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Dear s22

Re Variation to application

10/12/17

Under section 156A(1) of the Environment Protection and Biodiversity Conservation Act 1999 (Cwth), I request to vary the proposal for Meadowbank Station vegetation clearing for high value cropping, south of Mt Garnet, Queensland (EPBC 2016/7838).

Current proposal

To clear 1,475 hectares for the production of forage and grain crops on Lot 537, SP132224, Meadowbank Station, 100 km south of Mt Garnet, Queensland

In accordance with regulation 5.08, the following information is provided for a request to vary a proposal to take an action

(a) details of the proposed variation to the action;

To reduce the area of clearing from 1475 ha to 1365 ha.

(b) the reasons for the proposed variation;

The initial area of the referred land clearing (1475 ha) has been reduced to 1365 ha due to avoiding 106.8 ha of greater glider habitat.

(c) how the impacts of the proposed variation on matters of national environmental significance compare with those of the original proposal;

The result of reducing the land clearing area is that there will be no direct impact on the Greater glider habitat.

(d) if applicable, the impacts of the proposed variation on matters of national environmental significance not considered in the referral or assessment of the original proposal;

Not applicable.

(e) if applicable, alternatives, mitigation measures and offsets to compensate for additional impacts on matters of national environmental significance.

Not applicable.

Regards

s47F

s11C(1)(a)

Meadowbank Station



EPBC Ref: 2016/7838

s11C(1)(a)
s11C(1)(b)

Dear s11C(1)(a)

**DECISION ON REQUEST TO VARY PROPOSAL- MEADOWBANK STATION
VEGETATION CLEARING FOR HIGH VALUE CROPPING, SOUTH OF MT GARNET,
QUEENSLAND (EPBC 2016/7838)**

I refer to your letter of 11 December 2017, requesting a variation to the Meadowbank Station vegetation clearing for high value cropping, south of Mt Garnet, Queensland (EPBC 2016/7838) determined a controlled action under Part 3 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) on 10 February 2017.

After examination of all relevant information, I have considered the request to vary the proposal under section 156A of the EPBC Act.

As a delegate of the Minister for the Environment, I have decided to accept the variation to the proposal, as described in your letter received by the department on 11 December 2017.

A copy of the notice recording this decision is enclosed.

The request to vary the proposal and the notice recording the decision will be published on the department's website, in accordance with the provisions of the EPBC Act.

I note that all provisions under the EPBC Act have ceased to apply to the original proposal and now apply to the varied proposal, and that for the purpose of the application of those provisions, anything done in relation to the original proposal is taken to have been done in relation to the varied proposal.

If you have any questions about this decision or the assessment process, please contact the project manager, s22, by email to s22@environment.gov.au, or by telephone s22, and quote the EPBC reference number shown at the beginning of this letter.

Yours sincerely

James Barker
Assistant Secretary
Assessments and Governance Branch

14 December 2017




**Notification of
VARIATION OF PROPOSAL TO TAKE AN ACTION**

**Meadowbank Station vegetation clearing for high value cropping, south of Mt Garnet,
Queensland (EPBC 2016/7838)**

This decision to accept a variation to the proposal to take an action is made under section 156B of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Variation to proposal to take an action

Person proposing to take the action	s11C(1)(a) ABN: 21 465 266 042
Original proposed action	To clear 1,475 hectares for the production of forage and grain crops on Lot 537, SP132224, Meadowbank Station, 100 km south of Mt Garnet, Queensland [See EPBC Act referral 2016/7838].
Varied proposed action	To clear 1,365 hectares for the production of forage and grain crops on Lot 537, SP132224, Meadowbank Station, 100 km south of Mt Garnet, Queensland [See EPBC Act referral 2016/7838].
Person authorised to make this decision	
Name and position	James Barker Assistant Secretary Assessments and Governance Branch
signature	
date of decision	14 December 2017

s22

From: s11C(1)(a) s11C(1)(b)
Sent: Tuesday, 30 January 2018 10:14 AM
To: s22
Subject: Fw: REPLY TO CONDITIONS OF APPROVAL MEADOWBANK APPLICATION
Attachments: MEADOWBANK Re Proposed Proposal reply word doc.odt.docx

Dear s22 ,

With luck you should be able to open in word if you were not able to open in Open Office writer.
Please call me when you receive this to go over it.

Regards

s11C(1)(a)

Cameron Stock & Rural

s11C(1)(b)

s11C(1)(a)

s11C(1)(b)

s47F

Sent: Tuesday, January 30, 2018 8:59 AM

To: s22 [@environment.gov.au](mailto:s22@environment.gov.au)

Subject: REPLY TO CONDITIONS OF APPROVAL MEADOWBANK APPLICATION

Dear s22 ,

Please find attached our reply to the conditions of approval we received from you. I am having trouble with my laptop which has Microsoft Word program, so I have used another laptop which has Open Office on it. I will endeavour to also send from the Word program just encase you cannot open, Open Office writer.

Regards

s11C(1)(a)

Cameron Stock & Rural

s11C(1)(b)

Email: s47F ; s11C(1)(b)

s11C(1)(a) s11C(1)(b)

Re Proposed Proposal

Meadowbank Station vegetation clearing for high value cropping, south Mt Garnet, Queensland (EPBC 2016/7838)

Proposed action

To clear 1,365 hectares for the production of forage and grain crops on Lot 537, SP 132224, Meadowbank Station 100 km south of Mt Garnet, Queensland.

ANNEXURE A

Part A.

Reply to conditions specific to the action as requested by the author of the approval.

1. The area to be cleared is 1,365 hectares as outlined on attached map.
2. A area of 106.8 hectares has been set aside by the applicant for Greater Glider habitat. This area joins other country north and south east of the outlined area that the applicant has chosen not to clear.
 - This other area may or may not have been part of the area applied for on the original application. Documents show that at a stage during the process the area applied for was 6178 hectares, now reduced to 1365 hectares. By this reduction the applicants have demonstrated their willingness to be very mindful of sensitive areas on the property including watercourses and wetlands and the lookout for the possible destruction of native wildlife habitat. This is why they were very surprised at the further reduction in area of a further 106.8 hectares, when already a large area has been surrendered for one purpose or another.
 - It is to be noted that we have had ownership of Meadowbank since January 1989, we have not seen a Koala, Greater Glider or other animals that were listed on the original papers we were sent. It took three suitability qualified persons several nights to identify and establish what they have identified.

Part B.

Reply to Standard administrative conditions

3. Advise Department within 20 days from commencement that the action has commenced.
 4. See no purpose in the Department auditing our records as verification by satellite mapping will establish what has taken place. We are clearing land because its been identified as being suitable for High Value Ag development, a important action needed to secure safe food production in Northern Queensland. The result of our action is there will be only a small amount of country cleared, as adjacent to the clearing there are many tens of thousands of acres of country the same or similar to what we are clearing. The records we keep as part of our daily management are diary notes and where possible update our mapping on our Phoenix mapping program. With the husbandry and welfare of livestock during this present on going drought being our prime number one main concern the need to be generating records for audit purpose will be very demanding and time consuming. We are not a big company doing multimillion dollar projects that may impact on areas of concern, we are a small farming family. By improving some of our country we are endeavouring to semi drought proof our property by being able to grow and store feed. This is part of the cycle to increase production securing more and better quality produce as the need to do so was identified by a previous government. Also being able to produce better and more reliable feed supplies we anticipate that in future droughts we should be able to better look after our livestock.
 5. Advice of non compliance will be put in place as requested, we understand the importance of this requirement. We use GPS guidance and will do our best endeavours as we have done in the past where we have cleared Virgin country and Regrowth which was cleared strictly in accordance with the permit and the
-

accompanying mapping showed. If we are unaware that a non compliance issue has arisen and you were not advised of the non compliance, we cannot take responsibility for this. We will though advise the Department if we are aware that a non compliance issue has arisen. With the present political climate in Queensland regarding land clearing forced upon us by the Labour Government I feel sure we will be watched by many eyes that we comply to every requirement of the mapping permit.

6. AS per the details in item 4 above. Firstly as mentioned we are a small farming family we do not have a website, never had the need to have one. We also do not know when the clearing will commence. All that the report would show, is that we cleared 110 hct of trees on a given date? There is no information generated from what we are doing other when we start and when we finish. All other information is in the application. Our project is not a ongoing project, its a one off project, the requirement to publish within 3 months every 12 months is again a burden, and there will be no extra information that will be available every 12 months. Once completed, and the 106.8 hectares is left intact then we have accomplished what has been required of us. The burden to supply irrelevant non existing extra information that will be of no interest to anyone is again as I have stated a waste of time and good money. If there are doubts about this refer to the two times we had to publish our position as part of this process, not one reply.

7. With the expense we have had so far with this application over 3 plus years since we first submitted the application more expense to employ a Independent auditor we feel is a excessive requirement. We have throughout this whole process been extremely amicable and acceptive to all recommendations and proposals, which have cost a large amount of money and reduced the size of the project from some 6178 hectares to the present 1365 hectares. The burden of time and money to comply with this requirement for us is a very big ask. Large companies have specialists who do this for them as their projects could be extremely sensitive and impact on populations and habitat. The habitat that could have been impacted by our clearing has been identified and measures put in place to preserve it. No offsets have been needed to compensate for destruction of habitat as there will not be any habitat destruction. I have pointed out that we have reduced our application considerably and areas not covered by the permit adjoin the 106.8 hct, this adjoining area provides many tens of thousand of acres of similar or same country. The way the I understand that the permit is being read is that we are removing a large percentage of habitat, this is incorrect, the 106.8 hct being left is part of and joins as mentioned many tens of thousands of virgin untouched woodlands.

s22

Vegetation Clearing for High value Cropping

Meadowbank Station, South of Mt. Garnet,

Qld (EPBC 2016/7838)

Fauna, Flora and Habitat Assessment

Submission Date: 17 October 2017

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Summary

In March 2017 a field assessment of threatened species, vegetation and habitat was made of the proposed area of 1470ha to be cleared for cropping on Meadowbank Station, far north Queensland. Of the list of threatened species considered for the area, only the greater glider (*Petauroides volans*) was found, and just 1 (or possibly two individuals) at the same location. The habitat was generally unsuitable for the greater glider as the vegetation was dominated by relatively small stature, narrow-leaved ironbark (*Eucalyptus crebra*) rather than the preferred species Queensland bluegum (*E. tereticornis*) (Smith et al. 2007). The s11C(1)(a) family have agreed to avoid the woodland dominated by Queensland bluegum that includes the location in which the greater gliders were observed.

There was no direct or indirect evidence for the northern quoll, koala, ghost bat or the black-throated finch. Nevertheless, the proponent will provide additional resource patches throughout the broadacre clearing areas to facilitate any animals, such as transient koalas, moving across the landscape. Therefore, provided the Queensland bluegum woodland is avoided and refuge patches available there will be no significant impacts to any of the nominated Matters of National Environmental Significance.

The Regional Ecosystem dominating the clearing area was confirmed as RE9.8.4 and is described as follows: Open woodland to woodland of *Eucalyptus crebra* (sens. lat.) (narrow-leaved ironbark) and/or *E. tereticornis* (bluegum). The mid-layer is generally absent. Occurs on basalt plains and rocky basalt plains and hills. Under the Vegetation Management Act it is classified as *Least Concern* and its Biodiversity Status is *No Concern at Present*. In a regional context there is 147,000ha mapped with the same RE within a 30km radius of the proposed clearing area. Good connectivity of similar habitat will remain once the proposed activity is completed.

1. Introduction

On 10 February 2017 James Barker, Assistant Secretary to the *Assessments and Sea Dumping Branch*, Commonwealth Department of Environment and Energy recommended that a fauna, habitat and vegetation investigation be conducted on the proposed vegetation clearing application for high value cropping on Meadowbank Station, south of Mt. Garnet. Further information for the proposed activity was recommended to provide ‘*additional*

information for assessment by Preliminary Documentation'. The additional information content is detailed in 'Attachment A' within Appendix One of this report. It covers:

1. Threatened Species Impact Assessment: On-ground surveys for the following species;
 - a. Greater glider (*Petauroides volans*) - vulnerable,
 - b. Koala (*Phascolarctos cinereus*) - vulnerable,
 - c. Black-throated finch (southern), (*Poephila cincta cincta*) - endangered,
 - d. Northern quoll (*Dasyurus hallucatus*) - endangered, and the
 - e. Ghost bat (*Macroderma gigas*) - vulnerable

The impact assessment also evaluates the vegetation to be cleared in a regional context.

