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Our reference: SUT17-8747

15 November 2017

Dear Glenn,

Flora and fauna impact assessment- Edgecliff Station upgrade

Thank you for your email of 8 November 2017 to Eco Logical Australia (ELA) commissioning a Flora and Fauna impact assessment for the upgrade of Edgecliff Train Station (the site).

The purpose of this letter is to:

- Describe the site's ecological values, including potential habitat for species listed under the *Biodiversity Conservation Act* (BC Act) and/or the *Environment Protection and Biodiversity Act* (EPBC Act)*;*
- Assess the significance of potential impacts on identified ecological values; and
- Recommend actions to avoid or mitigate those impacts.

Site description

Edgecliff Station is located 4 km east of the Sydney CBD in Woollahra Local Government Area (LGA). The site is approximately a kilometre south of Sydney Harbour. The LGA is urbanised with very limited extent of remnant vegetation, most of which is heavily modified by clearing, weeds and exotic plantings.

The largest area of vegetation near Edgecliff Station is Trumper Park, approximately 150m to the south. **Figure 1** shows the location of Edgecliff Station.

Proposed works

The Edgecliff Station upgrade is designed to improve access to the station as part of the Transport Access Program. Works include the installation of pedestrian crossings, ramps, car spaces, bicycle racks, lifts, fire stairs, ticket gates, wind shields, seating and lighting systems.

The development footprint is within existing buildings or highly modified landscaping. Potential flora and fauna habitats are restricted to the gardens around the periphery of the station. The highly modified condition of the area suggests that the site has limited ecological and environmental potential. Accordingly, this assessment has been conducted as a desk top analysis of flora and fauna records within a 5 km radius supplemented by information gathered during an arboricultural assessment of the site (ELA 2017).

Figure 1 Location and threatened species records

Literature and database search

Information about the ecological values of the site and its surrounds was derived from the following sources:

- ELA 2017 *Edgecliff Station Upgrade Arboricultural Impact Assessment*
- NSW Office of Environment and Heritage *Atlas of NSW Wildlife*
- Commonwealth Department of Environment and Energy *Protected Matters Search Tool*

Vegetation communities

All trees within the development footprint appear to have been planted for landscape purposes and do not constitute a native vegetation community. The arboricultural impact assessment (ELA 2017) indicates that the development will require the removal of 12 trees. They comprise 2 exotic species, one native species that is outside its natural distribution, and 2 species that are native to the Sydney basin. None of the tree species are listed as threatened under the BC Act or EPBC Act.

Table 1: Trees within the development zone

Botanical name	Common Name	Status	Number
Celtis australis	European Nettle Tree	Exotic	5
Ulmus parvifolia	Chinese Elm	Exotic	1
Lophostemon confertus	Brush Box	Native- Queensland	2
Casuarina glauca	Swamp She-oak	Native- coastal NSW	2
Eucalyptus tereticornis	Forest Red Gum	Native- coastal NSW	2
TOTAL			**12**

The vegetation within the development footprint does not conform in species composition, structure or habitat with an Endangered Ecological Community (EEC) under the BC Act or EPBC Act. No further assessment of potential impacts on EECs is required.

Threatened flora

The database search identified 32 BC Act and 23 EPBC Act listed flora species records within a 5 km radius of the site. All the EPBC Act listed species are also listed under the BC Act.

Ten of the 24 threatened flora species records are more than 20 years old and some of these may no longer occur in the LGA. This pattern is consistent with the increasingly urbanised nature of the surrounding suburbs.

Three of the BC Act listed flora species were recorded in the nearby Trumper Park, namely *Acacia terminalis subspecies terminalis*, *Doryanthes palmeri* and *Syzygium paniculatum*.

No threatened flora are recorded from the site and the surrounding landscaped areas do not provide appropriate habitat for threatened flora. It is concluded that the proposed works have no potential to impact on threatened flora species and no further assessment is required.

Table 2 lists threatened flora species recorded within 5 km of Edgecliff Station.

