

11th June 2018

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FURTHER ECOLOGICAL INFORMATION IN SUPPORT OF DA/1029/2017

Mr John Whyte

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Dear Ross ,

Practicing Member of Ecological

Consultants Association of NSW (ECA)

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Thank you for the opportunity to respond to Council ecologist comments below, please see a further response and an updated impact assessment for Grey-headed Flying Fox.

*Item 1: Appendix C states that previous records of *Rutidosia heterogama* (Heath Wrinklewort) occur along the Nikko Road reserve and that the development is not located in this area. This is incorrect as the access road and numerous driveways will impact this area. There are also previous records of *Thelymitra adorata* (Wyong Sun Orchid) along the Nikko Road reserve and this has not been addressed in the FFA or subsequent ecology documents. It is unclear whether the road reserve was surveyed, as flora transects and meanders are not shown in any mapping. A discussion of the potential impacts to Heath Wrinklewort and Wyong Sun Orchid in the Nikko Road and Kanowna Road reserves is required (including assessments of significance).*

Item 1 (a) Ecologist response: The flora and fauna assessment states that “Targeted surveys were undertaken outside the peak flowering period for Wyong Daisy which was spot flowering at the time of the site inspections, the reference population to the north of Nikko road on the northern side of Sparks road contained two plants in flower at the time of site inspection, despite intensive targeted surveys being conducted within the study area and the frontage of Nikko road no Wyong Daisy’s were identified” (Enviro Ecology 2017).

A reference population of *Rutidosia heterogama* (Heath Wrinklewort) on the north-western side of the Railway Line at Sparks Road, Warnervale was inspected on the 17th of March 2018 and was found to be in full flower, approximately 16 plants were in full flower/bud. One individual was also recorded in flower at the north-western end of Nikko Rd at the time of the site inspection in March.

An additional targeted survey was completed for *Rutidosia heterogama* (Heath Wrinklewort) on the 17th of March 2018. The entire frontage along Nikko & Kanowna road was inspected for the Wyong Daisy.

Photograph 1 *Rutidosia heterogama* (Heath Wrinklewort) in flower/bud 17-03-18



Targeted surveys were undertaken within the subject property and Nikko/Kanowna Road frontages using a Random meander surveys are a variation of the transect type survey and were completed in accordance with the technique described by Cropper (1993). Random meander survey technique (Parallel field traverse) was undertaken to target both species. Parallel field traverse technique is prescribed in the NSW Guide to Surveying Threatened Plants (OEH 2016).

The entire subject site and the two road reserves were specifically targeted along a grid of parallel traverses at a distance of 5m apart (OEH 2016). Approximately 60 parallel survey lines were deployed across the subject site and two Road reserves. Survey effort comprised of approximately 8 hours for *Rutidosia heterogama* (Heath Wrinklewort).

Figure 3-4 of the flora and fauna assessment (Enviro Ecology 2017) shows the records of Wyong Daisy within the Nikko Road reserve however these records do not occur adjacent to future driveways all records are from western side and northern eastern side of Nikko road beyond the subject property. The records and plants which were identified during the targeted surveys are located on the north-western side of Nikko road adjacent to the Rail embankment. Despite targeted surveys being undertaken for Wyong Daisy this species was not recorded from the subject property or the subject site Nikko Road verge.

Item 1 (b) Ecologist response:

Additional Targeted surveys were undertaken on the 15th, 16th & 27th of September and on the 3rd & 13th of October 2017 for the *Thelymitra adorata* (Wyong Sun Orchid) using the parallel field traverse despite these surveys being undertaken during the flowering period no Wyong Sun Orchids were recorded. Survey effort comprised of approximately 8 hours.

The reference to *Thelymitra adorata* (Wyong Sun Orchid) being recorded from the Nikko road reserve is incorrect; Figure 3-3 of the flora and fauna assessment shows the location of previous records with no records within Nikko Road frontage.

A further search of the Bionet sensitive threatened species records has been completed on the 12th of June 2018 despite this no new records *Thelymitra adorata* (Wyong Sun Orchid) were identified from the Nikko Road reserve. Despite targeted surveys being undertaken throughout the subject site and adjacent road reserves using the Random Meander technique as described above this species was not recorded. No further consideration deemed necessary.

Item 2: *Mapping showing all flora surveys is required.*

Ecologist response: Addressed in Item 1 above.

Item 3: *The assessment of significance for Pteropus poliocephalus (Grey-headed Flying-fox) still does not provide sufficient information. Information specific to the population that occurs in the locality, the habitat resources in the locality and the potential impacts of the proposed development on this population are required.*

Ecologist response: Updated impact assessment provided (Appendix A).