2. Environmental Offsets.
3. Avoidance, safeguards and mitigation measures.
4. Environmental record of person/s proposing to take action; and
5. Economic and social matters.

Threatened Species Impact Assessment

Meadowbank Station Overview

Meadowbank Station is a cattle grazing property of 21 500ha. The proponent is looking to further improve cattle management strategies and to drought proof the operation by introducing high value cattle forages.

Following the original clearing application to the Queensland government the s11C(1)(a) family made a decision to reduce the clearing area from over 6000ha to the current State approved 1470ha. This was a conscious decision, not only with the consideration of preserving the current native grass and woodlands but also with that of preserving a wetland and its surrounding woodlands in the south east part of the property. The wetland supports many birds and animals and is surrounded by a woodland containing *Eucalyptus tereticornis*, Queensland bluegum.

Queensland bluegum is a preferred species for the greater glider. These trees are larger in size with more suitable denning hollows which provide higher launching sites for movement through the forest. Queensland bluegum is also an important source of nutrition for the folivorous greater glider (Smith et al. 2007). Most other parts of this property are dominated by the smaller and more sparsely distributed narrow-leaved ironbark that offer less suitable glider habitat.

The s11C(1)(a) firmly believe that there needs to be a balance between agriculture and the natural environment and the wildlife it supports. The decision to reduce the initial amount of vegetation clearing by over four and a half thousand hectares is a testament in maintaining that balance between sustainable agriculture and healthy ecosystems.

In addition, there has been a conscious effort to identify and select land which is most suitable for cropping and to exclude any unsuitable land. For example, rocky areas will not be cleared. The complex polygon for proposed clearing illustrates the effort in avoiding such rocky areas (Figure 2). The s11C(1)(a) will maintain this management strategy throughout the clearing activity. That is, any parts of the proposed clearing with considerable acquisition of rock will not be cleared to ensure that native grass and woodlands will maintain their current grazing and environmental values. They believe that unnecessary clearing, that cannot be properly cropped, will increase the likelihood of invasive weeds and destroy the balance of the more valuable native pastures. Additionally, during this process, the proponent has realised the importance of a patch of Queensland bluegum to a small population of greater gliders utilizing this habitat. Consequently the proponent has agreed to avoid this patch of bluegum amounting to 106.8ha, Appendix 4, Figure 1. Therefore the clearing will be reduced to 1363.2ha.

The s11C(1)(a) currently maintain a management strategy that ensures native pastures are conservatively grazed and that good ground cover is maintained. From our 17 vegetation plots and from casual observations made during walk and drive transects we noted an abundance of high-value native grasses with excellent ground cover. This ensures that there is minimal erosion and sedimentation, that the quality of the high value perennial grazing grasses are maintained and that noxious weeds and least preferred non-endemic grasses are kept to a minimum. The farm does however experience extended and unpredicted dry seasons that can put unexpected grazing pressure on the farming system. In order to prevent overgrazing and the risk of losing the current balance of native pastoral grasses the s11C(1)(a) would like incorporate high value crops such as sorghum into their farming program. The grain and silage can be stored onsite and used to supplement their feeding program, especially when native grasses are limited. Overgrazing can cause erosion and weed invasion. The introduction of a cropping system will bring ongoing long-term benefits by reducing grazing pressure.

2. Fauna, Flora and Habitat assessment

From the 7 to 9 March 2017 Landline Consulting conducted a fauna survey and habitat assessment for the following threatened species:

- a. Greater Glider (*Petauroides volans*)-vulnerable,
- b. Koala (*Phascolarctos cinereus*)-vulnerable,
- c. Black-throated Finch (*Poephila cincta cincta*)-endangered,
- d. Northern quoll (*Dasyurus hallucatus*)-endangered, and the
- e. Ghost bat (*Macroderma gigas*)-vulnerable

An evaluation of vegetation types was also conducted to confirm that broad vegetation types correlate with corresponding government regional ecosystem mapping.

2.1 Assessment Team

The assessment was conducted by botanist, s47F and vertebrate ecologist, s11C(1)(a)

Qualifications

s11C(1)(a) was a research officer for CSIRO, Wildlife and Ecology for over 21 years. s11C(1)(a) has extensive knowledge in mammal, bird and fish; trapping, handling, identification and survey techniques.

s47F has over 22 years experience with the Queensland Department of Primary Industries. During this time s47F spent considerable time mapping regional ecosystems for agricultural land suitability across northern Queensland.

Fauna

Fauna surveys were undertaken for each of the five listed species. Walk, drive and fixed point observations were made. Key habitat searches for each of the species were also performed to maximise the chance of encounters. Direct and indirect observations were recorded. Indirect observations were those of scats, tracks or any other markings, such as bark scratching, that would indicate the presence of the target species. Direct observations were visual or audible records of the species. A full list of the observed mammals and bird species is given in Appendix 2 and Tables 1 and 2.

2.2 Black-throated finch (southern), *Poephila cincta cincta*

Method

Over 4 hours of fixed point sampling for black-throated finches were performed. The fixed sites specifically targeted the catchment dam and along ephemeral streams that are the best habitat in the area to observe finch activity (Figure 1). In addition to the morning and afternoon fixed point observations were 5.5km (3hrs) of walk transects targeting best finch habitat (Figure 2). Supplementing the above activities were drive-transects of over 72km, other walk transects of 6.5km, and over 7 hours of observations during habitat and vegetation plot assessments. Table A describes recommended and actual survey effort for this species. There is also a recommendation to survey around nesting sites of the black-faced woodswallow, however no woodswallows were detected.

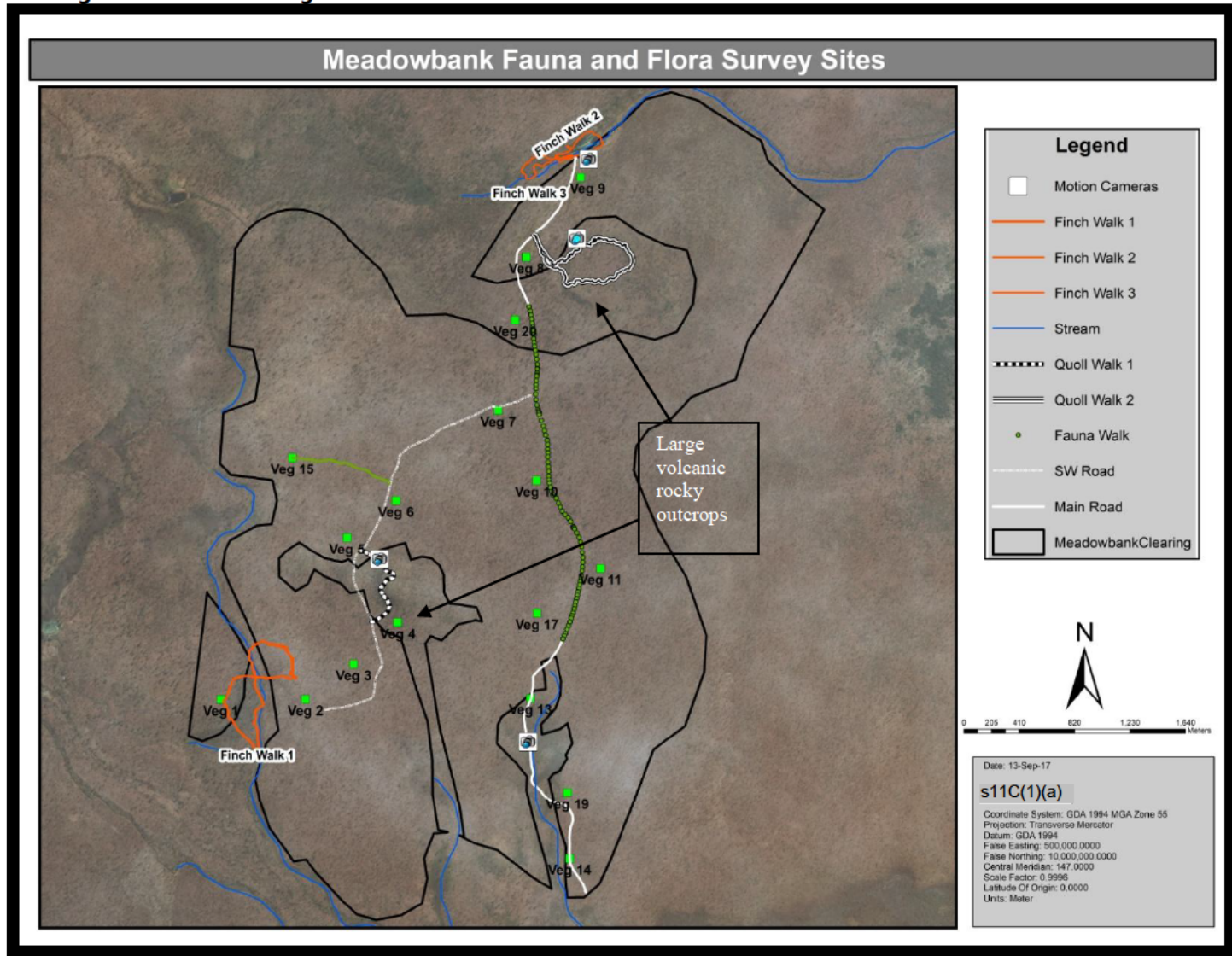
Table A. Recommended and actual survey effort guidelines for the black-throated finch (southern).

Method	EPBC Guideline, hours(days)	Actual
Land-based area searches	10(5)	>20
Targeted Searches (waterholes and woodswallow nests)	6(2)	7(3)

Figure 1. Fixed monitoring point for black-throated finch (dam site located outside of the proposed clearing area)



Figure 2. Fauna and vegetation assessment sites.



Observations - Black-throated finch

The extensive searches recorded no black-throated finches. In fact there were no observations of any finches or mannikins of any kind. There was an abundance of native grasses and grass seeds such as *Themeda triandra* kangaroo grass, black spear, giant spear and cane grass, Figure 3. However there were none of the preferred black-throated finch grasses such as sabi grass, tropical crab grass, red natal or Rhodes grass. There was a notable absence of an understory to provide cover and potential nesting sites and refuge for finches (Figures 4a, b and c).

Figure 3. Showing dominant tree (*E. crebra* narrow-leaved ironbark) and grass species (kangaroo grass, black speargrass)



Figure 4 a. The absence of understory is typical of this open woodland type.



Figure 4b Predominantly open ironbark woodland with no understory.



Figure 4c. More ironbark woodland lacking suitable understory habitat for finches.



Summary

There were no black-throated finches detected during this assessment. There is a lack of suitable understory for nesting and refuge, there are no preferred forage grasses plus there is a lack of permanent water sources and ephemeral stream flows are short lived during significant rain events. There were no other finches or woodswallows evident during this survey that might be associated with the black-throated finch. Therefore from the best of our knowledge gathered during this survey it is unlikely that this landscape offers suitable habitat for these finches.

Please refer to the Significant Impact Assessment summary table for further review of this species (Appendix 4).

2.3 Greater Glider, *Petauroides volans*

Method

Spotlighting is the most effective way to detect the greater gliders and is a recommended method under the government guidelines for detecting nocturnal arboreal mammals. Under spotlight greater gliders have a very clean eye shine that can be clearly seen up to 150m away in open woodland. Prior to spotlighting, suitable habitat was noted during daytime searches such as suitable hollows and resource trees as per guideline recommendations. Close attention was made to these sites during spotlight searches.

Five hours of spotlighting with two investigators were conducted, concentrating on the only two roads passing through the study area. The main road bisected the property from north to south and was a distance of 6.1 km and the second road ran south west through the proposed activity for 4.0 km (Figure 5). Spotlighting was conducted on two nights from a vehicle creeping along with no extra throttle in first gear at walking speed. The nights were partly cloudy with a light breeze. There were two observers covering each side of the road. LED spotlights were used to observe 125m into the open forest, see Figure 5. The total distance of spotlighting, including the return route, was 20.2km covering a combined area well over 500ha.

Observations

There were 2 greater glider observations for the two nights of spotlighting. The observations were recorded on consecutive nights within close proximity of each other, near the intersection of the two roads (Figure 5). There is a strong likelihood that it was the same individual.

