse Tussock Grassland (5-20%)		<i>Sorghum sp. (annual)</i>			0		18
			<i>Eucalyptus tectifica</i>			0.2		15
			<i>Petalostigma quadriloculare</i>			0.2		3
Other notes	- 69cm tree <i>Alstonia</i> . <i>Themeda triandra</i> common in plot							



Check site	VS-48		Coordinates		-12.654169 131.168457			
Aspect	South East		Land unit (nominal)		2b2	Land unit (adjusted)	-	
Surface soils	Brown-grey Loam		Landform		Plains/Flat Moderately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	3	97	30	7	12	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	3		3		3		2	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	3		2		1		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	2		2		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	2		0		Scattered (1-5)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Very Low		Absent		Minor impact scars on some trees/shrubs			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)		<i>Corymbia foelscheana</i>			6		10
			<i>Corymbia sp.</i>			6		9
			<i>Xanthostemon paradoxus</i>			4		1
Mid stratum	Sparse Shrubland (5-20%)		<i>Planchonia careya</i>			2		7
			<i>Terminalia ferdinandiana</i>			1.5		2
			<i>Pandanus spiralis</i>			1		1
Ground stratum	Open Tussock Grassland (21-50%)		<i>Themeda triandra</i>			0		15
			<i>Pandanus spiralis</i>			0.6		5
			<i>Syzygium eucalyptoides subsp. bleeseri</i>			0.2		3
Other notes	- Cycads in 50x50.							



Check site	VS-49		Coordinates		-12.667322 131.174407			
Aspect	N/A		Land unit (nominal)		8b	Land unit (adjusted)	-	
Surface soils	Brown Silt		Landform		Drainage (broad swamp/floodplain) Very poorly drained (Seasonal waterlogging / inundation expected)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	0	100	90	95	16	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	0		0		1		40	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	4		1		0		Alive	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	6		2		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		0		Scattered (1-5)		2+ years	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Very Low		Absent		Minor impact scars on some trees/shrubs			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Forest (51-80%)		Melaleuca leucadendra			8		60
			N/A N/A			0 0		0 0
Mid stratum	Shrubland (51-80%)		Melaleuca leucadendra			1		65
			N/A N/A			0 0		0 0
Ground stratum	Isolated Resprouts (<5%)		Melaleuca leucadendra			0		2
			N/A N/A			0 0		0 0
Other notes	- In the middle of a melaleuca swamp							
								

Check site	VS-50		Coordinates		-12.657614 131.171798			
Aspect	South		Land unit (nominal)		1b	Land unit (adjusted)	2b1 / 2b2	
Surface soils	Brown Clay		Landform		Lower SlopeModerately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	15	85	30	15	18	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	3		6		3		4	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	12		13		6		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	6		6		1		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		3		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Very Low		Absent		Some trees/shrubs killed			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Woodland (21-50%)		<i>Eucalyptus miniata</i>			12		28
			<i>Erythrophleum chlorostachys</i>			10		2
			N/A			0		0
Mid stratum	Sparse Shrubland (5-20%)		<i>Terminalia ferdinandiana</i>			4		10
			<i>Planchonia careya</i>			2		3
			<i>Erythrophleum chlorostachys</i>			4		2
Ground stratum	Sparse Tussock Grassland (5-20%)		<i>Sorghum sp. (annual)</i>			0		20
			<i>Eucalyptus miniata</i>			0.2		6
			<i>Planchonia careya</i>			0.1		5
Other notes	- Petalostigma quad lookalike in photos							



Check site	VS-51		Coordinates		-12.641642 131.171067			
Aspect	North West		Land unit (nominal)		2a1	Land unit (adjusted)	-	
Surface soils	Brown Loam		Landform		Plains/Flat Moderately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	1	99	20	35	21	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	5		10		3		5	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	10		8		7		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	8		2		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		20		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		Absent		Minor impact scars on most trees/shrubs			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Woodland (21-50%)		<i>Eucalyptus miniata</i>			9		30
			<i>Erythrophleum chlorostachys</i>			1		10
			<i>Corymbia confertiflora</i>			9		1
Mid stratum	Isolated Shrubs (<5%)		<i>Cycas armstrongii</i>			0.5		3
			<i>Planchonia careya</i>			1		1
			<i>Livistona humilis</i>			0.5		1
Ground stratum	Sparse Resprouts (5-20%)		<i>Sorghum sp. (annual)</i>			0		40
			<i>Erythrophleum chlorostachys</i>			0.1		10
			<i>Buchanania obovata</i>			0.3		5
Other notes	Test pit							



Check site	VS-53		Coordinates		-12.637884 131.170545			
Aspect	South		Land unit (nominal)		2a1	Land unit (adjusted)	-	
Surface soils	Brown-grey Silt		Landform		Plains/Flat Moderately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	0	100	15	5	1	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	3		5		2		3	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	3		2		1		Alive	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	4		0		1		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		9		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		Absent		Minor impact scars on most trees/shrubs			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Woodland (21-50%)		Corymbia foelscheana/C. latifolia			5		30
			Corymbia foelscheana			6		10
			Eucalyptus tectifica			8		5
Mid stratum	Sparse Shrubland (5-20%)		Planchonia careya			1		4
			Cycas armstrongii			1		2
			Brachychiton megaphyllus			1		2
Ground stratum	Tussock Grassland (51-80%)		Themeda triandra			0		50
			Grewia sp.			0.1		10
			Corymbia foelscheana/C. latifolia			0.2		3
Other notes	Test pit							



Check site	VS-54		Coordinates		-12.669739 131.193292			
Aspect	North East		Land unit (nominal)		2a1	Land unit (adjusted)	-	
Surface soils	Light brown Clay		Landform		Mid Slope Moderately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	1	2	96	45	10	13	<1% Laterite	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	3		8		2		6	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	12		1		0		Alive	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	9		0		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		2		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Very Low		Absent		Some trees/shrubs killed			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Woodland (21-50%)		<i>Eucalyptus miniata</i>			14		20
			<i>Erythrophleum chlorostachys</i>			8		15
			N/A			0		0
Mid stratum	Sparse Shrubland (5-20%)		<i>Planchonia careya</i>			1.5		6
			<i>Terminalia ferdinandiana</i>			2		2
			<i>Erythrophleum chlorostachys</i>			1.5		1
Ground stratum	Tussock Grassland (51-80%)		<i>Sorghum sp.</i>			0		30
			<i>Heteropogon triticeus</i>			0.15		4
			<i>Planchonia careya</i>			0.15		4
Other notes	- Very small scattered Unburnt patches in plot and vicinity.							