Table 2 Threatened flora recorded within a 5km radius

Scientific name	Common name	BC Act status	EPBC Act status	Date last observed
Acacia gordonii		E1,P	E	17/08/1966
Acacia pubescens	Downy Wattle	V,P	V	4/03/2008
Acacia terminalis subsp. terminalis	Sunshine Wattle	E1,P	E	9/12/1991
Allocasuarina portuensis	Nielsen Park She-oak	E1,P,3	E	3/07/2001
Amperea xiphoclada subsp. pedicellata		E4,P		3/07/2001
Asterolasia buxifolia		E1,P		4/03/2008
Caladenia tessellata	Thick Lip Spider Orchid	E1,P,2	V	30/01/2011
Callistemon linearifolius	Netted Bottle Brush	V,P,3		4/11/2015
Dichanthium setosum	Bluegrass	V,P	V	28/02/1913
Diuris arenaria	Sand Doubletail	E1,P,2		21/09/2001
Doryanthes palmeri	Giant Spear Lily	V,P		20/11/2015
Eucalyptus camfieldii	Camfield's Stringybark	V,P	V	31/12/1906
Eucalyptus fracta	Broken Back Ironbark	V,P		4/03/2008
Eucalyptus nicholii	Narrow-leaved Black Peppermint	V,P	V	4/06/2003
Eucalyptus pulverulenta	Silver-leafed Gum	V,P	V	4/04/1960
Eucalyptus scoparia	Wallangarra White Gum	E1,P	V	4/06/2003
Grammitis stenophylla	Narrow-leaf Finger Fern	E1,P,3		23/04/1991
Grevillea caleyi	Caley's Grevillea	E4A,P,3	E	23/04/1991
Hibbertia puberula		E1,P		27/11/1954
Melaleuca deanei	Deane's Paperbark	V,P	V	4/03/2008
Persoonia hirsuta	Hairy Geebung	E1,P,3	E	4/03/2008
Persoonia nutans	Nodding Geebung	E1,P	E	31/12/1999
Pimelea curviflora subsp. curviflora		V,P	V	8/04/1991
Pimelea spicata	Spiked Rice-flower	E1,P	E	4/03/2008
Prasophyllum fuscum	Slaty Leek Orchid	E4A,P,2	V	4/03/2008
Prostanthera marifolia	Seaforth Mintbush	E4A,P,3	CE	4/03/2008
Pultenaea parviflora		E1,P	V	4/03/2008
Syzygium paniculatum	Magenta Lilly Pilly	E1,P	V	5/05/2015
Tetratheca glandulosa		V,P		4/03/2008
Tetratheca juncea	Black-eyed Susan	V,P	V	4/03/2008
Thesium australe	Austral Toadflax	V,P	V	30/04/1931
Triplarina imbricata	Creek Triplarina	E1,P	E	4/03/2008
Number threatened flora species		**32**	**23**	

Threatened fauna

The database search identified 32 BC Act and 13 EPBC Act fauna records within a 5 km radius of the site.