The sightings took place in an area that has a higher density of *E. tereticornis* blue gum (Queensland bluegum) as was noted in the vegetation surveys for sites 7, 8 and 20. As suggested by Wormington *et al.* 2002, the most important factor in the presence of greater gliders and yellow-bellied gliders within the dry sclerophyll forests of South East Queensland are the higher proportions of spotted gum (*Corymbia citriodora*) and forest red gum (*Eucalyptus tereticornis* also known as Queensland bluegum). Appendix 4, Figure 1 identifies the location of woodland dominated by *E. tereticornis*. However the majority of the proposed activity is dominated by *E. crebra* narrow-leaved ironbark (narrow-leaved ironbark) (see Appendix Three, Table 1 and Figures 3, 4a, 4b and 4c). *Eucalyptus crebra* on this property are small in stature with average heights of 10-15m with limited denning opportunities compared with the larger *E. tereticornis* (blue gum) woodlands. The sites dominated by *E. crebra* have a more broken canopy structure with a very limited capacity for gliders to move from one tree to the next.

An assessment of the number of trees for each site that allow for movement of gliders from one tree to nearest neighbour was performed. This was based on an approximate glide factor of 1.8, Jackson 1999. Within those sites dominated by *E. crebra* only 35% of surrounding trees meet the criteria for being close enough to gliding access. However the actual percentage is probably much lower than this due to the poor canopy structure and grass layer that would decrease the height of the available tree trunk. Whereas for those locations dominated by *E. tereticornis*, 70% of surrounding trees were within gliding range. Therefore there are at least twice as many opportunities to move from one tree to the next within the *E. tereticornis* woodland.

Figure 5. Greater glider observations indicated by the pink dots. Spotlighting coverage in yellow.

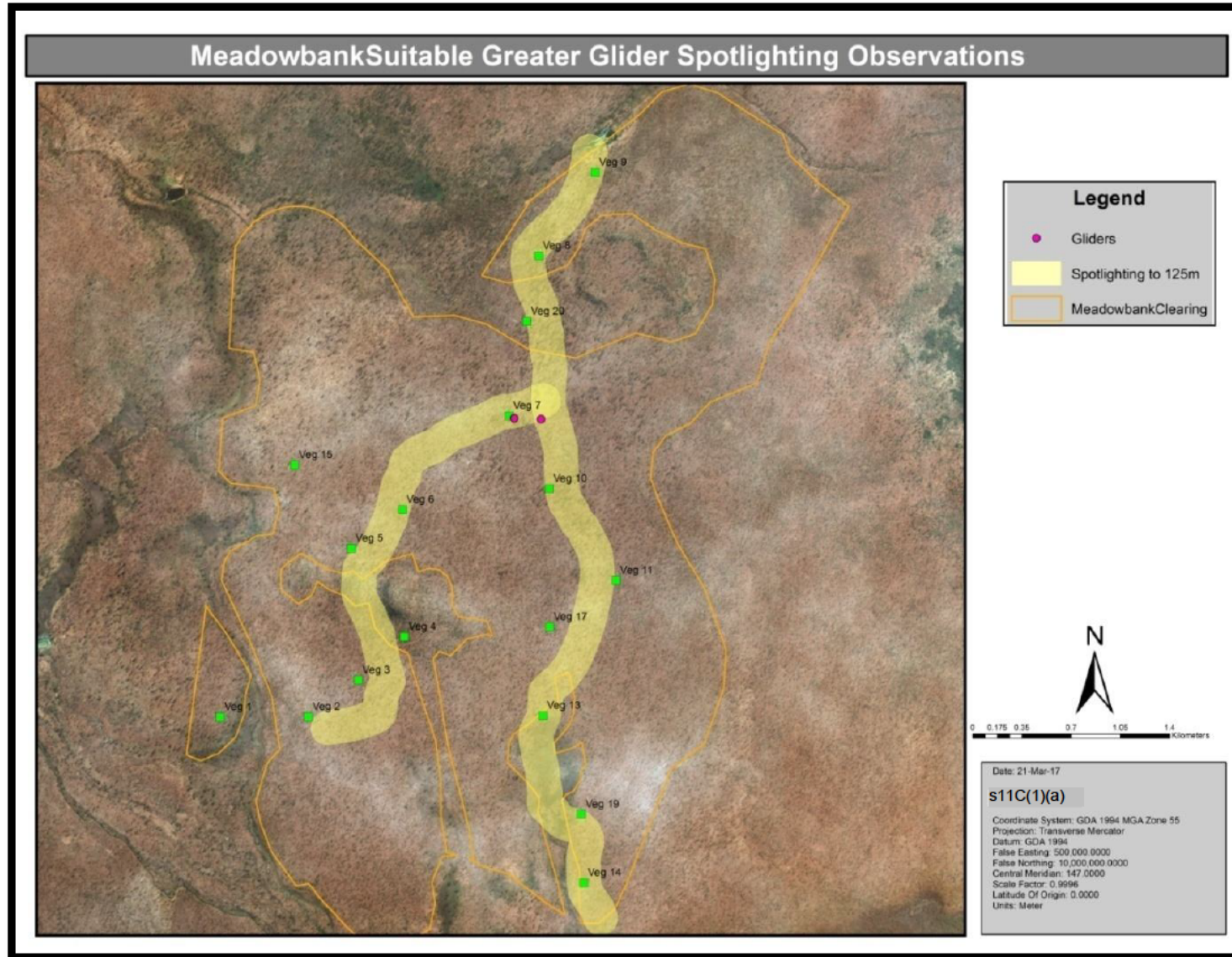


Figure 6. Typical landscape of the proposed activity. Site dominated by *E. crebra*, narrow-leaved ironbark, with occasional *E. tereticornis* blue gum (in the background).



Summary – greater glider

The following is advice provided by the Commonwealth government, Threatened Species Scientific Committee; ‘Conservation Advice for *Petauroides volans* (greater glider)’:

‘It (greater glider) is typically found in highest abundance in taller, montane, moist eucalypt forests with relatively old trees and abundant hollows (Andrews et al., 1994; Smith et al., 1994, 1995; Kavanagh 2000; Eyre 2004; van der Ree et al., 2004; Vanderduys et al., 2012). The distribution may be patchy even in suitable habitat (Kavanagh 2000). The greater glider favours forests with a diversity of eucalypt species, due to seasonal variation in its preferred tree species (Kavanagh 1984).’

Response: The proposed activity on Meadowbank is non-montane with little eucalypt diversity. The proposed clearing is dominated by narrow-leaved ironbark. Therefore this site is dominated by non preferred habitat of the greater glider.

‘During the day it shelters in tree hollows, with a particular selection for large hollows in large, old trees (Henry 1984; Kehl & Borsboom 1984; Lindenmayer et al., 1991; Smith et al., 2007; Goldingay 2012).’

Response: This site is dominated by smaller *narrow-leaved ironbark* with few adequately-sized den hollows. Larger tree species are found within the *E. tereticornis* woodland.

‘Woinarski et al. (2014) estimate the population size to be greater than 100,000 mature individuals.’

One, possibly two separate animals were observed during the fauna assessment. These were located within the woodland dominated by *E. tereticornis*. If this woodland was removed then the animals within this area would be impacted, though it would be an infinitesimal impact on the overall population of 100 000 mature individuals. Even so the proponent has accepted that this woodland is important to greater gliders and other wildlife and has agreed that this woodland will be avoided to ensure there is minimal impact to greater gliders and other animals. Please refer to Appendix 4, Figure 1 that identifies the 106.8ha of *E. tereticornis* woodland that will be avoided by this proposed action.

Suitable Regional Ecosystems in context with Meadowbank Station

Within 30km of Meadowbank Station, the proposed clearing represents less than 1% of habitat suitable to the greater glider. It was calculated that a total of 147 000ha of suitable glider habitat surrounds Meadowbank Station within 30km, Figure 6a. The proposed clearing, 1363.2ha (1470ha minus 106.8ha) represents less than 1% of this. Additionally suitable habitat extend well beyond this include the preferred moist and cooler montane eucalypt forests to the east. The proposed activity will not impact upon the connectivity and the surrounding forests will remain contiguous.

On a national scale the estimated glider population of over 100,000 mature individuals ranges from Cooktown, a further 300km to the north, over 100km to the east and west and well over 2000km south to the southern parts of Victoria.

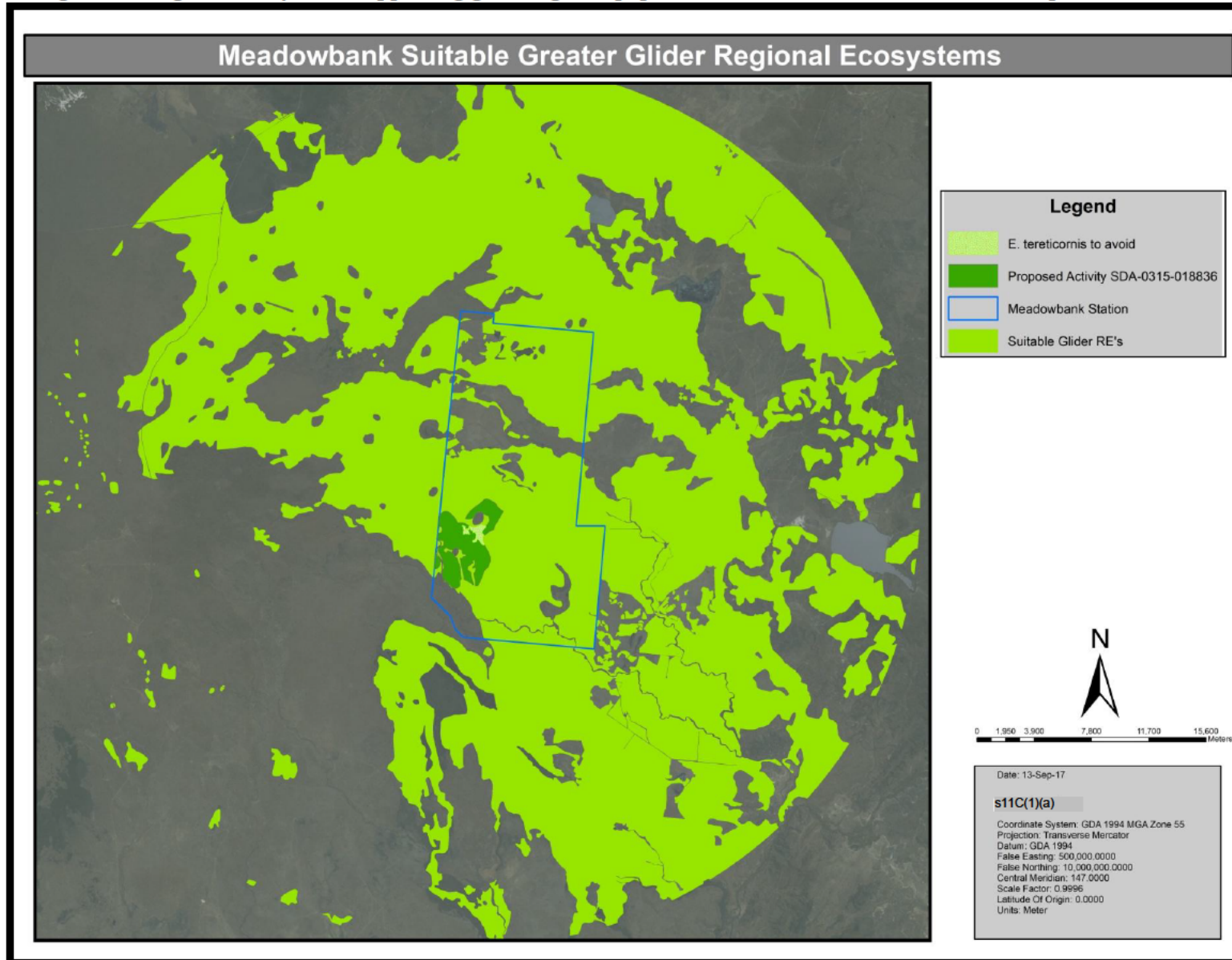
Although present within the proposed clearing we believe there will be no significant impact on this species. Most of the proposed activity is dominated by *E. crebra* woodland. This habitat along with climatic extremes would be considered as very marginal in its suitability for greater gliders. Those more suitable locations within the *E. tereticornis* woodland, will be avoided, as indicated by the 106.8ha of *E. tereticornis* that has been relinquished by the proponent.

Furthermore adequate connectivity will be maintained on completion of this activity. Plus the distribution of this species is vast, ranging from Cooktown to southern Victoria. Therefore the proposed clearing area represents an insignificant proportion of the total area suitable for the species.

Mitigation measures to protect any resident animals will be such as leaving any large hollow bearing trees for a period of 24 hours during the clearing process. This will give any animals sufficient time to vacate the clearing area safely.