Check site	VS-55		Coordinates		-12.651318 131.188254			
Aspect	South		Land unit (nominal)		6a2	Land unit (adjusted)	-	
Surface soils	Grey Sand		Landform		Drainage (broad swamp/floodplain) Very poorly drained (Seasonal waterlogging / inundation expected)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	0	100	20	15	0	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	5		3		2		1	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	1		0		0		Alive	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	2		0		1		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	10		0		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Low		Absent		Minor impact scars on some trees/shrubs			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)		Lophostemon lactiflorus			6		10
			Grevillea pteridifolia			7		1
			N/A			0		0
Mid stratum	Sparse Shrubland (5-20%)		Pandanus spiralis			1		2
			Planchonia careya			4		2
			Melaleuca viridiflora			4		1
Ground stratum	Open Tussock Grassland (21-50%)		Unknown Grass (see notes)			0		38
			Pandanus spiralis			0.5		3
			Lophostemon lactiflorus			0.1		3
Other notes	Tracks and test pits							



Check site	VS-56		Coordinates		-12.661122 131.188411			
Aspect	South East		Land unit (nominal)		6a2	Land unit (adjusted)	-	
Surface soils	Light brown Sand		Landform		Drainage (broad swamp/floodplain) Very poorly drained (Seasonal waterlogging / inundation expected)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	0	100	35	5	0	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	1		1		5		20	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	16		3		1		Alive	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	1		0		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	9		0		Absent (0)		Last year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Low		Absent		Minor impact scars on some trees/shrubs			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)		<i>Melaleuca nervosa</i>			5		4
			<i>Melaleuca viridiflora</i>			5		2
			<i>Grevillea pteridifolia</i>			8		1
Mid stratum	Isolated Shrubs (<5%)		<i>Pandanus spiralis</i>			0.5		3
			<i>Verticordia cunninghamii</i>			0.5		1
			<i>Planchonia careya</i>			0.5		1
Ground stratum	Open Forbland (21-50%)		<i>Unknown Grass (see notes)</i>			0		35
			<i>Unknown Grass (see notes)</i>			0.1		10
			<i>Drosera sp.</i>			0		3
Other notes	Quad tracks Unknown groundcover species SSH sedge species							



Check site	VS-57		Coordinates		-12.655317 131.181065			
Aspect	South West		Land unit (nominal)		2b1	Land unit (adjusted)	-	
Surface soils	Red Other		Landform		Lower SlopeRapidly drained (deep slope / sandy soil)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	20	80	35	10	13	<30% Laterite	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	3		7		2		3	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	8		13		3		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	8		2		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		0		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Very Low		Absent		Some trees/shrubs killed			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Woodland (21-50%)		<i>Eucalyptus miniata</i>			12		12
			<i>Erythrophleum chlorostachys</i>			10		9
			N/A			0		0
Mid stratum	Sparse Shrubland (5-20%)		<i>Terminalia ferdinandiana</i>			2		5
			<i>Planchonia careya</i>			1.5		2
			<i>Erythrophleum chlorostachys</i>			2		1
Ground stratum	Sparse Tussock Grassland (5-20%)		<i>Erythrophleum chlorostachys</i>			0		15
			<i>Heteropogon contortus</i>			0.1		12
			<i>Sorghum sp. (annual)</i>			0.1		7
Other notes	- Cycads present in 50m plot							



Check site	VS-58		Coordinates		-12.623896 131.211352			
Aspect	South West		Land unit (nominal)		3c	Land unit (adjusted)	-	
Surface soils	Brown-grey Sand		Landform		Plains/Flat Moderately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	2	98	1	20	6	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	3		5		2		1	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	1		2		0		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	8		2		1		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		1		Absent (0)		Last year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		Absent		Minor impact scars on some trees/shrubs			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Woodland (21-50%)		<i>Eucalyptus miniata</i>			9		20
			<i>Erythrophleum chlorostachys</i>			8		5
			N/A			0		0
Mid stratum	Open Shrubland (21-50%)		<i>Acacia dimidiata</i>			1		9
			<i>Terminalia ferdinandiana</i>			2		8
			<i>Livistona humilis</i>			4		5
Ground stratum	Tussock Grassland (51-80%)		<i>Sorghum intrans</i>			0		50
			<i>Triodia sp.</i>			0.5		15
			<i>Sedge sp.</i>			0.1		7
Other notes	-							



Check site	VS-59		Coordinates		-12.623535 131.204891			
Aspect	North West		Land unit (nominal)		3a	Land unit (adjusted)	-	
Surface soils	Grey Sand		Landform		Plains/Flat Moderately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	0	100	0	34	20	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	2		10		2		10	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	3		5		2		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	9		5		5		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		0		Absent (0)		Last year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Very Low		Absent		Minor impact scars on most trees/shrubs			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Woodland (21-50%)		<i>Erythrophleum chlorostachys</i>			12		11
			<i>Eucalyptus tetradonta</i>			12		11
			<i>Corymbia foelscheana</i>			12		11
Mid stratum	Open Shrubland (21-50%)		<i>Xanthostemon paradoxus</i>			1		10
			<i>Planchonia careya</i>			1		9
			<i>Erythrophleum chlorostachys</i>			1		5
Ground stratum	Open Tussock Grassland (21-50%)		<i>Sorghum intrans</i>			0		30
			<i>Pandanus spiralis</i>			1		5
			<i>Unknown Shrub (see notes)</i>			0.5		2
Other notes	-							



Check site	VS-60		Coordinates		-12.616724 131.200258			
Aspect	South West		Land unit (nominal)		3b	Land unit (adjusted)	-	
Surface soils	Grey Loam		Landform		Plains/Flat Moderately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	0	100	20	15	21	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	3		10		3		5	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	2		5		1		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	5		3		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		3		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		Absent		Minor impact scars on some trees/shrubs			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Woodland (21-50%)		<i>Erythrophleum chlorostachys</i>			10		13
			<i>Corymbia foelscheana</i>			10		8
			<i>Eucalyptus tetrodonta</i>			12		7
Mid stratum	Sparse Shrubland (5-20%)		<i>Terminalia ferdinandiana</i>			1.5		10
			<i>Planchonia careya</i>			1		3
			<i>Brachychiton megaphyllus</i>			0.5		2
Ground stratum	Sparse Tussock Grassland (5-20%)		<i>Petalostigma pubescens</i>			0		23
			<i>Heteropogon contortus</i>			0.5		8
			<i>Erythrophleum chlorostachys</i>			0.5		3
Other notes	-							



Check site	VS-61		Coordinates		-12.61677 131.220526			
Aspect	South West		Land unit (nominal)		3c	Land unit (adjusted)	-	
Surface soils	Brown-grey Loam		Landform		Plains/Flat Moderately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	0	100	40	30	6	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	4		20		1		5	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	0		1		2		Alive	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	1		3		1		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		0		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		Absent		Minor impact scars on most trees/shrubs			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Woodland (21-50%)		<i>Eucalyptus tetrodonta</i>			10		20
			<i>Erythrophleum chlorostachys</i>			10		12
			<i>Corymbia sp.</i>			10		8
Mid stratum	Open Shrubland (21-50%)		<i>Livistona humilis</i>			1.5		8
			<i>Terminalia ferdinandiana</i>			1.3		5
			<i>Planchonia careya</i>					5
Ground stratum	Open Tussock Grassland (21-50%)		<i>Sorghum intrans</i>			0		40
			<i>Eucalyptus tetrodonta</i>			0.1		7
			<i>Juvenile Eucalyptus spp.</i>			0.5		5
Other notes	-							



Check site	VS-62		Coordinates		-12.63302 131.223718			
Aspect	South West		Land unit (nominal)		3a	Land unit (adjusted)	-	
Surface soils	Brown Sand		Landform		Lower SlopeModerately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	0	100	5	20	5	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	3		25		3		12	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	1		0		2		Dead	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	4		0		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	1		16		Scattered (1-5)		Last year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Very Low		Absent		Minor impact scars on some trees/shrubs			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)		<i>Eucalyptus tetrodonta</i>			10		10
			<i>Eucalyptus miniata</i>			10		8
			<i>Eucalyptus tectifica</i>			10		5
Mid stratum	Shrubland (51-80%)		<i>Cycas armstrongii</i>			1		12
			<i>Terminalia ferdinandiana</i>			1		8
			<i>Erythrophleum chlorostachys</i>			1		5
Ground stratum	Open Tussock Grassland (21-50%)		<i>Sorghum intrans</i>			0		25
			<i>Cycas armstrongii</i>			0.2		10
			<i>Unknown Shrub (see notes)</i>			0.2		1
Other notes	- Unknown creeper species in ground story. Persoonia in ground layer							