Table 3 Threatened fauna recorded within a 5km radius

Scientific name	Common name	BCA listing	EPBC listing	Date last observed
Thalassarche chrysostoma	Grey-headed Albatross	P	E	30/04/1931
Daphoenositta chrysoptera	Varied Sittella	V,P		31/12/1950
Dugong dugong	Dugong	E1,P		18/07/1952
Haliaeetus leucogaster	White-bellied Sea-Eagle	V,P	C	31/12/1952
Onychoprion fuscata	Sooty Tern	V,P		31/08/1972
Lathamus discolor	Swift Parrot	E1,P,3	CE	31/07/1973
Ptilinopus superbus	Superb Fruit-Dove	V,P		31/07/1978
Epthianura albifrons	White-fronted Chat population	V,P		2/06/1983
Erythrotriorchis radiatus	Red Goshawk	E4A,P,2	V	2/06/1983
Stagonopleura guttata	Diamond Firetail	V,P		2/06/1983
Hieraaetus morphnoides	Little Eagle	V,P		30/06/1983
Diomedea exulans	Wandering Albatross	E1,P	E,J	29/06/1985
Haematopus longirostris	Pied Oystercatcher	E1,P		24/08/1987
Anseranas semipalmata	Magpie Goose	V,P		30/11/1987
Arctocephalus forsteri	New Zealand Fur-seal	V,P		27/10/1990
Petroica boodang	Scarlet Robin	V,P		8/04/1991
Glossopsitta pusilla	Little Lorikeet	V,P		23/04/1991
Aepyprymnus rufescens	Rufous Bettong	V,P		9/12/1991
Botaurus poiciloptilus	Australasian Bittern	E1,P	E	2/06/1992
Litoria aurea	Green and Golden Bell Frog	E1,P	V	4/02/1993
Pseudophryne australis	Red-crowned Toadlet	V,P		9/12/1993
Chelonia mydas	Green Turtle	V,P	V	5/11/1997
Petaurus norfolcensis	Squirrel Glider	V,P		31/12/2000
Sternula albifrons	Little Tern	E1,P	C,J,K	24/03/2001
Eubalaena australis	Southern Right Whale	E1,P	E	8/08/2002
Haematopus fuliginosus	Sooty Oystercatcher	V,P		6/10/2002
Myotis macropus	Southern Myotis	V,P		9/04/2006
Mormopterus norfolkensis	Eastern Freetail-bat	V,P		31/10/2006
Miniopterus schreibersii oceanensis	Eastern Bentwing-bat	V,P		9/10/2008
Dasyurus maculatus	Spotted-tailed Quoll	V,P	E	17/08/2009
Arctocephalus pusillus doriferus	Australian Fur-seal	V,P		8/09/2009
Calyptorhynchus lathami	Glossy Black-Cockatoo	V,P,2		1/08/2010
Burhinus grallarius	Bush Stone-curlew	E1,P		30/01/2011
Ninox strenua	Powerful Owl	V,P,3		9/12/2013

Scientific name	Common name	BCA listing	EPBC listing	Date last observed
Lophoictinia isura	Square-tailed Kite	V,P,3		19/06/2015
Pteropus poliocephalus	Grey-headed Flying-fox	V,P	V	9/11/2015
Falsistrellus tasmaniensis	Eastern False Pipistrelle	V,P		10/11/2015
Miniopterus australis	Little Bentwing-bat	V,P		10/11/2015
Dermochelys coriacea	Leatherback Turtle	E1,P	E	20/04/2016
Number of fauna species		**39**	**13**	

Twenty two of the threatened fauna species were last recorded more than 20 years ago. Eighteen threatened fauna species are dependent on marine or wetland environments and are restricted to the harbour and its tributaries.

It is concluded that only 6 of these fauna species have a significant probability of occurring in the vicinity of the Edgecliff Station. They include 4 species of micro bats, *Miniopterus schreibersii oceanensis,* the Eastern Bent Wing Bat; *Myotis macropus,* the Southern Myotis; *Mormopterus norfolkensis,* the Eastern Freetail Bat; and *Falsistrellus tasmaniensis,* the Eastern False Pipistrelle. These species are listed under the BC Act but not listed the EPBC Act.

Any of the microbat species could roost in hollows or crevices in the trees proposed for removal. An assessment of significance for these species is provided in **Appendix A**. The assessment concludes that the proposed development would not have a significant impact on these species.

Another species which could be present within the development footprint is the Grey Headed Flying Fox, *Pteropus poliocephalus.* The species is listed under both the BC Act and EPBC Act. They forage in native and exotic trees with a strong preference for flowering eucalypts. The species occupies large communal roosts during the day and the only time it is likely to be present at the site is while feeding on flowering trees.

An assessment of significance is provided in **Appendix A**. The assessment concludes that the proposed development would not have a significant impact on Grey Headed Flying Fox.

Powerful Owl, *Ninox strenua*, are regularly observed in the suburbs around Sydney Harbour. They roost in heavily shaded, undisturbed areas and are unlikely to use the site for this purpose. The only mechanism by which this species could be impacted would be a reduction in their preferred prey, which includes Ringtail Possum and juvenile Brushtail Possums. Both prey species are abundant in urban areas. The risk of an adverse impact on the wide ranging Powerful Owl is very low and does not warrant further consideration through an assessment of significance.

It is noted that a variety of non-threatened fauna may be present in the development footprint. Hollow dependant, common species of native fauna that could be impacted by the removal of the 12 trees include Brushtail Possum, Ringtail Possum, Noisy Miner and Sulphur crested Cockatoo.