Please refer to the Significant Impact Assessment summary table for further review of this species (Appendix 4).

Figure 6a. Regional ecosystems supporting greater glider populations based on suitable habitat tree species.



2.4 Koala, *Phascolarctos cinereus*

Methods

Observations were made for koalas during 72km of drive transects, 12km of walk transects and over 7 hours of observations during the vegetation/habitat assessments (Figure 2). Investigators were looking for koala sightings as well as indirect evidence such as koala scratching and scats, on and below trees respectively.

Observations

There was no direct or indirect observations of koalas during any of the monitoring activities.

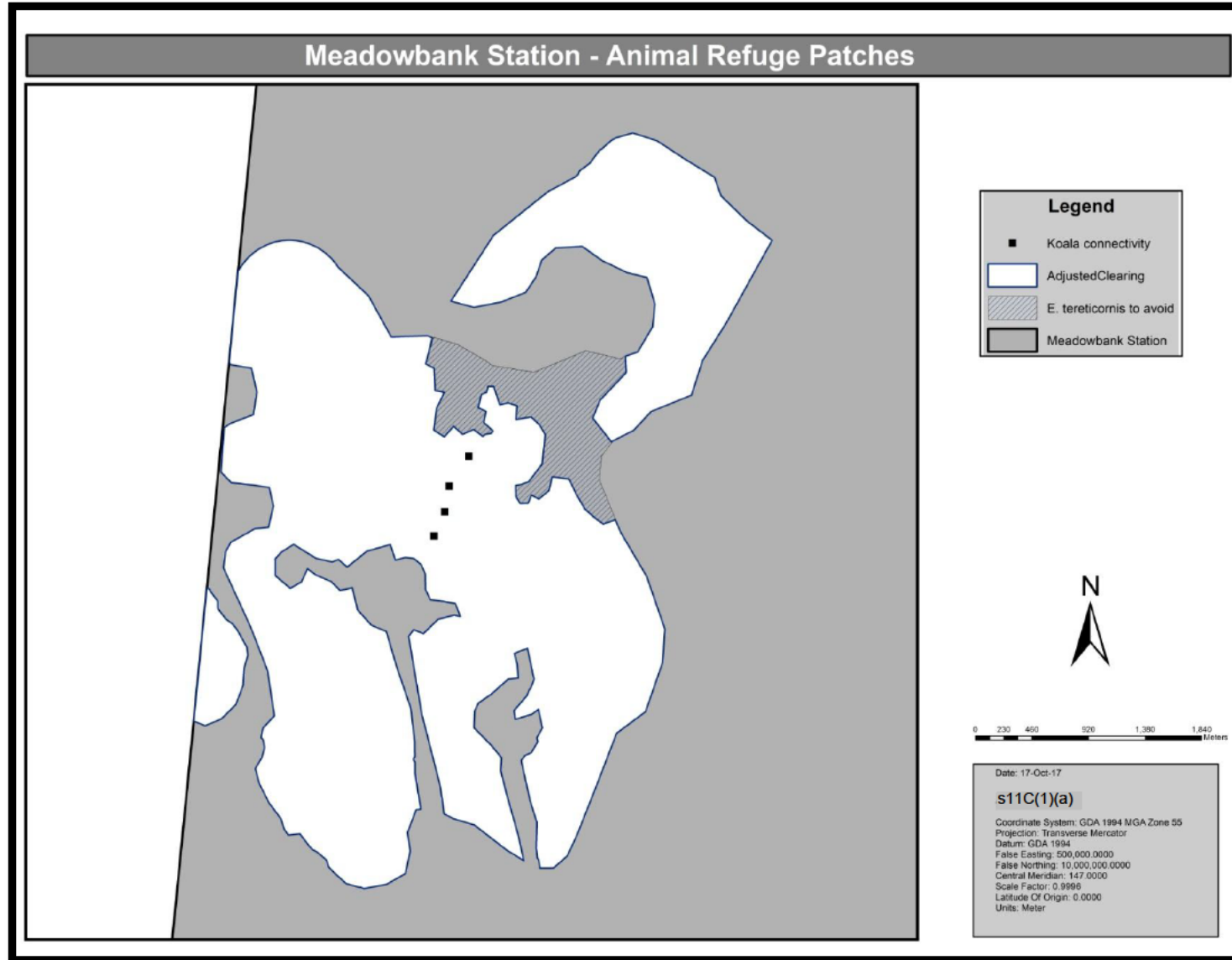
Summary

The s11C(1)(a) family has been working on this property for over 25 years. During this time there has been no koala sightings on this property nor have there been any official records. Our assessment confirms that koalas were not present at the site and unlikely to be permanent residence due to marginal habitat and climatic extremes. The site is dominated by a broken canopy of non-preferred *E. crebra*, it also lacks permanent water, with ephemeral streams running for short periods during wet season only and mean temperatures range from 26.5 to 34.2C during those extended dry periods where mean monthly rainfall ranges from 4.6 to 17.8mm. Clifton 2010 noted that koalas require a browse with at least 50% leaf moisture and those trees in areas with relatively high soil moisture are located within close proximity of riparian zones. All of the proposed sites have minor ephemeral drainage systems with no permanent water. These drainage lines only contain water for short periods after significant rain events, typically during the wet season. Again the reduced ground moisture during the extended dry season could be the main driver for the absence of koala's and low number of greater gliders. There is however, an area dominated by *E. tereticornis* recognised as a koala primary feed tree. Although this, as noted in the previous section for the greater glider, will be avoided. Hence protecting the woodland preferred by these two species.

Additionally if at any time there were koalas wishing to traverse the proposed activity there will be measures to help facilitate these animals across the open landscape. A minimum of four refuge patches that will contain suitable trees to provide shade, an opportunity to rehydrate and relief from any potential predators. These will be spaced at no more than 200m and will be located between the central rocky outcrop going north through to the *E. tereticornis* woodland, Figure 7. Within the referral document it has been noted that the proponent has no intention of clearing any areas with excessive rock and rubble which are unsuitable for cropping. This will potentially add to those locations suitable as koala refuge. The location and number of refuge patches will be submitted to the referral office before clearing commences.

Please refer to the Significant Impact Assessment summary table for further review of this species (Appendix 4).

Figure 7. Suitable refuge patches, to be identified before clearing, (black squares) for koalas crossing broadacre clearing.



2.5 Ghost bat, *Macroderma gigas*

Methods

The ghost bat is the largest microbat in Australia. Its distinct size, call and flight allows for easy detection during nocturnal survey. Spotlighting along with active daytime searches were used to search for the animal and its roosting sites (large caves). A recording of its distinct audible chirp was listened to by observers to become familiar with. Additionally casual observations were made for this animal around our camp at night.

As per the ghost bat surveys a total of five hours of spotlighting with two investigators were conducted, concentrating on the only two roads passing through the study area, Figure 5. Spotlighting was conducted on two nights from a vehicle creeping along with no extra throttle in first gear at walking speed. Visibility was excellent and the breeze was light. There were two observers covering each side of the road, Figure 5. The total distance of spotlighting, including the return route, was 20.2km covering a combined area well over 500ha. A thorough search of the rocky outcrops taking over five hours was performed as per the ground searching methods employed for the northern quoll.

Note: There are no survey guidelines provided by the Australian Government however the Queensland Governments Department of Science, Information Technology and Innovation provide some guidelines:

- Surveys should be completed between September and April. This survey; February
- Acoustic detection: 8 hours over 4 nights for every 100ha. This survey falls considerably sort of this but given there were no nearby roosting sites we believe our efforts were adequate.
- Roost searches at 2 hours per day. This survey performed a thorough search of any for any roost sites at all possible locations available. Namely the two rocky outcrops adjacent and surrounded by the proposed activity.

Observations

No ghost bat were seen or heard nor were there any, actual or potential, roosting sites found. Searches within the more prominent rocky outcrops, adjacent and surrounded by the proposed activity, had no caves or suitable roosting sites. The landscape of the proposed activity is a flat open woodland dominated by *E. crebra* that provides no suitable daytime roosting sites for the ghost bat.

Summary

Due to the lack of any suitable roosting sites, on or near the proposed clearing areas, there will be no significant impact on the ghost bat. Ghost bats have a relatively small home range home range of 1.9km from daytime roost (Tidemann et al., 1985). Given there were no suitable roost caves within the most likely locations, that is the rocky outcrops in the north eastern and south central areas, there is very little chance that the ghost bat will be impacted in any way by the proposed activity.

Please refer to the Significant Impact Assessment summary table, Appendix 4, for further review of this species.

2.6 Northern quoll, *Dasyurus hallucatus*

Methods

A desktop survey was first conducted to determine those within and/or near the proposed activity that would provide the most likely habitat to find the northern quoll. Two sites, not committed to but are however surrounded by the proposed activity were identified as the best sites to accommodate quolls. These sites are the rocky outcrops identified in Figure 2, that are curvilinear with a combined length of approximately 1100m. Once on the ground, reconnaissance surveys were conducted as per the EPBC Act referral guidelines, and these sites were assessed as suitable quoll habitat. EPBC guidelines recommend that there is one trap night per 100 linear metres.

Note: Even though these sites are to be avoided by the proposed activity our focus, was invested mostly within these two sites to maximise the likelihood of quoll detection to determine if there was a population near or within the proposed activity.

Three camera traps were set for three-day and two-night observations equaling 6 trap nights. Cameras were set adjacent to what was deemed the most suitable quoll habitat, such as rocky outcrops and log piles adjacent to and within the proposed activity. Camera traps were baited with fresh chicken wings to maximise the likelihood of a quoll encounter. Additionally, specific walk transects were performed on the identified rocky outcrops to look for possible quoll activity in the form of active dens, scats, smells or tracks. The specific quoll walks were over 5 hours taking in 3.7km (Figure 2). Evidence of these animals was also noted during drive transects, spotlighting, vegetation/habitat assessments, bird surveys, casual observations around camp and during other walk transects.

Observations

There were no signs or sightings of quolls for any of the observation techniques. There were hollow logs, hollows within trees along with small holes within the rocky outcrops that would be considered suitable for quoll dens. However there was no sightings or evidence of habitation. Camera images revealed activity by grey kangaroo, butcherbird and cattle.

Summary

Even though the number of trap nights (camera trap nights) conducted fell short of the recommended trap nights, I believe after many years of trapping wildlife, that the camera traps far outweigh the effectiveness of cage traps and the effort conducted during this survey was sufficient to detect the presence of quolls. Given there was no evidence of the northern quoll at either of those rocky outcrops the proposed activity will have no significant impact on the northern quoll.

If for whatever reason the northern quoll does choose to inhabit these rocky outcrops in the future then these sites are not within the current scope of the proposed activity and will remain intact and with good connectivity along the riparian zones to other well connected areas.

Please refer to the Significant Impact Assessment summary table for further review of this species (Appendix 4).

3. Vegetation assessment

Methods

Seventeen sites were selected to evaluate the flora in the proposed clearing against current regional ecosystem mapping (Figure 2). Each site was evaluated for its dominant tree, understory and grass species. Observations were made within a 100m radius of the observer. Weed species were also noted. Because of the homogenous nature of the landscape noting the five most dominant species captured at least 95% of plants for each of the tree, understory and grass species. Species were ranked 1 to 5 with one being the most dominant. A summary of flora observations from the seventeen sites is given in Appendix 3 - Table 1.

Regional ecosystem mapping identifies that the predominant vegetation groups are as follows:

Regional Ecosystem Mapping

Regional Ecosystem Mapping indicate the dominant ecosystems within the proposed activity are 9.8.4a (45% or 660ha), 9.8.4b (35% or 515ha) or, 9.8.1b (15% or 220ha) and 9.3.10a (5% or 74ha). The broad vegetation groups are mixed within the clearing polygon depending on the soil type and topographic features that these groups depend upon. The dominant vegetation groups likely to be found within this clearing activity are described below and an estimation of the area they would likely cover within this activity.

Description

Open woodland to woodland of *Eucalyptus crebra* (sens. lat.) (narrow-leaved ironbark) and/or *E. tereticornis* (blue gum). The mid-layer is generally absent. Occurs on basalt plains and rocky basalt plains and hills.