Check site	VS-63		Coordinates		-12.640643 131.239415			
Aspect	South		Land unit (nominal)		3c	Land unit (adjusted)	3c/3a	
Surface soils	Brown Silt		Landform		Plains/Flat Moderately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	0	100	30	40	47	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	4		10		1		1	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	21		24		14		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	10		4		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		0		Scattered (1-5)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Very Low		Absent		Some trees/shrubs killed			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Woodland (21-50%)		<i>Eucalyptus miniata</i>			8		20
			<i>Erythrophleum chlorostachys</i>			6		5
			N/A			0		0
Mid stratum	Isolated Shrubs (<5%)		<i>Terminalia ferdinandiana</i>			1		4
			<i>Livistona humilis</i>			3		1
			<i>Owenia vernicosa</i>			1		1
Ground stratum	Open Resprouts (21-50%)		<i>Syzygium eucalyptoides subsp. bleeseri</i>			0		10
			<i>Terminalia ferdinandiana</i>			0.1		5
			<i>Planchonia careya</i>			0.1		4
Other notes	-							



Check site	VS-64		Coordinates		-12.6385 131.21969			
Aspect	South West		Land unit (nominal)		3b	Land unit (adjusted)	-	
Surface soils	Grey Sand		Landform		Plains/Flat Moderately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	0	100	25	10	32	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	4		5		2		2	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	7		5		4		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	6		1		1		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		0		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		Absent		Some trees/shrubs killed			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Woodland (21-50%)		<i>Eucalyptus miniata</i>			8		8
			<i>Corymbia polysciada</i>			12		2
			<i>Erythrophleum chlorostachys</i>			14		1
Mid stratum	Open Shrubland (21-50%)		<i>Terminalia ferdinandiana</i>			1		10
			<i>Xanthostemon paradoxus</i>			2		5
			<i>Buchanania obovata</i>			6		3
Ground stratum	Open Tussock Grassland (21-50%)		<i>Sorghum sp. (annual)</i>			0		45
			<i>Petalostigma quadriloculare</i>			0.3		5
			<i>Xanthostemon paradoxus</i>			0.1		3
Other notes	- Cycads in 50m							



Check site	VS-65		Coordinates		-12.636711 131.213856			
Aspect	South		Land unit (nominal)		3c	Land unit (adjusted)	-	
Surface soils	Brown-grey Sand		Landform		Plains/Flat Rapidly drained (deep slope / sandy soil)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	0	100	5	80	5	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	4		5		3		2	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	7		7		4		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	3		3		1		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		0		Absent (0)		Last year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Very Low		Absent		Minor impact scars on some trees/shrubs			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Woodland (21-50%)		Corymbia polycarpa			8		10
			Corymbia polysciada			10		5
			Eucalyptus miniata			10		3
Mid stratum	Sparse Shrubland (5-20%)		Owenia vernicosa			4		5
			Terminalia ferdinandiana			1		3
			Xanthostemon paradoxus			6		3
Ground stratum	Closed Tussock Grassland (>80%)		Sorghum sp. (annual)			0		90
			Petalostigma quadriloculare			0.2		10
			Erythrophleum chlorostachys			0.3		3
Other notes	-							



Check site	VS-66		Coordinates		-12.658227 131.23686			
Aspect	N/A		Land unit (nominal)		4 e 1	Land unit (adjusted)	4 e 2	
Surface soils	Grey Sand		Landform		Plains/Flat Rapidly drained (deep slope / sandy soil)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	0	100	60	5	8	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	3		15		5		5	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	4		3		1		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	2		0		1		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		0		Scattered (1-5)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Very Low		Absent		Some trees/shrubs killed			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)		Corymbia bella			12		4
			Erythrophleum chlorostachys			7		3
			Buchanania obovata			7		3
Mid stratum	Sparse Shrubland (5-20%)		Planchonia careya			1		5
			Buchanania obovata			1		3
			Terminalia ferdinandiana			3		2
Ground stratum	Sparse Resprouts (5-20%)		Unknown Shrub (see notes)			0		4
			Buchanania obovata			0.1		2
			Unknown Grass (see notes)			0.1		2
Other notes	-							



Check site	VS-67		Coordinates		-12.651064 131.23721			
Aspect	West		Land unit (nominal)		4e1	Land unit (adjusted)	4b	
Surface soils	Brown-grey Other		Landform		Plains/Flat Moderately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	0	100	50	30	26	<5% Laterite	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	5		20		3		7	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	2		1		2		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	7		1		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	2		2		Common (6-10)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Very Low		1-10%		Some trees/shrubs killed			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)		Corymbia polycarpa			7		5
			Erythrophleum chlorostachys			8		5
			Corymbia polysciada			7		4
Mid stratum	Open Shrubland (21-50%)		Terminalia ferdinandiana			1		10
			Syzygium eucalyptoides subsp. bleeseri			1		6
			Planchonia careya			1		5
Ground stratum	Open Resprouts (21-50%)		Corymbia polysciada			0		5
			Terminalia grandiflora			0.1		5
			Erythrophleum chlorostachys			4		5
Other notes	-							



Check site	VS-68		Coordinates		-12.671691 131.242027			
Aspect	South		Land unit (nominal)		4e2	Land unit (adjusted)	-	
Surface soils	Grey Sand		Landform		Plains/Flat Moderately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	0	100	10	80	6	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	4		10		2		5	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	6		7		2		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	4		2		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		0		Absent (0)		2+ years	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		Absent		Minor impact scars on some trees/shrubs			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)		<i>Erythrophleum chlorostachys</i>			12		6
			<i>Xanthostemon paradoxus</i>			10		5
			<i>Eucalyptus miniata</i>			12		3
Mid stratum	Open Shrubland (21-50%)		<i>Terminalia ferdinandiana</i>			1		8
			<i>Erythrophleum chlorostachys</i>			1		7
			<i>Syzygium eucalyptoides subsp. bleeseri</i>			1		5
Ground stratum	Sparse Tussock Grassland (5-20%)		<i>Xanthostemon paradoxus</i>			0		20
			<i>Syzygium eucalyptoides subsp. bleeseri</i>			0.3		5
			<i>Eriachne sp.</i>			0.1		4
Other notes	- Pandanus present ground over in 50x50. Multiple sick ironwoods in 50x50							



Check site	VS-69		Coordinates		-12.672471 131.252784			
Aspect	South		Land unit (nominal)		4 e 1	Land unit (adjusted)	-	
Surface soils	Brown-grey Sand		Landform		Plains/Flat Moderately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	0	100	1	99	7	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	5		25		2		13	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	11		9		5		Dead	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	3		0		2		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		0		Absent (0)		2+ years	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Very Low		Absent		No damage			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)	<i>Eucalyptus miniata</i>			6		10	
		<i>Corymbia bella</i>			8		2	
		<i>Xanthostemon paradoxus</i>			8		2	
Mid stratum	Shrubland (51-80%)	<i>Unknown Shrub (see notes)</i>			1		40	
		<i>Terminalia ferdinandiana</i>			1		10	
		<i>Petalostigma sp.</i>			1		5	
Ground stratum	Resprouts (51-80%)	<i>Unknown Grass (see notes)</i>			0		5	
		<i>Buchanania obovata</i>			0.1		3	
		<i>Syzygium eucalyptoides subsp. bleeseri</i>			0.2		1	
Other notes	- Very dense diverse midstory.							



