

17 November 2009

Director
Paul Di Cristo
CERNO Management Pty Ltd
GPO Box 2594
SYDNEY NSW 2001

FAUNA ASSESSMENT - 2 COOPER STREET, PADDINGTON

Cumberland Ecology
PO Box 2474
Carlingford Court 2118
NSW Australia
Telephone (02) 9868 1933
Mobile 0425 333 466
Facsimile (02) 9868 1977
Web: www.cumberlandecology.com.au

Dear Paul

Please find attached our Fauna Assessment report for the property at 2 Cooper Street, Paddington.

The subject site provides suitable habitat for a range of common fauna species, many of which are introduced species. The site also provides foraging habitat for the Grey-headed Flying-fox which is listed as a vulnerable species under both Commonwealth and NSW legislation. An Assessment of Significance for the Grey-headed Flying-fox is included in the report.

It is our understanding that there are no strict plans for future development of the site. Therefore our report assumes that some vegetation will be removed and that buildings will be demolished or significantly reconstructed under this development. It is considered that any development on the subject site would not have a significant impact on threatened fauna species.

Please contact Joanne Brownett or myself if you have any questions or comments regarding the letter report on 98681933.

Yours sincerely



Carl Corden

Ecologist/Project Manager

carl.corden@cumberlandecology.com.au

Appendix A

Fauna Assessment

A.1 Introduction

A.1.1 Terminology

This report uses the following terminology:

- **Subject site** means the property at 2 Cooper Street, Paddington;
- **Locality** is the area within the City of Sydney LGA which encompasses the subject site;
- **LGA** abbreviates Local Government Area;
- **EPBC Act** abbreviates the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*;
- **TSC Act** abbreviates the NSW *Threatened Species Conservation Act 1995*.

A.1.2 Background

Cumberland Ecology has been requested by Cerno Management Pty Ltd to undertake a fauna assessment of a property at 2 Cooper Street, Paddington within the City of Sydney LGA. The property is currently the location of the old Scottish Hospital which is no longer in use. However an aged care centre still operates on the property.

The property, hereon referred to as “the subject site” currently supports established gardens of both exotic and introduced trees and shrubs. There are several existing buildings within the subject site, some of which have remained disused since the early 1990’s.

Surveys were conducted at the subject site to determine the known or likely occurrence of fauna, including a number of threatened species, and to assess likely impacts and suggested mitigation for these species.

A.2 Methodology, Conditions and Limitations

A.2.1 Database review

Prior to surveys, databases were reviewed to determine the likely occurrence of various fauna species. Particular emphasis was given to determining the likely occurrence of any of the threatened fauna known to occur in the wider locality. Searches were conducted for the City of Sydney LGA from the following databases:

- Department of Environment, Climate Change and Water (DECCW) Atlas of NSW Wildlife; and
- Commonwealth Department of the Environment, Water, Heritage and the Arts (DEWHA) EPBC Protected Matters Search Tool.

A.2.2 Fauna habitat assessment

A fauna habitat assessment was conducted on 4 November 2009. An assessment was made of various features that would provide suitable habitat for the types of fauna known to occur in the wider locality, with particular emphasis given to detecting suitable habitat for threatened fauna species.

Vegetation within the subject site was surveyed to determine the presence of suitable forage and shelter habitat for fauna. Features such as fruiting or blossoming trees and shrubs, hollow-bearing trees and dense understorey vegetation were noted.

The exteriors and interiors of the buildings were searched for cavities and areas where fauna may seek refuge. Any signs of fauna use were also noted, particularly the presence of scats. Buildings were inspected and comments were noted regarding the structure and potential habitat features. Photographs were also taken throughout the site of any respective habitat features.

A.2.3 Fauna survey

Diurnal survey

A diurnal fauna survey was conducted on 4 November 2009. During the diurnal survey, all fauna species heard or seen were recorded. In addition, all signs of the occurrence of fauna (e.g. scats and burrows) were recorded during the diurnal survey.

Nocturnal spotlighting

Nocturnal spotlighting surveys were conducted on 4 and 5 November 2009. Spotlighting was conducted for 1 hour on each of the two nights commencing approximately 1 hour after sunset. The all outdoor areas of the subject site were surveyed on each night.

Microchiropteran bat survey

Microchiropteran bat surveys were conducted on 4 and 5 November 2009. Surveys were conducted using Anabat SD1 bat call detection to record all microchiropteran bats actively foraging at the site. The anabat unit was carried throughout the site during each of two nocturnal surveys.

A.2.4 Conditions and limitations

Weather conditions prior to the survey were hot with 17.9mm of rainfall and a maximum temperature of 36.9°C occurring over the two days prior to the survey. Conditions during the survey were significantly cooler (maximum temperature 19.9°C), however amphibian and reptile activity would not have been adversely affected by the drop in temperature and this was not a limitation to detection of these groups.