Vegetation communities in this regional ecosystem include:

9.8.4a: Woodland to open woodland of *Eucalyptus crebra* (narrow-leaved ironbark) or *E. granitica* (granite ironbark) +/- *Corymbia intermedia* (pink bloodwood) +/- *C. dallachiana* (Dallachy's gum) +/- *Corymbia tessellaris* Moreton Bay ash (Moreton Bay ash). Scattered canopy species and *Lophostemon suaveolens* (swamp mahogany) can sometimes occur in the sub-canopy. The shrub layer is absent to sparse. The ground layer is dense and grassy and is dominated by *Themeda triandra* (kangaroo grass) and *Heteropogon contortus* (Black speargrass). Occurs on basalt plains and rocky basalt plains and hills with varying depths of soil. (BVG1M: 11b)

9.8.4b: Open woodland to woodland of *Eucalyptus tereticornis* (blue gum) +/- *E. crebra* (narrow-leaved ironbark) +/- *Corymbia dallachiana* (Dallachy's gum) +/- *C. clarksoniana* (Clarkson's bloodwood) +/- *E. leptophleba* (Molloy red box) +/- *Corymbia tessellaris* (Moreton Bay ash). The mid-layer is absent to occasionally scattered plants. The ground layer is densely grassy and includes *Heteropogon contortus* (Black speargrass) and/or *Dichanthium* spp. Occurs on basalt plains and rocky basalt plains and hills with varying depths of soil. (BVG1M: 11b)

9.8.1b: Open woodland to woodland of *Eucalyptus leptophleba* (Molloy red box) +/- *C. erythrophloia* (red bloodwood) +/- *Corymbia dallachiana* (Dallachy's gum). An open sub-canopy layer containing canopy species can occur. The shrub layer is usually absent but scattered species including *Planchonia careya* (cocky apple), *Denhamia cunninghamii* (yellowberry bush) and *Carissa lanceolata* (currantbush) can occur. The ground layer is dense and grassy and dominated by *Heteropogon contortus* (Black speargrass) and *Themeda triandra* (kangaroo grass). Occurs on basalt plains and rocky basalt plains and hills with varying depths of soil.

9.3.10a: Palustrine wetland (e.g. vegetated swamp). Low woodland to low open forest of *Melaleuca bracteata* (black teatree) +/- *Casuarina cunninghamiana* (river sheoak) +/- *Eucalyptus leptophleba* (Molloy red box) +/- *Eucalyptus* spp. +/- *Corymbia* spp. emergents or vine scrub species. The shrub layer varies from absent, to a continuum with *M. bracteata* and dry rainforest species where these are present. The ground layer is dominated by tussock grasses such as *Heteropogon contortus* (Black speargrass), *Eragrostis* spp. and *Eulalia aurea* (silky browntop) or *Cyperaceae* spp. (sedges). This community is very variable in structure and can also occur as small clumps of trees in association with the grassland regional ecosystem 9.3.27 or as a dense sub-canopy layer of *M. bracteata* under a dominant canopy of *Casuarina cunninghamiana*. Occurs on or fringing swamps and springs on basalt.

Flora Observations for Proposed Clearing Areas

Tree Species

All seventeen sites contained *E. crebra* narrow-leaved ironbark while *E. tereticornis* blue gum and *E. dallachiana* were present at 13 sites, *C. clarksoniana* Clarkson's bloodwood (12 sites), *Corymbia tessellaris* Moreton Bay ash (3 sites) and *C. erythrophylla*, *Lophostemon sauveolens* swamp mahogany and *E. granitica* present at 1 site each. The most dominant species at 14 sites was *E. crebra* followed by *E. tereticornis* which was most dominant at 3 sites (Appendix 3, Table 1).

Understory Species

The understory was universally light to absent. The predominant species were Juvenile eucalypts as light tree thickening followed by scattered *Grevillea* sp (9 sites), *Acacia* and juvenile *Lophostemon sauveolens* swamp mahogany (2 sites) and coffee bush, *Melia azedarach* white cedar and bat's wing coral tree found on 1 site each (Appendix 3, Table 3).

Ground layer Species

The most dominant species making the ground layer were *Themeda triandra* kangaroo grass, *Heteropogon triticeus* giant speargrass, *Heteropogon contortus* black speargrass, native legumes and *Dichanthium sericeum* Queensland bluegrass. All seventeen sites contained *Themeda triandra*, *Heteropogon triticeus* (15 sites), *Heteropogon contortus* (11 sites), native legumes (6 sites), *Dichanthium sericeum* Queensland bluegrass (5 sites), *Indigofera*

pratensis forest indigo sp (4 sites), cane grass (3 sites), Bothriochloa bladhii forest bluegrass (2 sites) and Sarga plumosum plume sorghum, and Imperata cylindrica blady grass, Cymbopogon refractus barbwire grass, Sporobolus species and *Mnesithea rottboellioides* were all found on one site only (Appendix 3, Table 3).

Summary of vegetation

The type of tree, understory and groundlayer species observed at the Meadowbank vegetation sites were similar to those described in the regional ecosystem (RE) mapping. The dominant RE found within the proposed activity is 9.8.4 and is described as follows: Open woodland to woodland of *Eucalyptus crebra* (sens. lat.) (narrow-leaved ironbark) and/or *E. tereticornis* (bluegum). The mid-layer is generally absent. Occurs on basalt plains and rocky basalt plains and hills. Under the Vegetation Management Act it is classified as *Least Concern* and its Biodiversity Status is *No Concern at Present*.

REs 9.8.1b and 9.3.10a were not found in the proposed clearing area.

4. Environmental Offsets

No environmental offsets are necessary as there are no significant impacts on any of the listed threatened species.

The only National Environmental Significant species found during this assessment was the greater glider. Two animals (one each night) were observed amongst a small patch of *E. tereticornis* blue gum in the north central part of the proposed activity. This patch of trees is a small part of a larger patch of *E. tereticornis* found extending further to the north and west. However the larger part of this continuous *E. tereticornis* forest has been excluded from the proposed clearing activity. Therefore protecting this important habitat. As noted in previous sections the dominant tree species throughout this proposed activity is the less favourable *E. crebra* narrow-leaved ironbark with only a scattering of small and isolated patches of *E. tereticornis*.

5. Avoidance, safeguards and mitigation measures

a.) Avoidance, safeguards and mitigation measures have been discussed in the main referral document. Please refer to the conditions imposed by the Queensland government in its approval of the proposal, as set out below.

In addition to these State Government conditions the [s11C\(1\)\(a\)](#) family have agreed, as discussed within this document and referenced in Appendix 4(Figure 1), that the *E. tereticornis* dominant woodland would be avoided and not to be included within the scope of the proposed activity. This totals 106.8ha that will not be cleared for the benefit of the greater glider population within this woodland. It may also favour koalas if they are moving through this landscape. Additionally, there will be some refuge patches kept within the broad acre clearings to facilitate transient koalas moving through this landscape. See details in Section 2.4.

Our reference: SDA-0315-018836
 Your reference: Meadowbank Station

Attachment 1—Assessment manager conditions

No.	Conditions of development approval	Condition timing
Development permit for operational work for native vegetation clearing for high value agriculture		
Schedule 6, Table 3, Item 2: vegetation clearing —Pursuant to section 255D of the <i>Sustainable Planning Act 2009</i> , the chief executive administering the Act nominates the Director-General of Department of Natural Resources and Mines to be the assessing authority for the development to which this development approval relates for the administration and enforcement of any matter relating to the following condition(s):		
1.	a) The clearing of vegetation is limited to the extent identified as Area A (parts A1 and A2) as shown on Development Permit Plan (DPP) SDA-0315-018836, Sheet 1 of 1, dated 12 October 2016 and stamped approved (Map reference 7861,7961 and Derived Reference Points for GPS – 2 pages) b) Notwithstanding (a) above, in accordance with the Watercourse (Stream Order labels) depicted on Development Permit Plan (DPP) SDA-0315-018836, dated 12 October 2016 and stamped approved, the following shall apply: <ol style="list-style-type: none"> I. No clearing shall occur within 25 metres of the defining bank of the on-ground location of any watercourse with a stream order of 1; and II. No clearing shall occur within 50 metres of the defining bank on the on-ground location of any watercourse with stream order of 3. 	a) At the time of clearing b) At all times
2.	a) The permitted clearing must only occur to establish, cultivate and harvest the following crop: <ul style="list-style-type: none"> • Forage sorghum (hay, green-chop or silage) b) The crop must be sown within six months from the commencement of the clearing, and established prior to commencement of the subsequent wet season.	a) At all times b) Within six months from the commencement of the clearing

No.	Conditions of development approval	Condition timing
3.	<p>a) A Management Plan addressing Soil Erosion and Sediment Control and Salinity Management must be prepared by a suitably qualified professional. The Management Plan must achieve:</p> <ul style="list-style-type: none"> - no worsening of the existing levels of erosive soil loss from the land within or downslope of the subject land; - no degradation of soils or land within or downslope of the subject land; - no worsening of the salinity levels of the soil and surface or ground water as a result of changes in the hydrology of the subject land; and - no increase in the incidence of waterlogging. <p>In particular:</p> <ul style="list-style-type: none"> i. The soil erosion and sediment control component of the Management Plan must be prepared by a Certified Professional in Erosion and Sediment Control (CPESC) and developed in accordance with the International Erosion Control Association's 'Best Practice Erosion and Sediment Control (BPESC)' document; and ii. The salinity management component must meet the highest ratings in the Canegrowers (2013) <i>Smartcane BMP: Irrigation Module</i> and in particular, the following key areas: <ul style="list-style-type: none"> - calculating the amount of water to apply - calculating how often to apply water - seasonal allocation management - run-off and deep drainage - recycle pits (tailwater capture and recycling) - irrigation water quality testing - system management - overhead low pressure - surface drainage system design - erosion management. <p>b) Submit, for information purposes only, a copy of the Management Plan mentioned at part (a) of this condition to:</p> <p style="text-align: center;">Vegetation Management Department of Natural Resources and Mines Address: PO Box 5318 Townsville QLD 4810 Email: northvegetation@dnrm.qld.gov.au</p> <p>c) Carry out and maintain all required erosion and sediment control measures and salinity management measures identified within the Management Plan.</p>	<p>a) Prior to clearing commencing.</p> <p>b) Prior to clearing commencing.</p> <p>c) While clearing is occurring and until the cropping is abandoned.</p>
4.	<p>a) A Rehabilitation Plan which has been certified by a suitably qualified person must be developed prior to carrying out the clearing activities.</p>	<p>a) Prior to clearing commencing.</p>

No.	Conditions of development approval	Condition timing
	<p>b) The Rehabilitation Plan must be developed to achieve a level of revegetation with a density and range of native tree and shrub species similar to the pre-disturbance regional ecosystem, to avoid land degradation.</p> <p>c) Submit, for information purposes only, a copy of the Rehabilitation Plan to: Vegetation Management Department of Natural Resources and Mines Address: PO Box 5318 Townsville QLD 4810 Email: northvegetation@dnrm.qld.gov.au</p> <p>d) The holder of the approval must implement the Rehabilitation Plan, carry out and maintain all required vegetation reinstatement measures within the Rehabilitation Plan.</p>	<p>b) Prior to clearing commencing.</p> <p>c) Prior to clearing commencing.</p> <p>d) Upon abandonment of the use.</p> <p>Note: For the purposes of administering this approval, the use is considered to be abandoned if no cropping has been undertaken for a continuous five year period.</p>
5.	<p>The permit holder is responsible for ensuring that:</p> <ul style="list-style-type: none"> - a full copy of the approval is held by employees or contractors carrying out activities associated with this permit; and - that the extent of clearing authorized by this permit is properly understood by any person(s) engaged or employed to carry out the clearing of the vegetation under this permit. 	Prior to clearing commencing.
6.	Vegetation clearing debris must not be pushed into gullies, watercourses, other drainage lines or waterlogged areas or pushed, raked, or disposed of in any areas outside Area A (A1 and A2) as identified on Development Permit Plan (DPP), SDA-0315-018836, dated 12 October 2016 and stamped approved.	At all times.

b.) Draft EMP:

The fauna, flora and habitat assessment has concluded that there are no significant impacts to any threatened species hence the Environmental Management Plan is unnecessary. All operational safeguards and mitigation measures concerning threatened species, habitat and environment have been considered in point a.) above.

c.) Name of agency responsible for endorsing or approving each mitigation measure or monitoring program:

N/A

d.) How these measures align with conservation agreements.

There is no conservation agreement applicable to this land

6. Environmental record of person/s proposing to take the action.

The s11C(1)(a) family will be conducting the clearing and cropping activities, and they have no adverse environmental record.

7. Economic and social matters.

a) details of any public consultation activities undertaken.

