
















Chalumbin Wind Farm

Outstanding Universal Values in Proximity to the Project Area

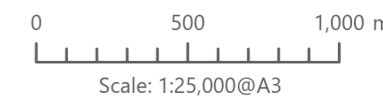
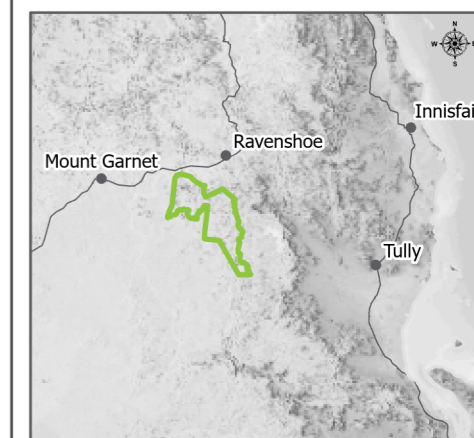
Sheet 3 of 3

Figure 4.51

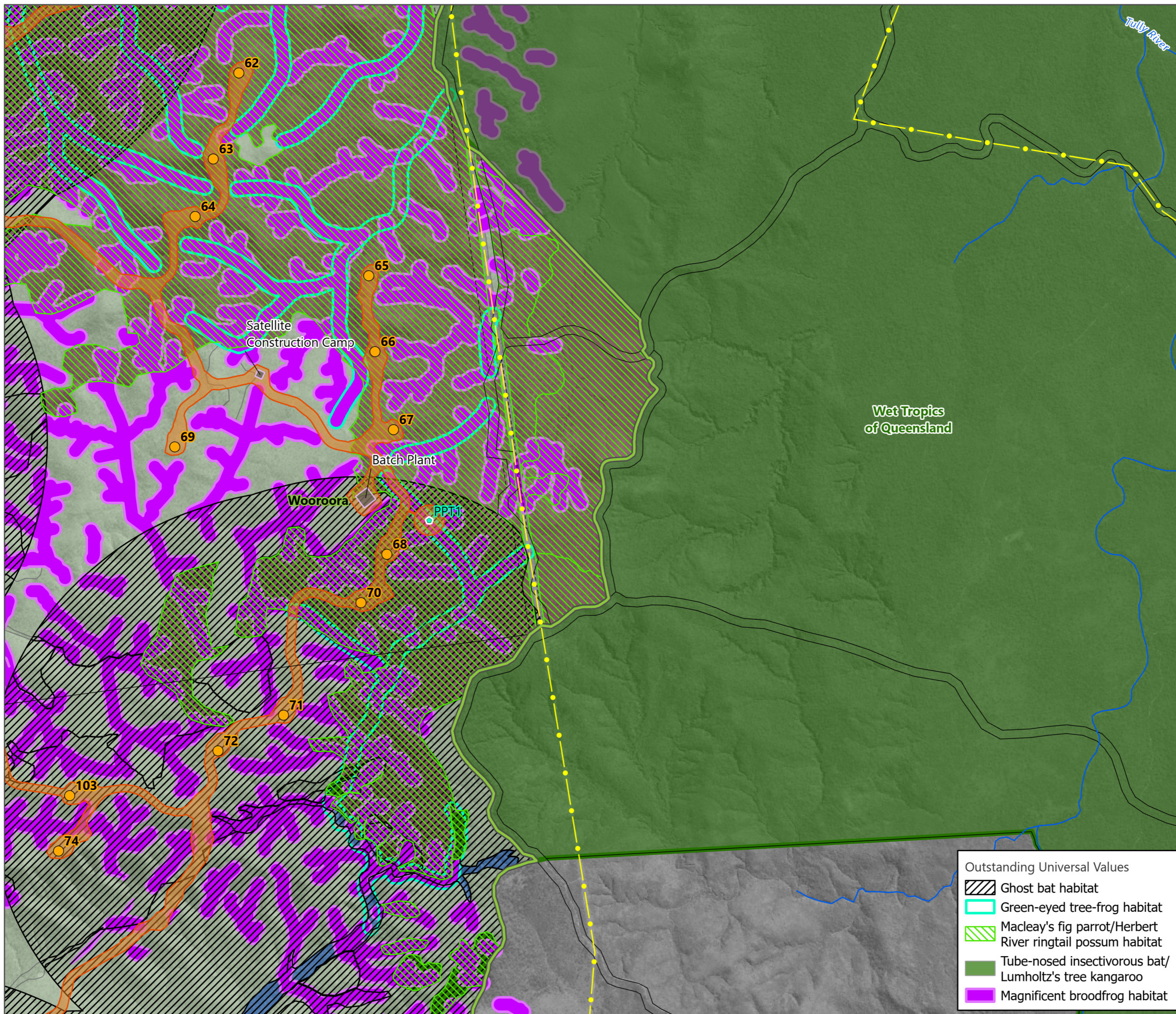
-  Project Area Boundary
-  Turbine
-  Met-mast
-  Facilities
-  Stage 1
-  Stage 2
-  Existing HV Transmission Line
-  World Heritage Area Boundary
-  Eucalypt woodlands
-  Riparian habitat
-  Rocky pavements and shrublands
-  Rainforest
-  Wet sclerophyll forest
-  Watercourse
-  Lot Boundary
-  Easement