Check site	VS-70		Coordinates		-12.666165 131.197086			
Aspect	East		Land unit (nominal)		2b1	Land unit (adjusted)	2b1/6a2	
Surface soils	Light brown Clay		Landform		Mid Slope Moderately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	1	99	60	15	24	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	4		20		3		12	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	3		0		0		Alive	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	4		0		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	2		1		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Very Low		Absent		Some trees/shrubs killed			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Isolated Trees (<5%)		N/A			0		0
			N/A			0		0
Mid stratum	Open Shrubland (21-50%)		Buchanania obovata			3		8
			Planchonia careya			1.5		7
			Corymbia latifolia			5		3
Ground stratum	Open Resprouts (21-50%)		Sorghum sp.			0		15
			Buchanania obovata			0.2		8
			Grewia retusifolia			0.05		7
Other notes	- Isolated eucalyptus tectifica to 14m in vicinity of plot.							



Check site	VS-71		Coordinates		-12.621101 131.234005			
Aspect	South East		Land unit (nominal)		3a	Land unit (adjusted)	3a/3b	
Surface soils	Brown-grey Loam		Landform		Plains/Flat Moderately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	0	100	60	10	35	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	3		5		1		1	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	11		9		6		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	6		0		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		20		Scattered (1-5)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		Absent		No damage			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)		<i>Eucalyptus miniata</i>			7		7
			<i>Erythrophleum chlorostachys</i>			8		3
			N/A			0		0
Mid stratum	Sparse Shrubland (5-20%)		<i>Cycas armstrongii</i>			1		5
			<i>Terminalia ferdinandiana</i>			1		4
			<i>Planchonia careya</i>			1		1
Ground stratum	Open Resprouts (21-50%)		<i>Syzygium eucalyptoides subsp. bleeseri</i>			0		25
			<i>Eucalyptus miniata</i>			0.5		15
			<i>Terminalia ferdinandiana</i>			0.5		5
Other notes	-							



Check site	VS-72		Coordinates		-12.638907 131.245724			
Aspect	South West		Land unit (nominal)		4 e 1	Land unit (adjusted)	4c	
Surface soils	Brown-grey Sand		Landform		Plains/Flat Moderately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	0	100	20	7	34	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	5		15		2		2	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	8		7		6		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	6		1		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		0		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Very Low		Absent		Some trees/shrubs killed			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)		<i>Eucalyptus miniata</i>			8		8
			<i>Erythrophleum chlorostachys</i>			10		2
Mid stratum	Isolated Shrubs (<5%)		<i>Buchanania obovata</i>			6		2
			<i>Terminalia ferdinandiana</i>			1		1
			<i>Syzygium eucalyptoides subsp. bleeseri</i>			1		1
Ground stratum	Open Resprouts (21-50%)		<i>Erythrophleum chlorostachys</i>			1		1
			<i>Syzygium eucalyptoides subsp. bleeseri</i>			0		10
			<i>Planchonia careya</i>			0.1		8
Other notes	- Syzigium suborbicular, pandanus in ground story							



Check site	VS-73		Coordinates		-12.685981 131.215005			
Aspect	South		Land unit (nominal)		4b	Land unit (adjusted)	-	
Surface soils	Brown Loam		Landform		Plains/Flat Moderately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	0	100	0	10	8	<5% Laterite	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	6		7		3		3	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	6		6		3		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	6		2		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		0		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		Absent		Minor impact scars on some trees/shrubs			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Woodland (21-50%)		<i>Corymbia bleeseri</i>			12		20
			<i>Eucalyptus miniata</i>			12		8
			<i>Corymbia polysciada</i>			12		2
Mid stratum	Sparse Shrubland (5-20%)		<i>Planchonia careya</i>			1		3
			<i>Corymbia polysciada</i>			3		2
			N/A			0		0
Ground stratum	Hummock Grassland (51-80%)		<i>Sorghum sp. (annual)</i>			0		60
			<i>Petalostigma quadriloculare</i>			0.3		10
			<i>Sorghum sp.</i>			0.1		5
Other notes	- In b/w drainage & lower slope. Cycad and pandanus outside plot							



Check site	VS-74		Coordinates		-12.72682 131.142796			
Aspect	South East		Land unit (nominal)		2b2	Land unit (adjusted)	-	
Surface soils	Brown-grey Loam		Landform		Lower Slope Moderately well drained			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	4	95	80	2	22	<1% Laterite	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	3		5		0		0	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	0		2		2		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	6		0		1		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		3		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		Absent		Some trees/shrubs killed			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Isolated Trees (<5%)		<i>Erythrophleum chlorostachys</i>			12		1
			<i>Terminalia ferdinandiana</i>			9		1
			<i>Corymbia sp.</i>			12		1
Mid stratum	Sparse Shrubland (5-20%)		<i>Livistona humilis</i>			2		4
			<i>Planchonia careya</i>			2		1
			<i>Buchanania obovata</i>			1		1
Ground stratum	Open Forbland (20-50%)		<i>Eucalyptus tetradonta</i>			30		27
			<i>Heteropogon triticeus</i>			10		5
			<i>Erythrophleum chlorostachys</i>			50		2
Other notes	- Medium rocks 1%, resprout ground layer 30%							



Check site	VS-75		Coordinates		-12.643345 131.195717		
Aspect	South West		Land unit (nominal)		2a1	Land unit (adjusted)	-
Surface soils	Brown-grey Loam		Landform		Plains/Flat Moderately well drained (occasional seasonal waterlogging)		
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping
	0	0	100	35	20	59	-
Habitat values (50x50)							
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)
	3		2		2		1
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead
	11		13		10		Both
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall
	8		1		1		0
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire
	0		2		Absent (0)		This year
Threatening processes	Feral animal damage		Weed density		Fire impacts		
	Absent		Absent		Some trees/shrubs killed		
Vegetation (20x20)							
Upper stratum	Vegetation Structure		Dominant species		Height (m)		Cover (%)
	Woodland (21-50%)		<i>Eucalyptus miniata</i>		10		13
			<i>Erythrophleum chlorostachys</i>		9		9
			<i>Owenia vernicosa</i>		7		3
Mid stratum	Sparse Shrubland (5-20%)		<i>Acacia hemignosta</i>		0.1		5
			<i>Livistona humilis</i>		1		3
			<i>Planchonia careya</i>		1		2
			Ground stratum	Open Tussock Grassland (21-50%)		<i>Sorghum sp. (annual)</i>	
<i>Eucalyptus miniata</i>		0.2				10	
<i>Planchonia careya</i>		0.2				3	
Other notes	- 50% of 20m and 50m plot Unburnt. 2x Pandanus in 50m plot. Active hollow on 50m plot boundary						
							