During the application to the Queensland Government the appropriate traditional groups were informed with no objections, see below extract from SDA-0315-018836:

Native title considerations

A check of the tenure for the subject property revealed that Lot 537 on SP132224 is a Rolling Term Lease and the original deed of grant (Title Reference 40057874) was issued on 29 January 2009 for a pastoral purpose.

The clearing of native vegetation for high value agriculture is considered to be associated or incidental to an agricultural activity and procedural rights must be afforded to native title parties under section 24GB of the Native Title Act 1993 (Cwlth).

On 11 May 2015, the following native title parties were notified:

- Goondaloo Aboriginal Corporation Agent Body Corporate*
- North Queensland Land Council Native Title Representative Body Aboriginal Corporation; and*
- Gugu Badhun Aboriginal Corporation Agency Prescribed Body Corporate.*

Comments (if any) were required to be provided no later than 11 May 2015. One submission was received. The submission made comments about the proposed future act in relation to duty of care under the Aboriginal Cultural Heritage Act 2003 and preparing a cultural heritage assessment. The standard advice has been included as item 3 in the further advice section of this decision package

b) Financial assessment:

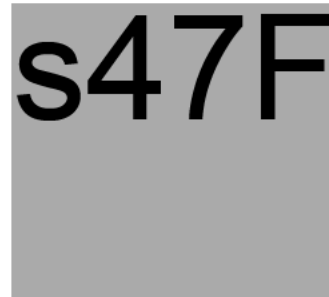
The s11C(1)(a) family will progressively clear the land for cropping based on financial resources at the time. They own the large bulldozers that will be used for tree pulling, windowing and stick-raking.

c) The operational phase will be managed by the s11C(1)(a) family. However they may call upon contractors to assist with clearing, sowing, spraying and harvest activities.

LANDLINE CONSULTING



17 October 2017



s11C(1)(a)

APPENDIX 1. Request for Additional Information

Attachment A

Meadowbank Station Vegetation Clearing for High Value Cropping, South of Mt Garnet, Qld (EPBC 2016/7838)

Additional information required for assessment by Preliminary Documentation

As noted in the letter, the proposed action is likely to have a significant impact on listed threatened species and communities (sections 18 & 18A) and will be assessed by preliminary documentation.

General Content, Format and Style

The preliminary documentation, which includes the referral information and the additional information, should be contained as one document with attachments, and include sufficient information to avoid the need to search for supplementary reports.

The documentation must enable interested stakeholders and the Minister to understand the environmental consequences of the proposed development on matters of national environmental significance (MNES). The information provided should be objective, clear and succinct and where appropriate, supported by maps, plans, diagrams or other descriptive detail.

Detailed technical information, studies or investigations necessary to support the main text should be included. It is recommended that any supporting documentation and studies, reports or literature, from which information has been extracted and which are not normally available to the public, be attached as appendices to the main document and made available at appropriate locations during the period of public display of the preliminary documentation. The proponent should also make the documentation and supporting information available on the internet.

If it is necessary to make use of material that is considered to be of a confidential nature, the proponent should consult with the Department of the Environment and Energy (the Department) on the preferred presentation of that material, before submitting the documents to the Minister for approval for publication.

The level of analysis and detail in the documentation should reflect the level of expected impacts on the environment. Any variables or assumptions made in the assessment must be clearly stated and discussed. The extent to which the limitations, if any, of available information may influence the conclusions of the environmental assessment should be discussed.

The documentation should be written so that any conclusions reached can be independently assessed. To this end, all sources must be appropriately referenced using the Harvard standard. The reference list should include the address of any internet “web” pages used as data sources.

The additional information should include a list of persons and agencies consulted and the names of, and work done by, the persons involved in preparing the documentation.

Maps, diagrams and other illustrative material should be included where appropriate. The additional information should be produced on A4 size paper capable of being photocopied with maps and diagrams on A4 or A3 size and in colour where possible. The proponent should consider the format and style of the document appropriate for publication on the internet. The capacity of the website to store data and display the material may have some bearing on how the document is constructed.

The additional information must include a copy of these guidelines and a table indicating where the information fulfilling the guidelines is included in the preliminary documentation.

Specific Content of the Additional Information

1. Impact assessment

Listed threatened species and communities

The project is considered likely to have direct and indirect impacts on:

- Greater Glider (*Petauroides volans*) – vulnerable
- Koala (*Phascolarctos cinereus*) Combined populations of Qld, NSW and the ACT – vulnerable
- Black-throated Finch (*Poephila cincta cincta*) - endangered
- Northern Quoll (*Dasyurus hallucatus*) – endangered
- Ghost Bat (*Macroderma gigas*) – vulnerable

Undertake surveys for the above species on-site by a suitably qualified ecologist in accordance with Departmental guidelines and provide reports to the Department. Please undertake a habitat assessment for the 1475 ha to be cleared.

The preliminary should also provide analysis on the vegetation to be cleared in a regional context.

2. Environmental Offsets

The preliminary documentation must include an assessment of the likelihood of residual significant impacts occurring as a result of land clearing. Please provide:

- (a) details of an offset package proposed to be implemented to compensate for the residual significant impacts of the project; and
- (b) an analysis of how the offset meets the requirements of the Department's *Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy October 2012* (EPBC Act Offset Policy) (<http://www.environment.gov.au/epbc/publications/epbc-act-environmental-offsets-policy>).

Offset/s required by the State can be applied if the proposed offset/s meet the Department's EPBC Act Environmental Offset Policy.

3. Avoidance, safeguards and mitigation measures

The referral provides information on proposed mitigation measures to address the relevant impacts of the action. The preliminary documentation must include:

- (a) a consolidated list of mitigation measures proposed to be undertaken by the proponent to avoid, minimise and manage relevant impacts of the action, including:
 - a description of mitigation measures proposed to be taken by State governments, local governments; and
 - any statutory or policy basis for the mitigation measures.
- (b) A draft Environmental Management Plan (EMP) that sets out the framework for management, mitigation and monitoring of relevant impacts of the action, including any provisions for independent environmental auditing.

The EMP needs to address the project phases (construction, operation, decommissioning) separately. It must state the environmental objectives, performance criteria, monitoring, reporting, corrective action, responsibility and timing for each environmental issue.

The EMP must be prepared in accordance with the Department's Environmental Management Plan Guidelines (2014).

<http://www.environment.gov.au/epbc/publications/environmental-management-plan-guidelines>

- (c) The name of the agency responsible for endorsing or approving each mitigation measure or monitoring program.
- (d) How these measures align with relevant conservation agreements, threat abatement plans and recovery plans.

4. Environmental record of person(s) proposing to take the action:

Please include details of any past or present proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against:

- (a) the person proposing to take the action; and
- (b) for an action for which a person has applied for a permit, the person making the application.

5. Economic and social matters:

The economic and social impacts of the action, both positive and negative, must be analysed. Matters of interest may include:

- (a) details of any public consultation activities undertaken, and their outcomes;
- (b) projected economic costs and benefits of the project, including the basis for their estimation through cost/benefit analysis or similar studies;
- (c) employment opportunities expected to be generated by the project (including construction and operational phases).

Economic and social impacts should be considered at the local, regional and national levels.

APPENDIX 2. Other Bird and Mammals Observed

Table 1. Bird species observed during the impact assessment.

Transect Name	Date	Bird Species
Finch T1	07-03-17	magpie
Finch T1	07-03-17	noisy miner
Finch T1	07-03-17	squatter pigeon
Quoll 1	07-03-17	striated pardalote
Quoll 1	07-03-17	grey butcherbird
Quoll 1	07-03-17	rainbow bee-eater
Quoll 1	07-03-17	dollarbird
Spotlight Main Road	07-03-17	tawny frogmouth
Finch T2	08-03-17	reed warbler
Finch T2	08-03-17	willy wagtail
Finch T2	08-03-17	pale-headed rosella
Finch T2	08-03-17	red-winged parrot
Finch T2	08-03-17	sulphur-crested cockatoo
Finch T2	08-03-17	whistling duck with young
Finch T2	08-03-17	wood duck
Finch T2	08-03-17	dollarbird
Finch T2	08-03-17	magpie
Finch T2	08-03-17	magpie lark
Finch T2	08-03-17	grey butcherbird
Finch T2	08-03-17	pied butcherbird
Finch T2	08-03-17	noisy miner
Finch T2	08-03-17	Australian raven
Finch T2	08-03-17	white-faced heron
Main Road Walk	08-03-17	No birds
Quoll 2	08-03-17	golden-backed honeyeater
Quoll 2	08-03-17	rainbow bee-eater
Quoll 2	08-03-17	pale-headed rosella
Quoll 2	08-03-17	striated pardalote
Quoll 2	08-03-17	wedge-tailed eagle
Quoll 2	08-03-17	great bowerbird
Quoll 2	08-03-17	black-faced cuckoo shrike
Quoll 2	08-03-17	dollarbird
Quoll 2	08-03-17	white-bellied cuckoo shrike
Quoll 2	08-03-17	figbird
Spotlight S/W Road	08-03-17	Owl-not identifiable
Spotlight S/W Road	08-03-17	tawny frogmouth
Finch 3	09-03-17	willy wagtail
Finch 3	09-03-17	pale-headed rosella
Finch 3	09-03-17	sulphur-crested cockatoo
Finch 3	09-03-17	grey butcherbird
Finch 3	09-03-17	Australian miner
Finch 3	09-03-17	rainbow bee-eater
Finch 3	09-03-17	pale-headed rosella

Table 2. Mammal observations

Transect Name	Date	Mammals
Finch T1	07-03-17	No mammals
Quoll 1	07-03-17	grey kangaroo
Spotlight Main Road	07-03-17	brush-tail possum
Spotlight Main Road	07-03-17	greater glider
Finch T2	08-03-17	grey kangaroo
Main Road Walk	08-03-17	No mammals
Quoll 2	08-03-17	feral pig
Quoll 2	08-03-17	grey kangaroo
Spotlight S/W Road	08-03-17	greater glider
Spotlight S/W Road	08-03-17	brush-tail possum
Finch 3	09-03-17	No mammals
Cam 1	7-9/3/17	grey kangaroo
Cam 2	7-9/3/17	cattle
Cam 3	7-9/3/17	No mammals

APPENDIX 3. Flora Species Observed

Table 1. Dominant vegetation species observed at each of the seventeen sites. Where 1 is the most dominant species and 5 the least dominant.

Site	Type	Species	Dominance
1	Tree	<i>E. crebra</i> narrow-leaved ironbark	1
1	Tree	<i>E. tereticornis</i> blue gum	2
1	Tree	<i>E. dallachiana</i>	3
1	Tree	<i>C. clarksoniana</i> Clarkson's bloodwood	4
1	Tree	<i>Corymbia tessellaris</i> Moreton Bay ash	5
1	Understory	<i>Grevillea</i> sp.	1
1	Understory	<i>Acacia</i> sp.	2
1	Grass/Legumes	<i>Themeda triandra</i> kangaroo grass	1
1	Grass/Legumes	<i>Heteropogon triticeus</i> giant speargrass	2
1	Grass/Legumes	<i>Heteropogon contortus</i> Black speargrass	3
1	Grass/Legumes	<i>Sarga plumosum</i> plume sorghum	4
1	Grass/Legumes	<i>Mnesithea rottboellioides</i>	5
2	Tree	<i>E. crebra</i> narrow-leaved ironbark	1
2	Tree	<i>E. dallachiana</i>	2
2	Tree	<i>C. clarksoniana</i> Clarkson's bloodwood	3
2	Understory	<i>Grevillea</i> sp.	1
2	Understory	<i>Erythrina vespertilio</i> Bat's wing coral tree(1)	2
2	Understory	<i>Melia azedarach</i> white cedar	3
2	Grass/Legumes	<i>Themeda triandra</i> kangaroo grass	1
2	Grass/Legumes	<i>Heteropogon triticeus</i> giant speargrass	2
2	Grass/Legumes	<i>Indigofera pratensis</i> forest indigo	4
2	Weed	<i>Ageratum</i> sp. bluetop	3
3	Tree	<i>E. crebra</i> narrow-leaved ironbark	1
3	Tree	<i>C. clarksoniana</i> Clarkson's bloodwood	2
3	Tree	<i>E. dallachiana</i>	3
3	Understory	<i>Grevillea</i> sp.	1
3	Grass/Legumes	<i>Themeda triandra</i> kangaroo grass	1
3	Grass/Legumes	<i>Heteropogon triticeus</i> giant speargrass	2
3	Grass/Legumes	Native legumes	3
4	Tree	<i>E. crebra</i> narrow-leaved ironbark	1
4	Tree	<i>E. tereticornis</i> blue gum	2
4	Tree	<i>Lophostemon sauveolens</i> swamp mahogany	3
4	Grass/Legumes	<i>Themeda triandra</i> kangaroo grass	1
4	Grass/Legumes	<i>Heteropogon contortus</i> Black speargrass	2
4	Grass/Legumes	Native legumes	3
4	Grass/Legumes	<i>Heteropogon triticeus</i> giant speargrass	4
5	Tree	<i>E. crebra</i> narrow-leaved ironbark	1