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Project: EPU-004

Author: TOD
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Data Source(s):
Digital Cadastral Database - Department of Resources (2022);
Regional Ecosystem Mapping, WildNet - Department of Environment and Science (2022); Atlas of Living Australia (2020)
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- Outstanding Universal Values
-  Ghost bat habitat
 -  Green-eyed tree-frog habitat
 -  Macleay's fig parrot/Herbert River ringtail possum habitat
 -  Tube-nosed insectivorous bat/Lumholtz's tree kangaroo
 -  Magnificent broodfrog habitat



4.10.2 National Heritage Values

4.10.2.1 Overview

In 2007, the Wet Tropics of Queensland was added to the National Heritage List alongside other World Heritage Areas. Australia's national heritage comprises exceptional natural and cultural places which help give Australia its national identity. Such places are a living and accessible record of the nation's evolving landscape and experiences. National heritage defines the critical moments in Australia's development as a nation and reflects achievements in the lives of Australians. It also encompasses those places that reveal the richness of Australia's diverse natural heritage (WTMA 2021, DAWE 2022).

The values of the WTQ National Heritage Place are consistent with the four WTQ World Heritage outstanding universal values (described in **Section 4.10.1.2**), in addition to its Indigenous values described in **Section 4.10.2.2**. The WTQ is considered to have outstanding heritage value to the nation because of:

- Criterion a) the place's importance in the course, or pattern, of Australia's natural or cultural history
- Criterion b) the place's possession of uncommon, rare or endangered aspects of Australia's natural or cultural history;
- Criterion c) the place's potential to yield information that will contribute to an understanding of Australia's natural or cultural history;
- Criterion d) the place's importance in demonstrating the principal characteristics of;
 - i) a class of Australia's natural or cultural places; or
 - ii) a class of Australia's natural or cultural environments;
- Criterion e) the place's importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
- Criterion f) the place's importance in demonstrating a high degree of creative or technical achievement at a particular period; and
- Criterion i) the place's importance as part of Indigenous tradition.

4.10.2.2 Indigenous Values

In November 2012, Indigenous heritage values were formally recognised as part of the National Heritage Listing for the WTQ, acknowledging that rainforest Aboriginal heritage is unique to the Wet Tropics that represents a remarkable and continuous Indigenous connection with a tropical rainforest environment (WTMA 2021). The Wet Tropics is unique in the course of Australia's cultural history, providing at least 5,000 years of evidence of occupation as the only area in Australia where Aboriginal people lived permanently in the rainforest, adapting to seasonal abundance and lean times with plants providing much of their food. Traditions linked to the volcanic events at Lake Eacham occurring between 10,000 and 20,000 years ago also suggest Aboriginal occupation of the area occurred as far back as during these events (Horsfall and Hall 1990).

The Aboriginal Rainforest People developed a specialized and unique material culture to process toxic and other plants. These cultural practices are the expression of the technical achievements that made it possible for Aboriginal people to live year-round in the rainforest. Traditions established by creation beings about the toxicity of plants and the techniques used to process toxic plants are unusual in an Australian context and are of outstanding heritage value



to the nation. There are a number of traditions that describe how creation beings created and instructed rainforest Aboriginal people about the foods found in the rainforest and how to make them edible. These traditions are inscribed in the landscape at particular named places. These places and traditional law provide the conceptual framework that underpins the rainforest Aboriginal people's technical achievement in processing toxic plants.