The survey was conducted over a two day period. As such the results of the survey show a “snapshot” of fauna that currently occurs within the subject site. It is assumed a greater diversity of fauna than was detected in such a short survey period would use the subject site from time to time.

A.3 Results

Habitat for fauna within the subject site consists of mature planted trees and shrubs surrounding a number of buildings. Some of these buildings have been disused since the early 1990's and now provide shelter habitat for a number of fauna groups. Photographs illustrating the various habitat values of the subject site are provided in Appendix B.

The subject site provides habitat for a range of common adaptable native fauna in addition to a number of introduced (feral) species. Individual fauna groups are discussed below.

A.3.1 Amphibians

There are no water bodies within the subject site and the site is therefore unlikely to provide suitable breeding habitat for any of the amphibian species known to occur in the wider locality. No amphibians were detected during the survey however it is likely that the subject site would support common, adaptable amphibian species such as the Eastern Sedge Frog (*Litoria fallax*) and the Striped Marshfrog (*Limnodynastes peronii*).

DECCW and EPBC database searches indicate the potential occurrence of the threatened Green and Golden Bell Frog (*Litoria aurea*) and the threatened Giant Burrowing Frog (*Heleioporus australiacus*) within the locality of the subject site. Surveys and habitat assessment indicate that there is no suitable habitat for the Green and Golden Bell Frog or the Giant Burrowing Frog, and there are no DECC records of the latter species within the City of Sydney LGA. It is therefore unlikely that either of these species would occur within the subject site.

A.3.2 Reptiles

The subject site provides suitable forage and shelter habitat for several of the common adaptable reptile species known to occur in the wider locality. During the survey, only the Garden Skink (*Lampropholis delicata*) was observed. However, it is likely that other small reptile species would also occur within the subject site.

Although there are no DECC records of the threatened Broad-headed Snake (*Hoplocephalus bungaroides*) in the City of Sydney LGA, EPBC database searches indicate the potential occurrence of (or suitable habitat for) this species within the locality of the subject site. Surveys and habitat assessment indicate that there is no suitable habitat for the Broad-headed Snake on the subject site, and it is therefore unlikely that this species would occur within the subject site.

A.3.3 Birds

The planted trees and shrubs within the subject site provide suitable forage, shelter and nesting habitat for a range of common and adaptable bird species. Birds present or likely to occur within the subject site can be broadly separated into four groups and are discussed below.

Frugivores

The subject site supports a number of specimen trees that provide forage for a range of common frugivorous birds. In addition to various *Ficus sp.*, the site also supports Camphor Laurel (*Cinnamomum camphora*). These trees attract a range of birds including Channel-billed Cuckoo (*Scythrops novaehollandiae*), Common Koel (*Eudynamis scolopacea*), Figbird

(*Sphecothebes viridis*) and Pied Currawong (*Strepera graculina*), all of which were recorded during the survey.

DECC and EPBC database searches did not indicate the potential occurrence of any threatened frugivorous birds within the locality of the subject site. Although the rare occurrence of species such as the Superb Fruit-dove (*Ptilinopus superbus*) cannot be completely discounted, it is unlikely that the subject site would provide significant habitat for any threatened frugivorous birds.

Nectarivores

The subject site and neighbouring properties supports several native tree specimens (*Angophora* and *Eucalyptus* sp.) that provide forage for common adaptable nectarivorous birds. Noisy Miner (*Manorina melanocephala*), Rainbow Lorikeet (*Trichoglossus haematodus*) and Red Wattlebird (*Anthochaera carunculata*) were recorded during the survey and it is likely that a number of additional common nectarivorous birds would occur here during blossom periods.

DECC and EPBC database records indicate that none of the threatened nectarivorous birds have been recorded within the locality of the subject site. Although there is the potential for species such as the Swift Parrot (*Lathamus discolor*) to infrequently occur within the wider locality, the subject site provides only limited habitat for this group. It is therefore unlikely that any threatened nectarivorous bird species would be dependent on the subject site for forage.

Nocturnal birds

The presence of garden vegetation and lighting within the subject site has resulted in an abundance of prey for nocturnal insectivorous birds, and the Tawny Frogmouth (*Podargus strigoides*) was recorded here during the surveys. The subject site could potentially provide suitable forage habitat for additional common nocturnal birds such as the Southern Boobook (*Ninox novaeseelandiae*) despite the urban surrounds.

DECC database records indicate that the threatened Powerful Owl (*Ninox strenua*) has been recorded within the locality of the subject area. Although not recorded during surveys, the subject site provides suitable habitat for an abundance of prey for the Powerful Owl. It is possible that the subject site may therefore form a component of a much wider home range for this species. However the site does not provide suitable roosting or nesting habitat for the Powerful Owl.