Site	Type	Species	Dominance
5	Tree	<i>E. tereticornis blue gum</i>	2
5	Tree	<i>E. dallachiana</i>	3
5	Tree	<i>C. clarksoniana</i> Clarkson's bloodwood	4
5	Understory	Juvenile eucalypts	1
5	Grass/Legumes	<i>Themeda triandra</i> kangaroo grass	1
5	Grass/Legumes	<i>Heteropogon triticeus</i> giant speargrass	2
5	Grass/Legumes	<i>Cymbopogon refractus</i> barbwire grass	3
5	Grass/Legumes	<i>Dichanthium sericeum</i> Queensland bluegrass	4
5	Grass/Legumes	<i>Indigofera pratensis</i> forest indigo	5
6	Tree	<i>E. crebra</i> narrow-leaved ironbark	1
6	Tree	<i>E. dallachiana</i>	2
6	Tree	<i>C. clarksoniana</i> Clarkson's bloodwood	3
6	Understory	Juvenile eucalypts	1
6	Grass/Legumes	<i>Themeda triandra</i> kangaroo grass	1
6	Grass/Legumes	<i>Bothriochloa bladhii</i> forest bluegrass	2
6	Grass/Legumes	<i>Dichanthium sericeum</i> Queensland bluegrass	3
6	Grass/Legumes	<i>Heteropogon contortus</i> Black speargrass	4
7	Tree	<i>E. tereticornis blue gum</i>	1
7	Tree	<i>E. crebra</i> narrow-leaved ironbark	2
7	Tree	<i>E. dallachiana</i>	3
7	Tree	<i>C. clarksoniana</i> Clarkson's bloodwood	4
7	Understory	Juvenile eucalypts	1
7	Grass/Legumes	<i>Themeda triandra</i> kangaroo grass	1
7	Grass/Legumes	<i>Heteropogon triticeus</i> giant speargrass	2
7	Grass/Legumes	Native legumes	3
7	Grass/Legumes	<i>Indigofera pratensis</i> forest indigo	4
8	Tree	<i>E. tereticornis blue gum</i>	1
8	Tree	<i>E. crebra</i> narrow-leaved ironbark	2
8	Tree	<i>C. clarksoniana</i> Clarkson's bloodwood	3
8	Tree	<i>E. granitica</i>	4
8	Understory	Juvenile eucalypts	1
8	Grass/Legumes	<i>Themeda triandra</i> kangaroo grass	1
8	Grass/Legumes	<i>Imperata cylindrica</i> blady grass	2
8	Grass/Legumes	<i>Heteropogon triticeus</i> giant speargrass	3
8	Grass/Legumes	<i>Heteropogon contortus</i> Black speargrass	4
8	Grass/Legumes	Native legumes	5
9	Tree	<i>E. crebra</i> narrow-leaved ironbark	1
9	Tree	<i>C. clarksoniana</i> Clarkson's bloodwood	2
9	Tree	<i>E. tereticornis blue gum</i>	3
9	Understory	<i>Lophostemon suaveolens</i> swamp mahogany	1
9	Understory	Juvenile eucalypts	2
9	Understory	<i>Breynia oblongifolia</i> (Coffee bush)	3

Site	Type	Species	Dominance
9	Grass/Legumes	Heteropogon contortus Black speargrass	1
9	Grass/Legumes	Dichanthium sericeum Queensland bluegrass	2
9	Grass/Legumes	Sporobolus laxus tussocky sporobolus	3
9	Grass/Legumes	Heteropogon triticeus giant speargrass	4
9	Grass/Legumes	Themeda triandra kangaroo grass	5
10	Tree	E. crebra narrow-leaved ironbark	1
10	Tree	E. tereticornis blue gum	2
10	Tree	E. dallachiana	3
10	Tree	C. clarksoniana Clarkson's bloodwood	4
10	Understory	Juvenile eucalypts	1
10	Grass/Legumes	Themeda triandra kangaroo grass	1
10	Grass/Legumes	Heteropogon triticeus giant speargrass	2
10	Grass/Legumes	Heteropogon contortus Black speargrass	3
10	Grass/Legumes	Native legumes	4
11	Tree	E. crebra narrow-leaved ironbark	1
11	Tree	E. tereticornis blue gum	2
11	Tree	C. clarksoniana Clarkson's bloodwood	3
11	Tree	E. dallachiana	4
11	Understory	Grevillea sp.	1
11	Understory	Juvenile eucalypts	2
11	Grass/Legumes	Themeda triandra kangaroo grass	1
11	Grass/Legumes	Heteropogon triticeus giant speargrass	2
11	Grass/Legumes	Ophiuros exaltatus Canegrass	3
11	Grass/Legumes	Native legumes	4
13	Tree	E. crebra narrow-leaved ironbark	1
13	Tree	E. tereticornis blue gum	2
13	Tree	C. clarksoniana Clarkson's bloodwood	3
13	Tree	E. dallachiana	4
13	Understory	Lophostemon suaveolens swamp mahogany	1
13	Understory	Juvenile eucalypts	2
13	Understory	Grevillea sp.	3
13	Grass/Legumes	Heteropogon contortus Black speargrass	1
13	Grass/Legumes	Themeda triandra kangaroo grass	2
13	Grass/Legumes	Bothriochloa bladhii forest bluegrass	3
13	Grass/Legumes	Dichanthium sericeum Queensland bluegrass	4
13	Weed	Ageratum sp. bluetop	5
14	Tree	E. crebra narrow-leaved ironbark	1
14	Tree	E. dallachiana	2
14	Tree	C. erythrophylla	3
14	Tree	Corymbia tessellaris Moreton Bay ash	4
14	Tree	E. tereticornis blue gum	5
14	Understory	Juvenile eucalypts	1

Site	Type	Species	Dominance
14	Understory	Grevillea sp.	2
14	Grass/Legumes	Themeda triandra kangaroo grass	1
14	Grass/Legumes	Heteropogon triticeus giant speargrass	2
14	Grass/Legumes	Heteropogon contortus Black speargrass	3
14	Grass/Legumes	Dichanthium sericeum Queensland bluegrass	4
15	Tree	E. crebra narrow-leaved ironbark	1
15	Tree	<i>E. tereticornis</i> blue gum	2
15	Tree	E. dallachiana	3
15	Understory	Juvenile eucalypts	1
15	Understory	Grevillea sp.	2
15	Grass/Legumes	Themeda triandra kangaroo grass	1
15	Grass/Legumes	Heteropogon triticeus giant speargrass	2
17	Tree	E. crebra narrow-leaved ironbark	1
17	Tree	<i>E. tereticornis</i> blue gum	2
17	Tree	Corymbia tessellaris Moreton Bay ash	3
17	Tree	E. dallachiana	4
17	Understory	Grevillea sp.	1
17	Understory	Juvenile eucalypts	2
17	Grass/Legumes	Themeda triandra kangaroo grass	1
17	Grass/Legumes	Heteropogon triticeus giant speargrass	2
17	Grass/Legumes	Heteropogon contortus Black speargrass	3
17	Grass/Legumes	Indigofera pratensis forest indigo	4
19	Tree	E. crebra narrow-leaved ironbark	1
19	Tree	E. dallachiana	2
19	Understory	Juvenile eucalypts	1
19	Understory	Grevillea sp.	2
19	Understory	Acacia spp.	3
19	Grass/Legumes	Themeda triandra kangaroo grass	1
19	Grass/Legumes	Sarga plumosum plume sorghum	2
19	Grass/Legumes	Heteropogon triticeus giant speargrass	3
19	Grass/Legumes	Ophiuros exaltatus canegrass	4
19	Grass/Legumes	Heteropogon contortus Black speargrass	5
20	Tree	<i>E. tereticornis</i> blue gum	1
20	Tree	E. crebra narrow-leaved ironbark	2
20	Tree	C. clarksoniana Clarkson's bloodwood	3
20	Understory	Juvenile eucalypts	1
20	Grass/Legumes	Themeda triandra kangaroo grass	1
20	Grass/Legumes	Heteropogon triticeus giant speargrass	2
20	Grass/Legumes	Heteropogon contortus black speargrass	3
20	Grass/Legumes	Ophiuros exaltatus canegrass	4

APPENDIX 4

Significant Impact Guidelines and Assessment

The following tables were prepared to determine if the proposed activity were likely to cause significant impacts on those species identified in the controlled action document, Request for Additional Information (Appendix 1). For each species the Significant Impact Criteria, as detailed in the Matters of National Environmental Significance, Significant Impact Guidelines, EPBC Act 1999, was considered to evaluate the likelihood of significant impact to any of the identified threatened species.

Greater glider (*Petauroides volans*), vulnerable

1	2	3	4	5	6	7	8	9
Lead to long term decrease in the size of an important population.	Reduce the area of occupancy of an important population	Fragment an existing important population into two or more populations	Adversely affect habitat critical to the survival of a species	Disrupt the breeding cycle of an important population	Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.	Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat.	Introduce disease that may cause the species to decline, or	Interfere substantially with the recovery of the species.
NO The proponent is making every effort to avoid those locations within the proposed activity that provide preferred habitat for this species. That is, habitat dominated by <i>E. tereticornis</i> . Figure 1, identifies 97.1ha of <i>E. tereticornis</i> that will be avoided. Figure 3 is typical of the <i>E. tereticornis</i> woodland to be avoided as identified in Figure 1.	NO As per previous point.	NO Good connectivity remains surrounding the proposed activity. Additionally the avoidance area helps maintain connectivity within those <i>E. tereticornis</i> woodlands. There will be a minimum of 25 to 50m uncleared habitat adjacent to all waterways as per State clearing conditions, see Appendix 5, DILGP, Notice of Decision, SDA-0315-018836.	NO The loss of this habitat will not adversely affect the survival of this species. As per previous points.	NO It is unclear when the breeding season takes place in far north Queensland as this information has not been published. As per point 1, the most suitable habitat with large <i>E. tereticornis</i> will be avoided. However, any large trees with suitable denning hollows will be cleared in a controlled manner. Large hollow baring trees will be left in situ during clearing operations for a minimum of 24 hrs to allow resident animals time to escape. Clearing operations will take place immediately after the wet season.	NO At a species level an infinitesimal part of the overall habitat available to the glider will be removed. The species will have no significant decline in numbers.	NO Pest species have not been identified as a key threat to the greater glider.	NO Very unlikely as this activity is not introducing animals that are likely to transmit disease.	NO

Koala (*Phascolarctos cinereus*), vulnerable

1 Lead to long term decrease in the size of an important population.	2 Reduce the area of occupancy of an important population	3 Fragment an existing important population into two or more populations	4 Adversely affect habitat critical to the survival of a species	5 Disrupt the breeding cycle of an important population	6 Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.	7 Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat.	8 Introduce disease that may cause the species to decline, or	9 Interfere substantially with the recovery of the species.
<p>NO</p> <p>This is not an important population.</p> <p>There have been no sightings of koalas recorded on this property. This fauna survey observed thousands of trees along riparian zones and throughout the proposed clearing with no evidence of koalas.</p> <p>However if animals were to traverse this landscape the proponent has agreed to maintain suitable refuge patches to assist with connectivity over broad acre clearing. Refuge patches will be spaced every 200m through cleared country to minimise predation and dehydration.</p>	<p>NO</p> <p>As per previous point, and;</p> <p>There is no evidence that this property was ever occupied by koalas. However if there are remote cases of animals needing to move across this landscape then the refuge patches mentioned in the previous point will provide relief.</p>	<p>NO</p> <p>As per previous point., and;</p> <p>The entire property and proposed activity is surrounded by well connected vegetation. Any open landscape created will be managed as per the first point.</p>	<p>NO</p> <p>Primary food trees such as <i>E. tereticornis</i> have been identified along riparian zones and also found dominating in patches in other locations of this proposed activity. The proponent has made a commitment to avoid a substantial area dominated by <i>E.tereticornis</i> favoured also by the greater glider, see Figure 1 below. Riparian zones will maintain a buffer of 25 to 50m.</p> <p>Other parts of the proposed activity are sparsely occupied by <i>E. crebra</i> which is not identified as a primary feed tree. Also within the woodland there typically exists a thick cover of native grasses such as black speargrass. These grasses would significantly impede the movement of koalas through this landscape. The relatively low tree height combined with the broken and thin canopies of this typical landscape would offer little protection from the elements and intense grass fires, see Figure 3 below.</p>	<p>NO</p> <p>As per point 1.</p>	<p>NO</p> <p>As per point 1.</p>	<p>NO</p> <p>As per point 1.</p> <p>In addition the proponent currently maintains pest management strategies to eliminate wild dogs.</p>	<p>NO</p> <p>The activity will not introduce any new animals or associated diseases likely to be transmissible to koalas. This is a clearing activity for high value cropping.</p>	<p>NO</p> <p>As per point 1.</p>

Black-throated finch (*Poephila cincta cincta*)-endangered

1 Lead to long term decrease in the size of an important population.	2 Reduce the area of occupancy of an important population	3 Fragment an existing important population into two or more populations	4 Adversely affect habitat critical to the survival of a species	5 Disrupt the breeding cycle of an important population	6 Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.	7 Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat.	8 Introduce disease that may cause the species to decline, or	9 Interfere substantially with the recovery of the species.
NO This site does not contain an important population. The fauna and flora survey did not detect any evidence of this species or its preferred habitat or food source. Please refer to field observations in section 2.2, page 10.	NO It is not an important population.	NO It is not an important population.	NO This site does not contain habitat critical for the survival of this species.	NO It is not an important population.	NO This site does not contain any habitat preferred by this species.	NO This property currently has pest control strategies to manage feral pigs and dogs. There are no feral cats and this activity is unlikely to introduce any.	NO	NO This site does not contain habitat critical for the survival of this species.