The Indigenous values of the WTQ National Heritage Place are not definitely mapped. Indigenous people are the primary source of information on the value of their heritage and should be consulted on a proposed action that may significantly impact on the listed Indigenous heritage values of the place and/or on a protected matter that has Indigenous heritage values (such as a listed threatened species).

Background

The surface geology in the Project Area indicates that the bedrock in the zone between Ravenshoe and Ingham is deeply weathered rhyolite, which typically weather to very shallow, stony soils. The geology in the Project Area is primarily granite and acid volcanics, with rhyolite volcanic rocks and outcrops composed of relatively stable minerals that resist erosion common. The presence of poor quality white veined quartz was noted during cultural heritage field work in 2021.

Previous archaeological work on Wooroora Station and in wet sclerophyll forests along Nitchaga Creek (Horsfall 1988:178) found a range of artefact types and raw materials represented, including ground-edge axes, hammerstones, grindstones and flaked artefacts on rhyolite (acid volcanics) and quartz, some made from locally available materials. One axe previously recorded was made of a metamorphic stone that occurs some 50 kms from the Project Area (Horsfall 1988).

Traditionally (pre-European arrival), Jirrbal people accessed a range of different landscapes and resources, moving between wet and dry environments according to climate and seasonal resource availability. Jirrbal people exploited a diverse range of rainforest plants for subsistence, as well as for the manufacture of artefacts, many of which are unique to the rainforests of Far North Queensland. Access to land was regulated in terms of access across boundaries between groups, which also defined the extent of a group's territory. Large rivers, mountains and other landscape features were often used as boundary markers between tribal groups, often linked to Aboriginal stories and spirit beings (Grant 2018). Oral traditions passed down through generations of Jirrbal people tells how the 'Old People' used to live in groups comprising six to eight families spread across Jirrbal country (M. Barlow 2003 pers. comm., L. Wood pers. comm., 2003).

Aspects on the long-term history of Aboriginal occupation in the Project area and surroundings can be gleaned from the archaeological record, oral history and historical records (see **Appendix C**). Archaeological investigations in the Evelyn Tableland region provide insights into Jirrbal culture and society before and after European arrival. Archaeological sites on Jirrbal country include large traditional open camp sites, stone artefacts, artefact scatters, rock art sites, carved/scarred trees and contact sites (Duke and Collins 1994; Ferrier 2015; Cosgrove et al. 2007; Buhrich et al. 2015; Horsfall 1996).

Evidence for late Pleistocene Aboriginal occupation on traditional Jirrbal country has been recorded at Murubun rock shelter dated to c. 31,000 years ago, located on the western edge of the Evelyn Tableland. Sclerophyll woodlands were more expansive during the Late Pleistocene, with rainforest and wet sclerophyll proliferation occurring in the early and late Holocene (Haberle et al. 2010). Murubun rock shelter is today situated in wet sclerophyll forest bordering rainforest in the Tully Falls National Park outside of and to the east of the Project area.

A review of aerial imagery from 1950 to the present indicates a pattern across the project area. Limited aerial imagery from the 1950s shows very little environmental disturbance. By the 1970s the Project Area remains mostly remnant forest although pastoral activities are showing a greater impact around homesteads and Blunder Creek. By 1997, the Kareeya transmission line had been constructed and more cleared areas, including fence lines, tracks and other farming infrastructure, can be seen, although most of the Project area remains remnant forest. Aerial imagery



indicates that the southern section of the Project area has not had any significant ground disturbance since the first aerial imagery became available in the 1950s.

There are two key cultural aspects of the National Heritage List criteria for the Wet Tropics of Queensland. Both of these key values identified in the National Heritage List extend beyond the boundaries of the Wet Tropics WHA and into the Project Area.

- Criterion (f), relates to the permanent occupation of the rainforest, which was possible through the use of fire to alter vegetation communities and the development of a unique and specialised material technology to process toxic nuts.
- Criterion (i) describes the traditions inscribed in the landscape by creation beings as they instructed rainforest Aboriginal people about the foods and how to make them edible

Jirrbal Cultural Landscape

The proposed Chalumbin Wind Farm lies within the traditional lands of the Jirrbal Aboriginal people, one of five Wet Tropics rainforest groups that make up the Dyrirbal Aboriginal language, all descendants from a single ancestor group (Dixon 1972). Dyrirbal speaking country is an area of land incorporating coast and land between the Russell and Tully Rivers, and the Evelyn Tableland, composed primarily of tropical rainforest environments, but also include wet and dry sclerophyll, savannah, riverine, mangrove estuaries and offshore island environments. The Jirrbal estate saddles part of the central Wet Tropics WHA.