Introduced and generalist species

As with most urban environments, the subject site provides suitable habitat for a number of common introduced species. House Sparrow (*Passer domesticus*), Common Starling (*Sturnus vulgaris*), Common Myna (*Acridotheres tristis*), Spotted Turtle-dove (*Streptopelia chinensis*) and Feral Pigeon (*Columba livia*) were all recorded within the subject site. Disused buildings within the subject site currently provide nesting habitat for a large number of Feral Pigeons.

In addition to introduced birds the subject site was dominated by generalist species of native birds. The Noisy Miner, Pied Currawong and Rainbow Lorikeet are highly adaptable species that thrive in urban environments and actively exclude many smaller, less aggressive species.

A.3.4 Mammals

Mammals occurring within the subject site are grouped into two broad categories: Non-flying mammals and bats. These are discussed below.

Non-flying mammals

Dense garden vegetation and artificial structures such as disused buildings provide suitable shelter habitat for a number of common non-flying mammal species within the subject site. All species recorded during the survey are highly adaptable species that commonly occur in heavily urbanised environments. The Common Brushtail Possum (*Trichosurus vulpecula*) was the only native non-flying mammal species recorded during the survey. Despite the absence of DECC database records it is also possible that the Common Ringtail Possum (*Pseudocheirus peregrinus*) would also occur here. An absence of suitable habitat (particularly hollow-bearing trees) combined with the surrounding urban environment indicate that other native non-flying mammal species are unlikely to occur within the subject site.

As with many urban areas, the subject site supports a range of introduced mammals. Signs (scats and burrows) recorded during the survey indicate that the European Red Fox (*Vulpes vulpes*), Black Rat (*Rattus rattus*) and House Mouse (*Mus musculus*) are abundant within the subject site.

Although there are no DECC database records for any threatened non-flying mammals within the City of Sydney LGA, EPBC database searches indicate that two of these species have the potential to occur in the locality of the subject site. These are the Spotted-tail Quoll (*Dasyurus maculatus*) and the Long-nosed Potoroo (*Potorous tridactylus*). The subject site was also surveyed to determine the potential presence of the Long-nosed Bandicoot (*Perameles nasuta*) which is known to occur in adjacent LGAs. No signs of these species were recorded during the survey, and habitat assessment indicates that the subject site does not provide suitable habitat for either the Spotted-tailed Quoll or the Long-nosed Potoroo. Although suitable habitat is present for the Long-nosed Bandicoot, the abundance of Foxes within the subject site combined with the use of pesticides indicates that the Long-nosed Bandicoots would not occur here.

Bats

The subject site provides suitable forage habitat for a range of microchiropteran (microbats) and megachiropteran (flying-foxes) bats. In addition, small tree hollows, dense garden vegetation and artificial structures such as buildings provide suitable roosting habitat for a number of microbat species.

Anabat devices used during surveys failed to detect any of the microbat species that could potentially occur in the wider locality of the subject site. Despite the absence of survey or DECC records it is likely that the subject site would provide suitable forage for a range of common microbat species. The disused buildings within the subject site are also likely to provide suitable roost habitat for a number of these species.

The EPBC database searches indicate the potential for the threatened Large-eared Pied Bat (*Chalinolobus dwyeri*) to occur in the locality of the subject site. Surveys and habitat assessment indicate that the subject site does not provide suitable habitat for this cave-roosting species, and the occurrence of the Large-eared Pied Bat here is therefore unlikely.

The Grey-headed Flying-fox (*Pteropus poliocephalus*) is listed as vulnerable under both the EPBC Act and the TSC Act. This species was recorded foraging within the subject site during the surveys, and is known to roost in Royal Botanic Gardens approximately 1.5km from the site. The subject site provides forage for the Grey-headed Flying-fox in the form of fruiting figs and Camphor Laurel, and blossoming *Angophora* and *Eucalyptus*. However, the subject site does not provide suitable roosting or breeding habitat for this species.

A seven part test of significance for the Grey-headed Flying-fox is provided in Appendix C.

A.4 Impacts and Mitigation

A.4.1 Threatened fauna species

One threatened fauna species was found to occur within the subject site, the Grey-headed Flying-fox (*Pteropus poliocephalus*), which is listed as vulnerable under both the EPBC Act and the TSC Act. This species is known to roost at Royal Botanic Gardens approximately 1.5km to the north of the subject site, and individuals from this camp forage extensively throughout Sydney. It is likely that Grey-headed Flying-foxes recorded foraging within the subject site are from this camp.