Check site	VS-76		Coordinates		-12.69842 131.175906			
Aspect	East		Land unit (nominal)		2b1	Land unit (adjusted)	-	
Surface soils	Grey Sand		Landform		Mid Slope Moderately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	2	97	50	15	2	<1% Laterite	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	3		20		2		10	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	13		10		1		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	5		0		1		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		0		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Very Low		Absent		Some trees/shrubs killed			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)		<i>Eucalyptus miniata</i>			10		5
			<i>Erythrophleum chlorostachys</i>			9		5
			<i>Eucalyptus tetrodonta</i>			8		5
Mid stratum	Open Shrubland (21-50%)		<i>Livistona humilis</i>			1.5		15
			<i>Acacia sp.</i>			1.5		3
			<i>Buchanania obovata</i>			2		2
Ground stratum	Open Tussock Grassland (21-50%)		<i>Sorghum sp.</i>			0		15
			<i>Syzygium eucalyptoides subsp. bleeseri</i>			0.4		13
			<i>Alloteropsis semialata</i>			0.2		4
Other notes	-							



Check site	VS-78		Coordinates		-12.702575 131.174999			
Aspect	East		Land unit (nominal)		2b1	Land unit (adjusted)	-	
Surface soils	Grey Sand		Landform		Mid Slope Moderately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	1	2	96	40	15	10	<1% Laterite	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	3		10		2		6	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	9		10		0		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	6		2		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		4		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Very Low		Absent		Minor impact scars on most trees/shrubs			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)		<i>Eucalyptus miniata</i>			7		6
			<i>Terminalia grandiflora</i>			7		6
			<i>Erythrophleum chlorostachys</i>			10		6
Mid stratum	Open Shrubland (21-50%)		<i>Planchonia careya</i>			1.5		4
			<i>Buchanania obovata</i>			1.5		4
			<i>Terminalia grandiflora</i>			2		4
Ground stratum	Open Tussock Grassland (21-50%)		<i>Themeda triandra</i>			0		10
			<i>Mnesithea rottboellioides</i>			0.2		5
			<i>Buchanania obovata</i>			0.2		5
Other notes	-							



Check site	VS-79		Coordinates		-12.720862 131.18008			
Aspect	West		Land unit (nominal)		4 e 2	Land unit (adjusted)	4e2 / 2b1	
Surface soils	Brown Other		Landform		Lower SlopeModerately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	2	98	20	20	6	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	3		6		3		5	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	9		14		3		Alive	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	7		2		1		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		2		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Very Low		Absent		Minor impact scars on most trees/shrubs			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)		<i>Corymbia foelscheana</i>			7		18
			<i>Planchonia careya</i>			7		2
Mid stratum	Sparse Shrubland (5-20%)		<i>N/A</i>			0		0
			<i>Livistona humilis</i>			1		2
			<i>Buchanania obovata</i>			2		1
Ground stratum	Tussock Grassland (51-80%)		<i>Erythrina vespertilio</i>			2		1
			<i>Heteropogon triticeus</i>			0		35
			<i>Chrysopogon sp.</i>			0.1		20
Other notes	<i>Unknown Shrub (see notes)</i>							
	-							



Check site	VS-80		Coordinates		-12.68941 131.155027			
Aspect	West		Land unit (nominal)		1b	Land unit (adjusted)	2a1	
Surface soils	Brown-grey Other		Landform		Lower SlopeModerately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	11	89	55	3	10	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	2		20		2		7	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	3		4		3		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	10		2		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		9		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Very Low		Absent		Minor impact scars on most trees/shrubs			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)		<i>Corymbia polysciada</i>			8		3
			<i>Erythrophleum chlorostachys</i>			6		2
			<i>Eucalyptus miniata</i>			6		2
Mid stratum	Sparse Shrubland (5-20%)		<i>Terminalia ferdinandiana</i>			2		5
			<i>Planchonia careya</i>			3		3
			<i>Xanthostemon paradoxus</i>			3		2
Ground stratum	Sparse Forbland (5-20%)		<i>Eucalyptus tetrodonta</i>			0		35
			<i>Petalostigma quadriloculare</i>			0.15		5
			<i>Eriachne ciliata</i>			0.1		3
Other notes	-							



Check site	VS-81		Coordinates		-12.715027 131.15632			
Aspect	N/A		Land unit (nominal)		3b	Land unit (adjusted)	3a/3b	
Surface soils	Red Other		Landform		Plains/Flat Moderately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	1	2	96	15	60	8	<1% Laterite	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	3		10		2		3	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	3		9		3		Alive	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	7		0		2		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		32		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		Absent		Some trees/shrubs killed			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Forest (51-80%)		<i>Eucalyptus miniata</i>			15		40
			<i>Erythrophleum chlorostachys</i>			14		20
			N/A			0		0
Mid stratum	Sparse Shrubland (5-20%)		<i>Cycas armstrongii</i>			1		7
			<i>Planchonia careya</i>			2		5
			<i>Livistona humilis</i>			1		2
Ground stratum	Open Resprouts (21-50%)		<i>Buchanania obovata</i>			0		8
			<i>Acacia sp.</i>			0.15		6
			<i>Heteropogon triticeus</i>			0.15		4
Other notes	-							



Check site	VS-82		Coordinates		-12.697847 131.189197			
Aspect	West		Land unit (nominal)		4 e 2	Land unit (adjusted)	4e2 / 2b1	
Surface soils	Grey Clay		Landform		Mid Slope Moderately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	1	2	94	50	3	0	<5% Laterite	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	3		10		2		3	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	2		1		0		Alive	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	5		0		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		0		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Low		Absent		Some trees/shrubs killed			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)		<i>Erythrophleum chlorostachys</i>			8		3
			<i>Corymbia foelscheana</i>			7		3
			<i>Planchonia careya</i>			7		2
Mid stratum	Sparse Shrubland (5-20%)		<i>Buchanania obovata</i>			1.5		6
			<i>Planchonia careya</i>			2		5
			<i>Brachychiton megaphyllus</i>			1.5		3
Ground stratum	Open Tussock Grassland (21-50%)		<i>Sorghum sp.</i>			0		20
			<i>Heteropogon triticeus</i>			0.2		17
			<i>Erythrophleum chlorostachys</i>			0.2		1
Other notes	-							



Check site	VS-83		Coordinates		-12.692187 131.184637			
Aspect	N/A		Land unit (nominal)		4 e 2	Land unit (adjusted)	-	
Surface soils	Grey Clay		Landform		Drainage (broad swamp/floodplain) Very poorly drained (Seasonal waterlogging / inundation expected)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	1	99	60	10	0	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	3		10		1		1	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	2		2		0		Alive	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	3		0		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	25		0		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		Absent		Minor impact scars on most trees/shrubs			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Isolated Trees (<5%)		<i>Corymbia foelscheana</i> /C. <i>latifolia</i>			9		4
			N/A			0		0
Mid stratum	Sparse Shrubland (5-20%)		<i>Pandanus spiralis</i>			1.5		8
			<i>C.foelscheana</i> / <i>C. latifolia</i>			2.5		4
			<i>Melaleuca</i> sp.			3		2
Ground stratum	Open Tussock Grassland (21-50%)		<i>Syzygium eucalyptoides</i> subsp. <i>bleeseri</i>			0		10
			Unknown Grass (see notes)			0.15		8
			Unknown Grass (see notes)			0.15		3
Other notes	-							
								