Northern quoll (*Dasyurus hallucatus*), endangered

1 Lead to long term decrease in the size of an important population.	2 Reduce the area of occupancy of an important population	3 Fragment an existing important population into two or more populations	4 Adversely affect habitat critical to the survival of a species	5 Disrupt the breeding cycle of an important population	6 Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.	7 Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat.	8 Introduce disease that may cause the species to decline, or	9 Interfere substantially with the recovery of the species.
<p>NO</p> <p>It is not an important population as it is unlikely there is an population of northern quolls within the proposed activity.</p> <p>Much of the survey effort focused around, and on, the large rocky outcrops where the likelihood of detection was maximised. There were no quolls or their signs evident. In any case, these rocky outcrops are not included within the proposed activity and there remains good connectivity from these outcrops via the vegetation corridors along drainage lines and by the extensive <i>E.tereticornis</i> woodland to be avoided..</p>	<p>NO</p> <p>It is not an important population.</p>	<p>NO</p> <p>It is not an important population.</p>	<p>No</p> <p>Area to be cleared is flat open woodland, with little structural diversity and no termite mounds that quolls prefer, (Threatened Species Scientific Committee 2005aq) and surveys throughout Qld have suggested Northern quolls are more likely to be present in high relief areas that have shallower soils, greater cover of boulders, less fire impact and were closer to permanent water, Braithwaite and Begg 1995. The proposed activity has littlerelief , deep soils, no boulders and is frequently impacted by fires and there is no nearby permanent water.</p>	<p>NO</p> <p>It is not an important population.</p>	<p>NO</p> <p>As per point 4.</p>	<p>NO</p> <p>This property currently has pest control strategies to manage feral pigs and dogs. There are no feral cats and this activity is unlikely to introduce any.</p>	<p>NO</p>	<p>NO</p>

Ghost bat (*Macroderma gigas*), vulnerable

1 Lead to long term decrease in the size of an important population.	2 Reduce the area of occupancy of an important population	3 Fragment an existing important population into two or more populations	4 Adversely affect habitat critical to the survival of a species	5 Disrupt the breeding cycle of an important population	6 Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	7 Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	8 Introduce disease that may cause the species to decline, or	9 Interfere substantially with the recovery of the species.
NO This is not an important population. The recent fauna surveys conducted revealed no evidence of the bat or its roosting habitat.	NO This is not an important population.	NO This is not an important population.	NO As per point 1.	NO As per point 1.	NO As per point 1.	NO This property currently has pest control strategies to manage feral pigs and dogs. There are no feral cats and this activity is unlikely to introduce any.	NO	NO

Figure 1. 106.8 hectares of *E. tereticornis* that will be avoided. Leaving a total of 1364.2 hectares for clearing.

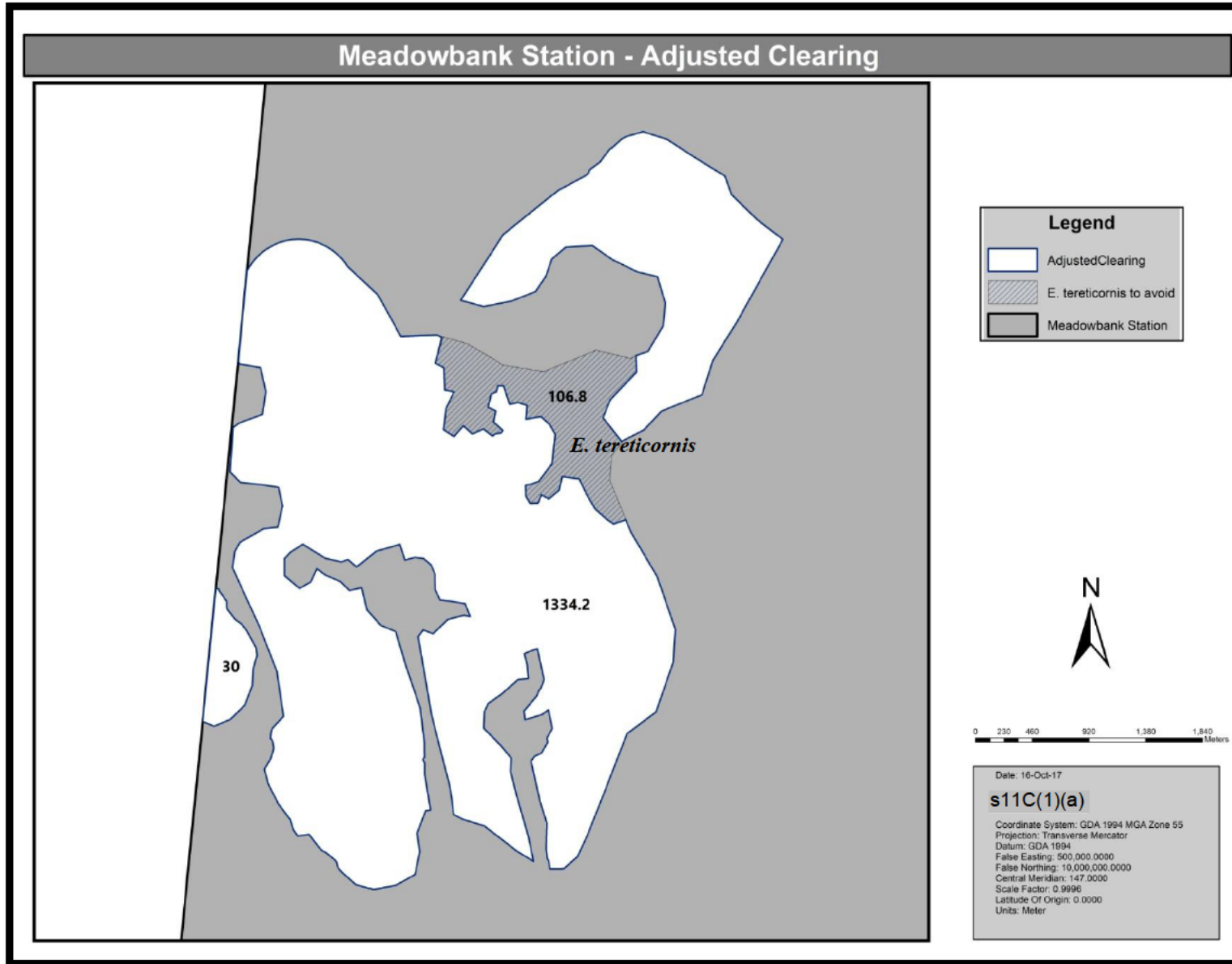


Figure 2. Climate data taken from nearest BOM station, Mount Surprise (030036), located from Meadowbank Station.

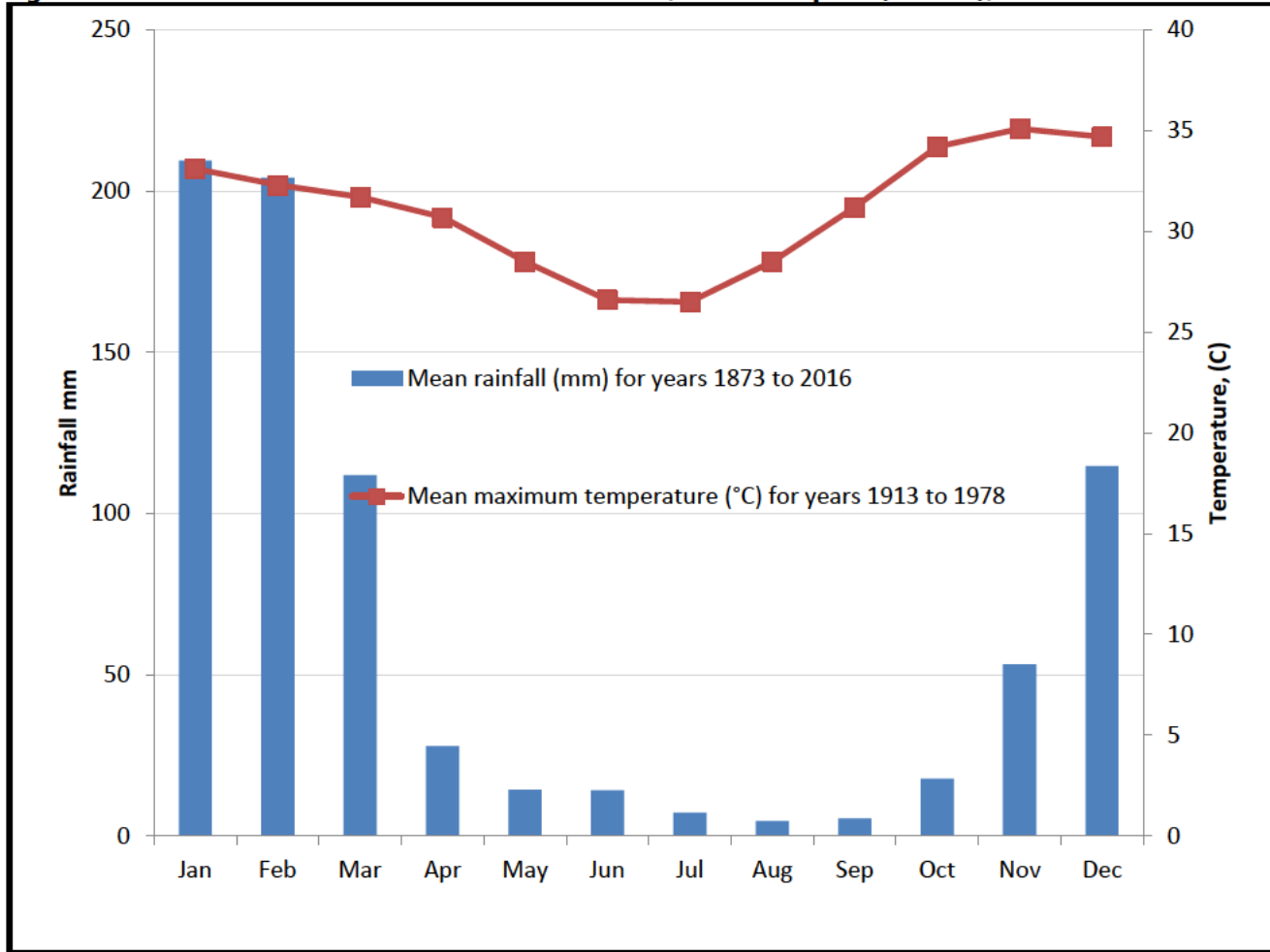


Figure 3. Typical *Eucalyptus crebra* dominated landscape with broken canopy and dense grass cover. Average tree height of 10-15m.



Figure 4. Image showing part of the *E. tereticornis* landscape that was identified in Figure 1 to be avoided.



Appendix 5

State Decision Notice

DILGP, SDA-0315-018836

Please see Attached

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