Summary

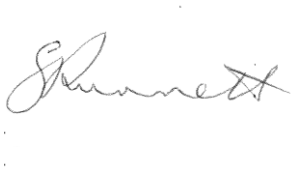
This desktop assessment of the proposed upgrade of Edgecliff Station concludes that the activity is unlikely to have any significant impact on the environmental and ecological values of the site. The only potential impacts that have been identified are associated with the use by fauna of hollows and crevices in the 12 trees to be removed. The four species that could potentially be impacted during clearance activities are microbats listed under the BC Act.

Recommendations

It is recommended that an appropriately qualified ecologist is present during tree clearance operations to monitor fauna impacts and, where necessary, remove displaced animals.

If you have questions about this letter, please do not hesitate to call me on **02 8536 8636** or email me at gary.dunnett@ecoaus.com.au.

Yours sincerely,



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References

Department of Environment and Climate Change. 2008. *Best practice guidelines for the Grey-headed Flying Fox*. NSW Government.

Department of Environment, Climate Change and Water NSW. 2009b*. Draft National Recovery Plan for the Grey-headed Flying-fox Pteropus poliocephalus*. Prepared by Dr Peggy Eby. Department of Environment, Climate Change and Water NSW, Sydney.

ELA 2017 *Edgecliff Station Upgrade Arboricultural Impact Assessment*. Report prepared for Transport for NSW

Office of Environment and Heritage (OEH) 2013. *Grey-headed flying fox – vulnerable species listing*. NSW Scientific Committee – final determination

Appendix A: Assessment of significance

Statutory assessment processes

Section 7.3 of the BC Act sets out the matters 'to be taken into account for the purposes of determining whether a proposed development or activity is likely to significantly affect threatened species or ecological communities, or their habitats'.

The EPBC Act *Administrative Guidelines on Significance* set out criteria that are to be used to assist in determining whether a proposed action is likely to have a significant impact on matters of national environmental significance.

Potentially impacted threatened species

An assessment of significance is required for 5 species which could potentially be impacted by the proposed upgrade of Edgecliff Station. Four of the species are listed in the schedules of the BC Act:

- Eastern Bent Wing Bat, *Miniopterus schreibersii oceanensis*
- Southern Myotis, *Myotis macropus*
- Eastern Freetail Bat, *Mormopterus norfolkensis*
- Eastern False Pipistrelle, *Falsistrellus tasmaniensis*

One of the species, Grey Headed Flying Fox, *Pteropus poliocephalus,* is listed under both the BC Act and the EPBC Act. Assessments have been completed to satisfy the different criteria under the two acts.

Species assessments

Eastern Bent Wing Bat, *Miniopterus schreibersii oceanensis*
Southern Myotis, *Myotis macropus*
Eastern Freetail Bat, *Mormopterus norfolkensis*
Eastern False Pipistrelle, *Falsistrellus tasmaniensis*

Species overview

These four species of microbat are all listed as vulnerable under the BC Act. None have been recorded from the site however the adjacent Trumper Park provides potential foraging habitat and two of the species, Eastern Bent Wing bat and Southern Myotis, have been recorded (**Figure 1**).

The developed urban setting of the Edgecliff Station site does not provide high quality foraging habitat for any of these species. However, all require hollows and crevices in mature trees for nesting and roosting purposes. It is possible that individual bats use one or more of the trees to be removed during the development, although no records are available to confirm this use.

This common reliance upon nesting and roosting habitat is the reason that a combined assessment has been conducted for all four species.

Biodiversity Conservation Act assessment

Section 7.3 of the BCA Act requires that the following tests be applied to determine whether a proposed development or activity likely to significantly affect threatened species or their habitats:

7.3(1)(a) Whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction

The factors which may impact on the life cycle of this species includes loss of foraging habitat, fragmentation of habitats, disturbance to roosts and maternity sites.

Two of the species, *Miniopterus schreibersii oceanensis* and *Myotis macropus* have been recorded foraging within 200m of the site. The locations where they have been recorded are in the lower slopes

of the Rushcutter Creek catchment in a vegetated gully system. The proposed development will have no impact on these foraging zones.

Noise production during the construction is unlikely to disturb foraging activities, given the high levels of ambient noise in the urban context.