Check site	VS-84		Coordinates		-12.711264 131.176198			
Aspect	North East		Land unit (nominal)		2b1	Land unit (adjusted)	-	
Surface soils	Brown Other		Landform		Lower SlopeModerately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	2	98	50	20	0	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	4		12		2		6	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	6		4		1		Alive	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	5		0		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	4		6		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Very Low		Absent		Some trees/shrubs killed			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Woodland (21-50%)		<i>Eucalyptus miniata</i>			10		15
			<i>Erythrophleum chlorostachys</i>			7		6
			<i>Planchonia careya</i>			7		5
Mid stratum	Sparse Shrubland (5-20%)		<i>Corymbia foelscheana</i>			1.5		7
			<i>Terminalia grandiflora</i>			2		4
			<i>Buchanania obovata</i>			1.5		3
Ground stratum	Open Tussock Grassland (21-50%)		<i>Heteropogon triticeus</i>			0		8
			<i>Xanthostemon paradoxus</i>			0.1		3
			<i>Buchanania obovata</i>			0.15		2
Other notes	Dirt vehicle track on edge of site, drink can rubbish Terminalia grandiflora included in fruiting mid storey.							



Check site	VS-85		Coordinates		-12.719383 131.140536			
Aspect	North West		Land unit (nominal)		2b1	Land unit (adjusted)	-	
Surface soils	Brown Loam		Landform		Plains/Flat Moderately well drained			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	0	100	0	80	14	<1% Laterite	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	4		5		1		1	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	0		4		2		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	6		0		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	1		12		Absent (0)		Last year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		Absent		Minor impact scars on some trees/shrubs			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)		<i>Eucalyptus tetrodonta</i>			16		10
			<i>Erythrophleum chlorostachys</i>			10		8
			<i>Eucalyptus miniata</i>			14		2
Mid stratum	Sparse Shrubland (5-20%)		<i>Terminalia ferdinandiana</i>			1		3
			<i>Livistona humilis</i>			2		3
			<i>Cycas armstrongii</i>			1		2
Ground stratum	Closed Tussock Grassland (>80%)		<i>Heteropogon contortus</i>			50		30
			<i>Sorghum sp. (annual)</i>			20		30
			<i>Eucalyptus tetrodonta</i>			20		5
Other notes	-							



Check site	VS-86		Coordinates		-12.730004 131.133562			
Aspect	West		Land unit (nominal)		1a	Land unit (adjusted)	-	
Surface soils	Brown-grey Loam		Landform		Upper Slope Rapidly drained (deep slope / sandy soil)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	5	30	60	10	15	13	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	4		10		4		2	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	3		3		4		Alive	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	4		6		1		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		2		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		Absent		Minor impact scars on most trees/shrubs			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)		<i>Eucalyptus tetrodonta</i>			12		10
			N/A N/A			0 0		0 0
Mid stratum	Open Shrubland (21-50%)		<i>Terminalia ferdinandiana</i>			4		10
			<i>Planchonia careya</i>			4		8
			<i>Livistona humilis</i>			2		5
Ground stratum	Tussock Grassland (51-80%)		<i>Sorghum sp. (annual)</i>			0		45
			<i>Petalostigma quadriloculare</i>			0.3		10
			<i>Buchanania obovata</i>			0.4		6
Other notes	-							



Check site	VS-87		Coordinates		-12.719472 131.120113			
Aspect	East		Land unit (nominal)		3b	Land unit (adjusted)	-	
Surface soils	Brown-grey Other		Landform		Plains/Flat Rapidly drained (deep slope / sandy soil)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	0	100	20	5	4	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	5		10		2		5	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	14		16		1		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	7		0		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		4		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		Absent		Minor impact scars on most trees/shrubs			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)		<i>Eucalyptus miniata</i>			8		10
			N/A			0		0
			N/A			0		0
Mid stratum	Sparse Shrubland (5-20%)		<i>Terminalia ferdinandiana</i>			1		5
			<i>Livistona humilis</i>			1		2
			<i>Planchonia careya</i>			1		1
Ground stratum	Open Tussock Grassland (21-50%)		<i>Sorghum sp. (annual)</i>			0		20
			<i>Heteropogon triticeus</i>			0.1		5
			<i>Eucalyptus tetrodonta</i>			0.5		3
Other notes	-							



Check site	VS-88		Coordinates		-12.718272 131.122308			
Aspect	East		Land unit (nominal)		5b1	Land unit (adjusted)	-	
Surface soils	Brown-grey Loam		Landform		Drainage (broad swamp/floodplain) Very poorly drained (Seasonal waterlogging / inundation expected)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	0	100	35	35	27	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	2		5		2		3	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	5		22		1		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	14		2		1		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	16		0		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		Absent		Minor impact scars on some trees/shrubs			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Woodland (21-50%)		<i>Melaleuca viridiflora</i>			10		20
			<i>Lophostemon lactifluus</i>			10		5
			<i>Corymbia bella</i>			8		5
Mid stratum	Open Shrubland (21-50%)		<i>Pandanus spiralis</i>			1		10
			<i>Bridelia tomentosa</i>			1		10
			<i>Timonius timons</i>			2		5
Ground stratum	Open Tussock Grassland (21-50%)		<i>Germainia grandiflora</i>			0		10
			<i>Mnesithea rottboellioides</i>			0.2		5
			<i>Eriachne sp.</i>			0.2		2
Other notes	- Unknown large tree species > 50cm - dead							



Check site	VS-89		Coordinates		-12.739771 131.12954			
Aspect	East		Land unit (nominal)		1c	Land unit (adjusted)	-	
Surface soils	Black Organic		Landform		Upper Slope Rapidly drained (deep slope / sandy soil)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	5	50	25	0	20	23	<5% Laterite	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	5		3		8		4	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	9		5		2		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	11		2		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		7		Scattered (1-5)		2+ years	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		Absent		Minor impact scars on some trees/shrubs			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)		<i>Eucalyptus tetradonta</i>			12		10
			<i>Erythrophleum chlorostachys</i>			12		3
			<i>Eucalyptus miniata</i>			12		2
Mid stratum	Open Shrubland (21-50%)		<i>Terminalia ferdinandiana</i>			2		20
			<i>Xanthostemon paradoxus</i>			4		15
			<i>Brachychiton megaphyllus</i>			1.5		5
Ground stratum	Open Resprouts (21-50%)		<i>Petalostigma quadriloculare</i>			0		10
			<i>Brachychiton megaphyllus</i>			0.3		5
			<i>Hibbertia juncea</i>			0.3		3
Other notes	-							



Check site	VS-90		Coordinates		-12.742214 131.133161			
Aspect	East		Land unit (nominal)		1a	Land unit (adjusted)	-	
Surface soils	Brown Loam		Landform		Upper Slope Rapidly drained (deep slope / sandy soil)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	15	85	15	10	0	<30% Laterite	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	4		10		3		5	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	2		2		2		Dead	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	8		1		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		15		Common (6-10)		Last year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		Absent		Minor impact scars on some trees/shrubs			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Woodland (21-50%)		<i>Eucalyptus miniata</i>			10		10
			<i>Eucalyptus tetrodonta</i>			12		5
			N/A			0		0
Mid stratum	Open Shrubland (21-50%)		<i>Terminalia ferdinandiana</i>			5		10
			<i>Erythrophleum chlorostachys</i>			7		8
			<i>Xanthostemon paradoxus</i>			6		5
Ground stratum	Open Resprouts (21-50%)		<i>Terminalia carpentariae</i>			0		10
			<i>Cycas armstrongii</i>			0.2		5
			<i>Erythrophleum chlorostachys</i>			0.2		3
Other notes	-							