As consultation and engagement progresses through the feasibility study process, more is learned about the cultural landscape of the Project Area. The consultation and engagement continues to identify cultural sites, stories of creation beings movements across the Project Area, and places of importance to Jirrbal people today.

The National Heritage List criteria describe the characteristics of a 'cultural landscape'. Cultural landscapes should contain "cultural properties that represent the combined works of nature and man" (<https://whc.unesco.org/en/committee/>). Drawing on Jirrbal oral traditions (M. Barlow 2003; L. Wood 2003), ethno-historical information (e.g. Mjöberg 1913, 1918; Roth 1898; O'Leary 1918), linguistics studies (Dixon 1972, 1991), archaeological studies (e.g. Cosgrove et al. 2007; Ferrier 2015; Horsfall 1987, 1996) and studies on Aboriginal subsistence strategies (Ferrier and Cosgrove 2012; Harris 1978, 1987; Pedley 1992; Tuechler et al. 2014), this section presents characteristics of the Jirrbal cultural landscape. Oral traditions also include Jirrbal intangible cultural heritage on their beliefs, traditions, customs, stories, and other non-physical cultural practises and knowledge, cultural heritage values that are a highly significant component of the Jirrbal cultural landscape.

Historical evidence shows some of the management methods Jirrbal people applied to shape and maintain their cultural landscape. Campsites and rainforest tracks were regularly burnt to keep them clear of vegetation, and the existence and maintenance of open grassy sclerophyll pockets, often on the fringe of the rainforest, allowed for the establishment of semi-permanent camp sites and for large inter-tribal ceremonial gatherings to take place. Fire was used to keep the rainforest understory clear from lawyer vine and other unwanted vegetation in important food collecting areas. Each group managed the country that belonged to them, managing the rainforest and other resources, constructing campsites on the rainforest fringe or in open pockets within the rainforest, and on elevated areas near creeks and rivers in the dry country, creating a landscape mosaic of human behaviour across different types of country. Access to running water was always a priority when choosing a campsite. During the wet season, Jirrbal people on the Evelyn Tableland would settle in their large semi-sedentary campsites, collect, process and store an abundance of food and invite neighbouring groups who travelled up to the Tableland on well-established tracks from the coast and hinterland, along ridges, creeks and rivers.



Characteristics of significant values associated with national heritage values

Engagement with Jirrbal knowledge holders, site inspections, review of previous work and research from Technical Advisors identified a number of significant cultural site types that contain heritage values similar to those protected by the National Heritage List in the Wet Tropics WHA.

Pockets

'Pockets' are a unique component of the rainforest Aboriginal cultural landscape and an example of how rainforest Aboriginal people used fire and weeding to manage and alter their rainforest home, including the deliberate use of fire to alter vegetation communities. 'Pockets' were large cleared grassy open Eucalypt woodland patches within the rainforest environment that were created and maintained by rainforest people to create open spaces for living, ceremonial and other activities. Large open tracks were maintained through the rainforest, connecting the pockets.

Ongoing research at one of these pockets, Urumbal Pocket on the Upper Tully River, is revealing rich aspects of people's past use of the rainforest environment. The archaeological evidence from Urumbal Pocket, supported by oral traditions and historical documents, suggests that this campsite was one of many places Jirrbal people used during their seasonal journeys to and from the coast and dry country (Ferrier 2015). The predominant stone raw material used in artefact manufacture at Urumbal Pocket is white quartz, which appears to be a regional rainforest pattern (Ferrier 2015). Small amounts of raw materials other than quartz include artefacts made from slate, basalt and rhyolite, and fine-grained materials like chert, silcrete and chalcedony. The presence of rhyolite and basalt suggests access to areas immediately west of the rainforest region, where acid volcanics dominate the regional geology (Henderson and Stephenson 1980) and the use of two different environments by the same group of Aboriginal people, the Jirrbal people. Consistently present at archaeological sites in traditional Jirrbal country are fragmentary plant remains, with 1000s of pieces of carbonised nutshell from a variety of toxic and non-toxic rainforest plants (Cosgrove et al. 2007). The oldest identified yellow walnut fragments date to around 1000 years ago. Archaeological and oral historical evidence confirm that some traditional sites were still used by Jirrbal people up until the 1930 and 1940s (Ferrier 2015).