The possible disruption to the life cycle of the four species is associated with the removal of potential roosting sites. All species typically move between several hollows. In the event that any of the trees which will be removed are occupied, the individual microbats are likely to have access to alternative roosting sites. Direct impacts on individuals will be mitigated through an ecologist monitoring tree clearance to detect, and where necessary retrieve, any affected individuals.

7.3(1)(c)(i) The extent to which habitat is likely to be removed or modified as a result of the proposed development or activity

The trees with the greatest potential for appropriate roosting hollows and crevices are the two *Eucalyptus tereticornis* and two *Lophostemon confertus* that are proposed for removal. The removal of these four trees will not significantly reduce the availability of suitable roosting sites for these mobile and wide ranging species.

7.3(1)(c)(ii) Whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity

The existing vegetation around Edgecliff Station is disjunct and isolated from larger areas of habitat by the road network, buildings and other urban infrastructure. The removal of 12 trees will not significantly contribute to the fragmentation or isolation of potential roosting sites for these microbat species within the metropolitan landscape.

7.3(1)(c)(iii) The importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality

The removal of 12 trees, a minority of which are likely to contain hollows or other crevices suitable for roosting, does not represent a significant reduction in the availability of potential roosting sites for these species.

7.3(1)(d) Whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly)

Not applicable.

7.3(1)(e) Whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.

The removal of 12 trees from a highly modified and landscaped setting is not consistent with Land Clearance or other listed Key Threatening Processes.

Grey Headed Flying Fox, *Pteropus poliocephalus*

Species overview

The Grey Headed Flying-fox (GHFF) is listed as vulnerable under the BC Act and EPBC Act. The species is endemic to the east coast of Australia with a distribution from Bundaberg in the north to Melbourne in the south, from the western slopes of the Great Dividing Range to the coast (OEH 2013).

The GHFF is a highly mobile species whose migration patterns are determined by the availability of flowering food resources. The species is a canopy-feeding frugivore, blossom-eater and nectarivore, and occurs in rainforest, woodlands, paperbark swamps and Banksia woodlands. This species feeds on the nectar, pollen and fruit of trees, especially natives such as *Eucalyptus sp*., *Melaleuca sp*. and *Banksia sp*., and the fruits of rainforest trees and vines. During times when native food resources are limited, GHFF forage on fruit crops and cultivated gardens.

Roosting camps are generally located next to rivers or creeks, and occur in a range of vegetation communities including rainforest, wet sclerophyll forest, Melaleuca woodland, Casuarina forest or mangroves (OEH 2013). These sites have a dense canopy, providing them with the moist, humid microclimate they require for breeding. Campsites are critical for mating, birthing, rearing of young and as diurnal refuge from predators. Females give birth during October to November and continue to

support their young until March (DECCW 2009b). During this time urban gardens, cultivated fruit crops and roadside verges may also provide important foraging habitat for this species. Urban environments may also be used as a temporary roost during long migrations.

This species is threatened by processes including loss of foraging habitat, disturbance of roosting sites, unregulated shooting, electrocution on power-lines (OEH 2013), competition of roosts with the Australian White Ibis and noise (DECC 2008).

Winter flowering trees such as *Eucalyptus tereticornis*, which is present in the site, provide an important foraging resource when nectar resources are limited. Two *Eucalyptus tereticornis* trees are proposed for removal as part of the proposed works. *Lophostemon confertus* flowers prolifically in spring during the GHFF breeding season. Two trees of this species are proposed for removal.

Biodiversity Conservation Act assessment

Section 7.3 of the BCA Act requires that the following tests be applied to determine whether a proposed development or activity likely to significantly affect threatened species or their habitats:

7.3(1)(a) Whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction

The factors which may impact on the life cycle of this species includes loss of foraging habitat, fragmentation of habitats, electrocution from power-lines and disturbance to maternity camps including noise production.

One known GHFF maternity camp, Lachlan Swamp in Centennial Park, is located approximately 2 km from Edgecliff Station. A closer maternity camp in the Royal Botanic Gardens was dispersed in 2012.

Noise production during the construction is unlikely to disturb the maternity camp, given the distance between the camp and the proposed construction site and the high levels of ambient noise in the urban context.

If additional power-lines are required as part of the upgrade, these should be kept more than 5 metres from overhanging vegetation and contain an insulation layer to protect GHFF.