Check site	VS-91		Coordinates		-12.745609 131.133086			
Aspect	South		Land unit (nominal)		2a1	Land unit (adjusted)	2a1 / 2b2	
Surface soils	Black Organic		Landform		Mid Slope Rapidly drained (deep slope / sandy soil)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	5	35	55	15	5	16	Quartz-Laterite Mix <5%	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	4		10		3		8	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	0		1		1		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	8		0		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		6		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		1-10%		Minor impact scars on most trees/shrubs			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)	<i>Eucalyptus miniata</i>			10		4	
		<i>Corymbia confertiflora</i>			12		2	
		N/A			0		0	
Mid stratum	Open Shrubland (21-50%)	<i>Terminalia ferdinandiana</i>			4		10	
		<i>Xanthostemon paradoxus</i>			6		6	
		<i>Livistona humilis</i>			1.5		5	
Ground stratum	Tussock Grassland (51-80%)	<i>Heteropogon triticeus</i>			0		60	
		<i>Unknown Shrub (see notes)</i>			0.4		3	
		<i>Brachychiton megaphyllus</i>			0.3		2	
Other notes	-							



Check site	VS-92		Coordinates		-12.768519 131.134226			
Aspect	North		Land unit (nominal)		2a2	Land unit (adjusted)	2a2/3a	
Surface soils	Brown Sand		Landform		Plains/Flat Moderately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	0	100	35	6	10	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	5		10		5		2	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	16		6		8		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	11		2		2		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	1		3		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Low		Absent		Minor impact scars on most trees/shrubs			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)	Eucalyptus tetradonta			10		5	
		Erythrophleum chlorostachys			7		4	
		Corymbia foelscheana/C. latifolia			10		2	
Mid stratum	Open Shrubland (21-50%)	Corymbia foelscheana/C. latifolia			6		10	
		Livistona humilis			2		1.5	
		Planchonia careya			3		3	
Ground stratum	Open Tussock Grassland (21-50%)	Unknown Grass (see notes)			0		10	
		Buchanania obovata			0.5		5	
		Cycas armstrongii			0.5		3	
Other notes	-							



Check site	VS-93		Coordinates		-12.771352 131.140375			
Aspect	South East		Land unit (nominal)		3c	Land unit (adjusted)	-	
Surface soils	Brown-grey Sand		Landform		Plains/Flat Rapidly drained (deep slope / sandy soil)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	5	95	40	15	10	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	5		12		2		4	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	4		2		5		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	9		3		1		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		3		Scattered (1-5)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		Absent		Some trees/shrubs killed			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Woodland (21-50%)		<i>Eucalyptus tetradonta</i>			10		20
			<i>Eucalyptus miniata</i>			10		10
			N/A			0		0
Mid stratum	Sparse Shrubland (5-20%)		<i>Acacia sp.</i>			2.5		5
			<i>Terminalia ferdinandiana</i>			2		4
			<i>Livistona humilis</i>			1.5		3
Ground stratum	Open Resprouts (21-50%)		<i>Acacia sp.</i>			0		10
			<i>Terminalia grandiflora</i>			0.2		5
			<i>Petalostigma quadriloculare</i>			0.2		3
Other notes	-							



Check site	VS-94		Coordinates		-12.777482 131.139582			
Aspect	East		Land unit (nominal)		3e	Land unit (adjusted)	-	
Surface soils	Brown Sand		Landform		Drainage (broad swamp/floodplain) Very poorly drained (Seasonal waterlogging / inundation expected)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	0	100	45	5	0	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	4		5		2		3	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	8		2		0		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	7		2		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	8		0		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Very Low		Absent		Minor impact scars on most trees/shrubs			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)		<i>Erythrophleum chlorostachys</i>			7		6
			N/A			0		0
			N/A			0		0
Mid stratum	Open Shrubland (21-50%)		<i>Planchonia careya</i>			2.5		8
			<i>Pandanus spiralis</i>			2.5		4
			<i>Petalostigma pubescens</i>			2		3
Ground stratum	Open Tussock Grassland (21-50%)		<i>Heteropogon triticeus</i>			0		10
			<i>Melaleuca nervosa</i>			0.1		8
			<i>Melaleuca viridiflora</i>			0.1		5
Other notes	-							



Check site	VS-95		Coordinates		-12.779557 131.137408			
Aspect	North		Land unit (nominal)		6a2	Land unit (adjusted)	-	
Surface soils	Brown Sand		Landform		Drainage (broad swamp/floodplain) Very poorly drained (Seasonal waterlogging / inundation expected)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	0	100	20	30	4.5	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	3		5		3		5	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	24		3		4		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	11		1		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	11		0		Absent (0)		2+ years	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		Absent		Minor impact scars on most trees/shrubs			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Woodland (21-50%)		Lophostemon lactifluus			6		12
			Corymbia grandifolia			10		8
			Erythrophleum chlorostachys			7		5
Mid stratum	Sparse Shrubland (5-20%)		Pandanus spiralis			2		8
			Grevillea pteridifolia			3		5
			Petalostigma pubescens			2		2
Ground stratum	Open Resprouts (21-50%)		Lophostemon lactifluus			0		35
			Melaleuca nervosa			0.1		15
			Terminalia platyphylla			0.2		10
Other notes	-							



Check site	VS-96		Coordinates		-12.776876 131.15078			
Aspect	South East		Land unit (nominal)		3c	Land unit (adjusted)	3e	
Surface soils	Brown Sand		Landform		Drainage (broad swamp/floodplain) Poorly drained (seasonally waterlogged most years)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	7	93	25	5	0	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	5		15		2		6	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	10		6		3		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	5		0		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		17		Absent (0)		Last year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		Absent		Minor impact scars on some trees/shrubs			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)		<i>Erythrophleum chlorostachys</i>			8		4
			<i>Terminalia grandiflora</i>			6		3
			<i>Corymbia polysciada</i>			10		2
Mid stratum	Sparse Shrubland (5-20%)		<i>Terminalia ferdinandiana</i>			2		6
			<i>Planchonia careya</i>			2		4
			<i>Terminalia grandiflora</i>			2		3
Ground stratum	Open Resprouts (21-50%)		<i>Terminalia grandiflora</i>			0		10
			<i>Erythrophleum chlorostachys</i>			0.2		5
			<i>Ficus aculeata</i>			0.5		3
Other notes	-							



Check site	VS-97		Coordinates		-12.778625 131.154437			
Aspect	N/A		Land unit (nominal)		6b	Land unit (adjusted)	-	
Surface soils	Grey Other		Landform		Drainage (broad swamp/floodplain) Very poorly drained (Seasonal waterlogging / inundation expected)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	0	100	0	5	0	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	0		0		1		1	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	0		0		0		N/A	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	0		0		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	20		0		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Very Low		Absent		Some trees/shrubs killed			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Isolated Trees (<5%)		<i>Pandanus spiralis</i>			3		2
			<i>Hakea arborescens</i>			4		1
			N/A			0		0
Mid stratum	Open Shrubland (21-50%)		<i>Melaleuca viridiflora</i>			1		25
			<i>Lophostemon lactifluus</i>			1		1
			<i>Terminalia sp.</i>			1		1
Ground stratum	Sparse Tussock Grassland (5-20%)		<i>Chrysopogon sp.</i>			0		5
			<i>Eriachne sp.</i>			0.1		2
			<i>Melaleuca viridiflora</i>			0.1		10
Other notes	Access track							