If you would like to discuss this further or have any queries, please do not hesitate to contact me on 0402592399.

Yours sincerely



John Whyte

Principal Ecologist

References:

Office of Environment & Heritage (2016) NSW Guide to Surveying Threatened Plants

Enviro Ecology (2017) Flora and fauna assessment of part of No 26-61 (Lot 1 DP 349727) Nikko Road, Warnervale NSW

Churchill, S. (2008). Australian Bats. Sydney, Allen & Unwin.

Cropper, S. C. (1993). Management of Endangered Plants. Melbourne, CSIRO Australia.

Attachment A

Amended Impact Assessment (7-part test) for Grey-headed Flying Foxes

Assessment of Significance

Council is required to consider the impact upon threatened species from any development or activity via the process of a 7 part test of significance in accordance with section 5A of the *Environmental Planning and Assessment Act 1979*. The significance of the assessment is then used to determine the need for a more detailed Species Impact Statement (SIS).

The following 7 part test of significance relies on the ecological assessment provided to Council and should be read as such. It is considered that the study area provides potential habitat for the *Pteropus poliocephalus* (Grey-headed Flying-fox) and will be assessed accordingly in the following seven-part test:

Threatened Fauna

- *Pteropus poliocephalus* (Grey-headed Flying-fox)

a) In the case of a threatened species, whether the action proposed 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,

***Pteropus poliocephalus* (Grey-headed Flying-fox)**

The Grey-headed Flying-fox is found in a variety of habitats including rainforest, mangroves, paperbark swamps, wet and dry sclerophyll forests and cultivated areas (Churchill 2008). Grey-headed Flying Foxes congregate in large camps of up to 200,000 individuals, depending on availability of surrounding blossoming plants, from early until late summer (Churchill 2008). Camps are commonly formed in gullies, typically not far from water and in vegetation with a dense canopy. Roost sites are an important resource where mating, birth and rearing of young occurs as well as providing refuge (Strahan 1995). These bats eat the fruit or blossoms of more than 80 species of plants. Their major food source is eucalypt blossom and native fruits from a variety of tree species. Native figs (*Ficus spp*) account for a large percentage of the fruit eaten. They are also known to rain orchids of cultivated fruit. The Grey headed Flying-fox has a nightly feeding range of 20 to 50km from their camp (Churchill 2008).

It is considered that the proposal is unlikely to disrupt the life cycle of this species such that a viable local population would be placed at risk of extinction.

b) In the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction

N/A

c) In the case of a critically endangered or endangered ecological community, whether the action proposed:

i. Is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or

ii. Is likely to substantially and adversely modify the composition such that its local occurrence is likely to be placed at risk of extinction,

N/A

d) In relation to the habitat of threatened species, populations or ecological community:

i. The extent to which habitat is likely to be removed or modified as a result of the action proposed, and

ii. Whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action, and

iii. The importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality

i.) The proposal will entail the removal of 1.1ha of foraging habitat for the Grey-headed Flying-fox.

ii.) The study area is connected to natural bushland to the north, north-east and north-west of the study area. The proposal will not fragment or isolate currently connected areas of habitat.

Therefore, it is considered that known habitat for a threatened species within the local area and the region are unlikely to become isolated or fragmented as a result of the proposal.

iii.) The proposal will entail the removal of 1.1ha of habitat which provides habitat for the aforementioned threatened species. Despite the proposed removal of 1.1ha of habitat all of the aforementioned threatened species all are highly mobile and would not be dependent upon the foraging habitat within the study area as such it is considered that the proposal is unlikely to create an important impact on the long-term survival of threatened species in the locality and is not considered to be significant.

e) Whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly),

The site has not been identified as critical habitat within the provisions of the *TSC Act* (1995).

Therefore this matter does not require any further consideration.

f) Whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan,

A draft recovery plan has been prepared for Grey-headed Flying-fox (2016), Under the plan aim to improve the national population trend, identify, manage and secure key-foraging habitat improve community's capacity to coexist with flying-foxes and increase awareness about flying-foxes, the threats they face and the important ecosystems services they provide as seed disperse and pollinators. It is considered that the proposed development is generally consistent with the objectives or actions of the above mentioned draft recovery plans.

g) Whether the action proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process.

The proposal is likely to entail or perpetuate the following key threatening process under the *TSC Act* within the site.

- Clearing of native vegetation.

Conclusion

Given that the proposal will result in the removal of 1.1ha of vegetation which provides habitat from within the study area and the occurrence of larger areas of habitat consistent with that within the study area to the north-east, north-west & within the general locality of the area subject to disturbance the impact to the habitats for Grey-headed Flying-fox is not considered to be significant. Critical habitat will not be affected.