As a result of the proposed development of the site it is likely that some of the trees providing forage for the Grey-headed Flying-fox will be removed from the subject site. However, a number of forage trees will be retained under the proposed development, and it is likely that the subject site will continue to provide foraging habitat for the Grey-headed Flying-fox during and after the proposed development. Development of the subject site is not considered to have an impact on this species because it will result in the removal of a negligible area of foraging habitat for the species.

A.4.2 Mitigation measures

Any proposed development within the subject site will result in a minor loss of habitat for common native and introduced fauna. In addition, development will remove potential roost habitat for common microbat species. The following measures are recommended to minimise the impact of the proposal on these species.

Pre-demolition removal of roofs

It is recommended that steps be taken to allow potentially occurring microbats and other fauna to vacate the buildings if demolition or major reconstruction is required under the proposed development. This would include careful removal of the roof of the buildings to allow the species to escape during the following night. Removing the roofs of the buildings would reduce the suitability of the derelict buildings as habitat for nocturnal species that use them as shelter during the day, and would discourage these animals from returning.

Manual fauna removal

Immediately prior to the commencement of development work it is recommended that a fauna trapping program should be implemented to remove fauna that currently occupies the buildings destined for demolition or reconstruction. Trapping should continue for a one week period, with all trapped fauna being removed from the subject site. Native fauna should be relocated to a nominated site, and introduced species should be disposed of ethically.

In addition to pre-demolition work, a trained ecologist/fauna handler should be on call during demolition to aid in the safe removal of any additional fauna still present within the building or to handle injured wildlife.

If any animals are spotted trying to exit the buildings by demolition contractors, work should temporarily stop to allow the animal to reach a safe position.

Appendix B

Photographs of fauna habitat values



Photograph B.1 – ESTABLISHED GARDENS WITHIN THE SUBJECT SITE



Photograph B.2 – DENSE UNDERSTOREY VEGETATION AND DISUSED BUILDING



Photograph B.3 – FORAGE HABITAT FOR FRUGIVOROUS BIRDS AND FLYING-FOXES



Photograph B.4 – SHELTER HABITAT FOR NON-FLYING MAMMALS



Photograph B.5 – ROOST AND NESTING HABITAT FOR PIGEONS AND MICROBATS



Photograph B.6 – URBAN DEVELOPMENT SURROUNDING THE SUBJECT SITE

Appendix C

Seven Part test of significance for the Grey-headed Flying-fox

C.1 Seven-part test of significance for the Grey-headed Flying-fox

Plans of the proposed development have at this stage not yet been provided, therefore a precise assessment of impacts of the development is unable to be prepared. However, an assessment of significance based upon the following two possible development scenarios has been prepared to proceed with the preparation of this report:

- **Scenario 1:** Development on a scale that is required to remove all or part of the vegetation providing forage habitat; and
 - **Scenario 2:** Development on a scale that retains trees wherever possible and does not require removal of any of the vegetation providing forage habitat.
- 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,*

In the case of Grey-headed Flying-fox (*Pteropus poliocephalus*) the site is only small in size and does not contain roost habitat. The loss of habitat under either **Scenario 1** or **2** is not large enough to have an adverse effect on the life cycle of the species such that local populations are likely to 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,*

Not applicable.

- c) *In the case of an endangered ecological community or critically 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 of the ecological community such that its local occurrence is likely to be placed at risk of extinction.*

Not applicable.

- d) *In relation to the habitat of a threatened species, population or ecological community:*
- (i) *the extent to which habitat is likely to be removed or modified as a result of the action proposed, and*

Scenario 1

It is considered likely that under this scenario a small area of the available forage habitat on the subject site is removed.

Scenario 2

It is considered likely that under this scenario no available forage habitat on the subject site is cleared.

- (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*

Given the highly fragmented nature of the forage habitat in the locality of the subject site at present it is considered unlikely that under either **Scenario 1** or **2** that further fragmentation will occur.

- (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.*

Scenario 1

In respect to Grey-headed Flying-fox under either **Scenario 1** or **2**, large areas of more suitable forage habitat are available to these species in the local area, therefore the habitat to be removed is not considered important to the local survival of these species.

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

No critical habitat for this species has been listed by the Director-General of DECCW.

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

No recovery plan exists for the Grey-headed Flying-fox. No threat abatement plans are relevant to this species.

- 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 proposed action under either **Scenario 1** or **2** does not constitute a key threatening process, and is unlikely to result in an increase of any key threatening processes. As the vegetation on the subject site is not considered to form part of a native vegetation community, and is mainly comprised of plants trees and garden species, removal of vegetation under **Scenario 1** is not considered to constitute the key threatening process *Clearing of native vegetation*.

Conclusion

Any proposed development on the subject site is not likely to have a significant impact on this species. No Species Impact Statement is required.