Check site	VS-98		Coordinates		-12.770357 131.153028			
Aspect	South West		Land unit (nominal)		2b2	Land unit (adjusted)	-	
Surface soils	Brown-grey Other		Landform		Plains/Flat Moderately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	0	100	35	1	21	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	4		8		4		5	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	0		0		0		N/A	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	0		0		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	2		27		Absent (0)		2+ years	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		Absent		Minor impact scars on most trees/shrubs			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)		<i>Terminalia grandiflora</i>			8		5
			<i>Corymbia polysciada</i>			8		2
			<i>Erythrophleum chlorostachys</i>			7		1
Mid stratum	Sparse Shrubland (5-20%)		<i>Cycas armstrongii</i>			1		5
			<i>Livistona humilis</i>			1		2
			<i>Terminalia grandiflora</i>			1		1
Ground stratum	Open Tussock Grassland (21-50%)		<i>Chrysopogon sp.</i>			0		15
			<i>Heteropogon triticeus</i>			0.1		5
			<i>Sorghum sp. (annual)</i>			0.1		5
Other notes	-							



Check site	VS-99		Coordinates		-12.766945 131.152946			
Aspect	West		Land unit (nominal)		2a1	Land unit (adjusted)	-	
Surface soils	Brown Other		Landform		Plains/Flat Rapidly drained (deep slope / sandy soil)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	5	95	10	5	0	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	0		0		0		0	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	7		12		0		Both	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	0		0		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		6		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		Absent		Some trees/shrubs killed			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)		<i>Eucalyptus miniata</i>			6		5
			<i>Eucalyptus tectifica</i>			8		2
			<i>Corymbia polysciada</i>			10		2
Mid stratum	Sparse Shrubland (5-20%)		<i>Eucalyptus miniata</i>			5		5
			<i>Livistona humilis</i>			1		5
			<i>Erythrophleum chlorostachys</i>			4		2
Ground stratum	Sparse Tussock Grassland (5-20%)		<i>Heteropogon triticeus</i>			0		2
			<i>Eriachne ciliata</i>			0.1		1
			<i>Chrysopogon sp.</i>			0.1		1
Other notes	Old car body, sheets of tin							



Check site	VS-100		Coordinates		-12.746367 131.153928			
Aspect	N/A		Land unit (nominal)		4c	Land unit (adjusted)	4c/2b2	
Surface soils	Brown Other		Landform		Plains/Flat Moderately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	0	100	20	5	0	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	2		5		3		5	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	0		0		0		N/A	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	0		0		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	0		0		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		Absent		Minor impact scars on some trees/shrubs			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)		Corymbia sp.			8		10
			Planchonia careya			4		1
			N/A			0		0
Mid stratum	Sparse Shrubland (5-20%)		Terminalia grandiflora			1		2
			Corymbia sp.			1		1
			Livistona humilis			2		1
Ground stratum	Open Tussock Grassland (21-50%)		Heteropogon_triticeus			0		15
			Sorghum intrans			0.1		5
			Eriachne sp.			0.1		2
Other notes	-							
								

Check site	VS-101		Coordinates		-12.748988 131.156722			
Aspect	South West		Land unit (nominal)		2b2	Land unit (adjusted)	-	
Surface soils	Brown Other		Landform		Lower SlopeModerately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	0	100	30	10	0	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	3		15		4		10	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	2		0		0		Alive	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	0		0		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	2		1		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		1-10%		Some trees/shrubs killed			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)		<i>Eucalyptus miniata</i>			10		1
			<i>Corymbia foelscheana</i>			5		4
			N/A			0		0
Mid stratum	Open Shrubland (21-50%)		<i>Planchonia careya</i>			1		10
			<i>Ficus aculeata</i>			3		3
			<i>Brachychiton megaphyllus</i>			1		2
Ground stratum	Open Tussock Grassland (21-50%)		<i>Sorghum sp. (annual)</i>			0		20
			<i>Themeda triandra</i>			0.1		10
			<i>Chrysopogon sp.</i>			0.1		3
Other notes	-							



Check site	VS-102		Coordinates		-12.736515 131.161269			
Aspect	North		Land unit (nominal)		5b1	Land unit (adjusted)	-	
Surface soils	Brown Loam		Landform		Drainage (incised channel) Moderately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	0	100	5	80	6	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	2		10		1		1	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	2		1		0		Alive	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	7		8		6		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	16		0		Absent (0)		2+ years	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Very Low		1-10%		No damage			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Forest (51-80%)		Lophostemon grandiflorus ssp. riparius			8		50
			Unknown Tree (see notes)			7		10
			Unknown Tree (see notes)			7		5
Mid stratum	Shrubland (51-80%)		Pandanus spiralis			1		30
			Timonius timons			1		10
			Planchonia careya			1		5
Ground stratum	Tussock Grassland (51-80%)		Andropogon gayanus			0		40
			Unknown Grass (see notes)			0.3		10
			Eriachne sp.			0.3		5
Other notes	Fence line with firebreak and track running through plot Riparian corridor with lots of mature pandanus.							

Check site	VS-103		Coordinates		-12.726801 131.152477			
Aspect	East		Land unit (nominal)		2b1	Land unit (adjusted)	-	
Surface soils	Brown Other		Landform		Plains/Flat Moderately well drained (occasional seasonal waterlogging)			
Ground cover (%)	Large rocks	Medium rocks	Small rocks	Bare ground	Leaf litter	Logs (m)	Rock Outcropping	
	0	0	100	50	5	14	-	
Habitat values (50x50)								
Fruiting / Flowering midstorey	Fruiting species diversity (count)		Fruiting species cover (%)		Flowering species diversity (count)		Flowering species cover (%)	
	3		15		1		15	
Tree hollows (count)	Small (< 5 cm)		Medium (5 - 20 cm)		Large (20+ cm)		Alive/Dead	
	1		6		0		Alive	
Large trees (count)	30-40cm		40-50cm		50+ cm		Trees >30m tall	
	4		2		0		0	
Other habitat values	Pandanus count (20x20)		Cycad count (20x20)		Mistletoe		Last fire	
	6		0		Absent (0)		This year	
Threatening processes	Feral animal damage		Weed density		Fire impacts			
	Absent		Absent		Minor impact scars on most trees/shrubs			
Vegetation (20x20)								
Upper stratum	Vegetation Structure		Dominant species			Height (m)		Cover (%)
	Open Woodland (5-20%)		<i>Erythrophleum chlorostachys</i>			10		10
			<i>Syzygium suborbiculare</i>			10		2
			<i>Planchonia careya</i>			6		1
Mid stratum	Open Shrubland (21-50%)		<i>Livistona humilis</i>			1		20
			<i>Terminalia ferdinandiana</i>			1		5
			<i>Eucalyptus tetrodonta</i>			2		2
Ground stratum	Open Tussock Grassland (21-50%)		<i>Heteropogon triticeus</i>			0		10
			<i>Sorghum sp. (annual)</i>			0.1		10
			<i>Eriachne sp.</i>			0.1		5
Other notes	-							