Archaeological investigations at this open camp site located on the banks of the upper Tully River, (the section of the Tully River now inundated by Koombooloomba Dam), have revealed low-level evidence for human presence 8000 years ago, with Aboriginal occupation sporadic until c. 2500-1500 years ago (Ferrier 2015). At this time, increases in artefact discard rates at Urumbal Pocket, and at several other sites across the Wet Tropics, become apparent. Based on existing evidence, it has been argued that the tempo of Aboriginal occupation within the Wet Tropics is somewhat unique within Australia more broadly (Cosgrove 1996) where elsewhere, following human arrival c. 65,000-55,000 years ago, populations moved into a diverse array of environments by at least 47,000 years ago (McDonald et al. 2018). In the Wet Tropics, clear human occupation is evident only in the Holocene, with the oldest evidence found in traditional Jirrbal country on the edge of the Project Area at Urumbal Pocket.

Pockets would have existed along Blunder Creek, Limestone Creek and the Herbert River and at the homesteads of Wooroora and Glen Gordon. Kara Outstation was a known pocket that was taken over by the Robinson family for pastoral activities, a common practice in the early days of European arrival.

Story places

During assessments and engagement with the Project, a number of Jirrbal knowledge holders shared aspects of the storied landscape with the Technical Advisors. Details of the stories and the knowledge holders are held by Wabubadda Aboriginal Corporation, the Native Title Party and the proponent and include:

- Arthur's Seat is a story place known as Djigirrdjigirr, associated with the Willy Wagtail. Djigirrdjigirr is not just the outcrop known as 'Arthur's Seat' (which is just outside of the Project area), but also the surrounding outcrops to the south, north, west and east including the large rocks that sit at the base of the outcrop.



- J9¹⁷ and Jx described that the sites in the escarpment around Arthur's Seat are linked to sites elsewhere on the Jirrbal estate. There are conflicted views in the community about how best to manage these places - either through avoidance or surveys to identify the significant areas.
- J6 describes an event known as 'The Last Stand' that reportedly took place at Djigirrdjigirr (Arthur's Seat) in colonial times. Few details were provided, but it is believed that 90 Jirrbal people were massacred on and around Arthur's Seat during the early phase of contact.
- J9 was told by her uncle that Jirrbal people hid from Native Mounted Police in the escarpment around Arthur's Seat, this could be linked to the Last Stand.
- J8 described using Arthur's Seat as a navigational tool as a child walking between Aboriginal camps at Innot Hot Springs and Toumilin.
- Senior Jirrbal people described feeling and hearing the presence of the Ancestors in parts of the Project area. The escarpment around Arthur's Seat and below Arthur's Seat to the northeast and southwest, Blunder Creek and other places were noted as places where the Ancestors reside. One informant, J7, described hearing the 'Old People' that reside around Arthur's Seat from the highway at night.
- Key information on story places, particularly on ridgetops in and around the Project area, were provided by J5 for the Scoping Study but due to ill health the WAC and Technical advisors have not been able to obtain permission to include this information in the PER. The information is held by Wabubadda Aboriginal Corporation.
- J5 identified Wild River, Blunder Creek, Woodleigh, Mandalee, Millstream and Herbert River as important locations in the past and continue to be significant places that Jirrbal people visit today.
- J6 described the turtle story that crosses the Project area via the rivers and watercourses. The story describes how the turtle came to live and breed in the rivers.
- The Twin Sisters or Three Sisters story that is relevant to mountains east of Arthur's Seat (outside the Project area).

Walking tracks and campsites

Jirrbal people moved around their traditional country using established tracks that linked people to their neighbours, to resources, to story places (walking tracks often followed the movements of the creation beings), cultural sites and economies. In the rainforest, clear and open tracks were maintained between major campsites, generally following routes along ridge tops and over low saddles. The Kareeya powerline follows one of these walking tracks (Duke and Collins 1994).