7.3(1)(c)(i) The extent to which habitat is likely to be removed or modified as a result of the proposed development or activity

The two *Eucalyptus tereticornis* and two *Lophostemon confertus* that are proposed for removal provide a potential foraging resource for the GHFF, especially the *Eucalyptus tereticornis* which flowers in winter when food resources are scare. The removal of these four trees will not significantly reduce the total foraging resource available to this highly mobile and wide ranging species

7.3(1)(c)(ii) Whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity

The existing vegetation around Edgecliff Station is disjunct and isolated from larger areas of habitat by the road network, buildings and other urban infrastructure. The removal of 12 trees will not significantly contribute to the fragmentation or isolation of GHFF habitats within the metropolitan landscape.

7.3(1)(c)(iii) The importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality

The removal of 12 trees, only 4 of which are potential high value forage trees for GHFF, does not represent a significant reduction in the availability of critical foraging resource for the species. The site has no potential as a GHFF campsite.

7.3(1)(d) Whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly)

Not applicable.

7.3(1)(e) Whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.

The removal of 12 trees from a highly modified and landscaped setting is not consistent with Land Clearance or other listed Key Threatening Processes.

Environment Protection and Biodiversity Conservation Act assessment

The EPBC Act requires that the following criteria be addressed to determine whether an action is likely to have a significant impact on a vulnerable species:

Criterion a: lead to a long-term decrease in the size of an important population of a species

The proposed development is located 2 km from an important maternity camp for the GHFF. The vegetation recorded within the site is potential foraging habitat for GHFF. The GHFF is a high mobile species, moving through urban environments to utilise prolific flowering events and switching between bat camps.

Given that that the proposal will not result in the fragmentation of habitats, substantial loss of foraging resources or disturbance to maternity camps the impacts are unlikely to lead to a long-term decrease in the size of the population of GHFF.

Criterion b: reduce the area of occupancy of an important population

Under the proposal 12 trees will be removed to accommodate the proposed development footprint. Only four of the trees to be removed provide high quality foraging resource for GHFF. Vegetation within larger and more species diverse urban bushland patches will continue to provide foraging for the GHFF. The proposal is unlikely to result in the reduction of occupancy for the GHFF as this species is highly mobile, habitat will not be fragmented and vegetation will be retained in areas within the foraging range of the nearest GHFF campsite.

Criterion c: fragment an existing important population into two or more populations

The GHFF is considered one large population. Research has suggested that individuals regularly move between different bat camps to utilise prolific flowering events. This also accounts for breeding behaviours. There is significant intermixing of genetic material between individuals. It is highly unlikely that the proposal will fragment the population into two or more populations or result in inbreeding.

Criterion d: adversely affect habitat critical to the survival of a species

There is no critical habitat declared for this species. Furthermore, the proposal will only remove a total of 12 trees, only 4 of which provide potential foraging habitat for the species. The proposal is unlikely to have a significant impact on critical habitat for the long-term survival of this species.

Criterion e: disrupt the breeding cycle of an important population

The proposed development is located approximately 2 km from the maternity camp in Lachlan Swamp. The maternity camp is located within a large public reserve and is protected from potential disruptions during the breeding cycle. Noise and dust associated with the development will not impact on the breeding cycle of this species.

The loss of foraging resources at Edgecliff Station may require lactating females to utilise alternate foraging resources. Given this species is highly mobile and the fact that alternative foraging resources are available it is highly unlikely that the breeding cycle would be impacted.

Criterion f: Adversely affect habitat critical to the survival of a species; modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline

No vegetation has been identified as critical to the survival of the GHFF. Given the small number of potential forage trees to be removed and that this species is highly mobile, it is unlikely that the habitat to be removed would be considered important to the long-term survival of the species in the locality.

Criterion g: Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat

The project will not result in the establishment of an invasive species that is harmful to the GHFF.

Criterion h: Introduce disease that may cause the species to decline;

The project will not result in the direct contact with GHFF or to critical habitats which may result in the introduction of a disease that is harmful to this species.

Criterion i: Interfere substantially with the recovery of the species

Considering the above factors, the project will not interfere substantially with the recovery of the species. The action is not likely to have a significant impact on the GHFF.

An EPBC Act referral is not required for this species.