Aboriginal informants referred to tracks in previous studies (e.g. Roberts et. al. 2021). One of the tracks referred to went from the top of Tully Falls to near the site of Kareeya power station at the base of the gorge. Other tracks went east to west, linking Tully Falls to Kirrima and Millaa Millaa. Many of the pack tracks marked on early survey maps and plans coincide with Aboriginal walking tracks. For example, a map of Culpa Lands (east of the Project Area) shows a carved tree along this route and clearings on the Tully River are at times marked "Abos clearings" [sic] (Campbell 1923). There is no doubt these maps are referring to Aboriginal campsites and walking tracks. The pack track (later the mail run) crossing Wooroora and Glen Gordon Stations on old maps is thus the extension of an Aboriginal walking track from Echo Creek, leading to a section of the Tully River near the old Culpa goldfield, continued on to Koombooloomba Pocket and out into the 'dry' country to the west. This same track was used by Edmund Kennedy in 1848 (Ferrier 2015). The approximate route of the track is relatively well known. From a base camp near the junction of Cochable Creek, the expedition ascended the Cardwell Range in the vicinity of Mt Theodore. They crossed the

¹⁷ Individual knowledge holders did not wish to be named for this report and therefore "J" identifiers are used to protect the identities of these individuals.



Upper Tully River in the vicinity of Urumbal Pocket, crossing Carron Creek, Nitchaga Creek and eventually Blunder Creek.

Jirrbal people had access to both rainforest resources in the east, and resources of the wet and dry sclerophyll forests to the west. The zone between the wet and dry, the wet sclerophyll zone, is well known to contain large Aboriginal campsites. Murubun rock shelter, the oldest dated occupation site to the rainforest in Jirrbal country, is in close proximity to the Project Area. The archaeological record at Murubun revealed stone artefacts linked to toxic plant processing, including fragments of slate grinding stones known to have been used in the processing of yellow walnuts (Cosgrove et. al 2006). The evidence from Murubun clearly demonstrates that Jirrbal people utilised resources from a wide range of environments, traded lithic materials with other groups, and processed rainforest resources in locations outside of the rainforest.

Over 800 artefacts were collected from the surface of one site on the (then proposed) Kareeya powerline in 1985. In 2021, the Jirrbal survey team had some discussion about what such a large artefact scatter would represent. People clearly spent a lot of time at this location, the artefacts representing a comparatively large Jirrbal open campsite before European settlement. It is possible that the road and the powerline follow old Jirrbal walking tracks and that the camp was located where the two tracks met. This is an example of what is likely to be found remaining from a large camp in the Project Area, particularly on the flat banks of the rivers and creeks, which are likely to have remains of large and small campsites, bora grounds and culturally modified trees.

Supermarket Ecosystems

The 'little green pockets' along the creeks were highly prized camping areas for Jirrbal people. These areas have a high potential for archaeological remains, particularly artefact scatters and culturally modified trees. The little green pockets were described by senior Jirrbal people as supermarkets for the Old People. These areas provide important Jirrbal resources such as grasses for weaving, plant food and animals. One example of how rainforest Aboriginal people manipulated vegetation communities with fire (NHL criteria f).

The common attributes of these areas were described by Jirrbal fieldwork participants:

- Contain edible grass seeds, such as lomandra.
- Large eucalypt and bloodwoods with hollows for possums and gliders.
- Often on the rainforest edge and ecotone.
- Contains yams, as seen by vines growing up the trunks of trees, usually gum trees.
- May have grasses for weaving, such as lomandra.
- Provides access to wet (rainforest) and dry (open woodland) areas and resources.
- These areas were supermarkets at the right time of year.

This description best aligns with Regional Ecosystem (RE) RE7.12.21. The Department of Environment and Science describes RE7.12.21 as

Eucalyptus grandis open forest to woodland, or *Corymbia intermedia*, *E. pellita*, and *E. grandis*, open forest to woodland, (or vine forest with these species as emergents) on granite and rhyolite.

Trees typically found in RE7.12.21 include *Eucalyptus grandis* (rose gum), *Corymbia intermedia* (pink bloodwood) and *E. pellita* (stringybark). RE7.12.21 needs to be maintained by fire, when fire ceases the ecosystem may be taken over by a vine understory. The use of fire in maintaining RE7.12.21 is important because it indicates that the environment was managed by Aboriginal burning in the past. Slow mosaic burns were used in the rainforest to protect important food trees and other vegetation from hot fires, to keep tracks and campsites clear of encroaching rainforest for easy



travel, and to alter the vegetation to create areas with food resources. In the dryer country, cool burns were used to prevent wildfires, as a hunting strategy to 'flush' out kangaroos and other marsupials through the creation of areas with green grass.

The little green pockets are different to the living and ceremonial pockets described above. The little green pockets describe 'supermarket ecosystems' that were managed by Aboriginal people using fire for resources. The little green pockets provided a large and diverse range of resources for food and material culture and were often located in places with access to both dry and wet environments.