ASSESSMENT OF THE IMPACT OF THE

KIOLOA BEACH HOLIDAY PARK

ON THREATENED SPECIES OF FAUNA AND FLORA

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Prepared for:

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by

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Disclaimer

The findings of this report are based on the author's analysis and interpretation of filed survey results. Views and interpretations presented in the report are those of the author.

Cover image: Scene from Kioloa Beach Holiday Park. Image G. Daly.

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1.0 BACKGROUND

1.1 Introduction

This report was commissioned by Kioloa Resort Pty Ltd to investigate the fauna and flora of Lot 128 DP40869 635 Murramurng Road Kioloa. The site is 9.2 hectares and is zoned 6(a) open space under Shoalhaven City Council Local Environmental Plan (LEP) 1985. Kioloa Beach Holiday Park has been in operation for many years. The following report assesses the impact of the park on threatened species of fauna and flora in conjunction with a development application which seeks to legitimise the existing activities of the park. The exisitng use of the park includes short term caravan sites and camping. This report should be read in conjunction with a draft Plan of Management (Cowman Stoddart 2007).

Under the *Threatened Species Conservation* (TSCA) *Act 1995* (amended 2002) and the *Environment Protection and Biodiversity Conservation* (EPBC) *Act 1999* surveys for species/ecological communities listed under these acts have to be conducted and an assessment of the impact of the proposal on those species/ecological communities has to be undertaken prior to consent.

1.2 Project objectives

The objectives of the study were to:

- assess site's habitat for the threatened species of fauna;
- conduct surveys for fauna;
- provide data from surveys in an excel spreadsheet;
- assess the local and regional significance of select threatened species and endangered ecological communities;
- identify fauna habitat of conservation significance;
- provide management recommendations to protect and enhance existing habitat;
- apply the seven part test in Section 5A of the Environmental Planning and Assessment (EP and A) Act (1979), as amended by the TSC Act (1995) to determine whether there is likely to be a significant impact on threatened species or their habitat;
- apply Part 9 of the *Environment Protection and Biodiversity Conservation* (EPBC) *Act* (1999) to determine whether there is likely to be a significant impact on threatened species.

1.3 Description of study site

Kioloa Beach Holiday Park (Kioloa 1: 25,000 topographic map Lat 35° 33', Long 150° 23' AMG 262443 6062322, altitude 10 m AHD) is situated on the south coast of NSW, ninety five kilometres south of Nowra (Figure 1).

The vegetation on site is tall open forest dominated by Forest Red Gum *Eucalyptus tereticornis* and Spotted Gum *Corymbia maculata*. The midcanopy and ground cover has been removed or high modified to cater for the existing operation of the Caravan park. The land has low topographic relief and the soil varies from sandy loams (derived from deposited costal dunes) to heavy clay podsols.

1.4 Threatened species in the locality

Records from Department of Environment and Conservation (DEC) wildlife atlas and the author's database indicate the threatened species and endangered ecological community listed in Table 1 have been found within five kilometres of the site. No species of threatened flora have been located within a radius of five kilometres of the property.

Table 1. Terestrial threatened species recorded within five kilometres of the property

Threatened species or ecological community	Scientific name	Schedule 1 or 2	Most recent record
Tiger Quoll	*Dasyurus maculata*	2	2005
White-footed Dunnart	*Sminthopsis leucopus*	2	1987
Southern Brown Bandicoot	*Isoodon obesulus obesulus*	1	1985
Yellow-bellied Glider	*Petaurus australis*	2	2006
Squirrel Glider	*Petaurus norfolcensis*	2	1987
Grey-headed Flying Fox	*Pteropus poliocephalus*	2	2000
Eastern False Pipistrelle	*Falsistrellus tasmaniensis*	2	1993
Eastern Bentwing-bat	*Miniopterus schreibersii*	2	1993
Large-footed Myotis	*Myotis adversus*	2	2001
Greater Broad-nosed Bat	*Scoteanax rueppellii*	2	2001
Glossy Black Cockatoo	*Calyptorhynchus lathami*	2	1997
Ground Parrot	*Pezoporus wallicus wallicus*	2	1998
Powerful Owl	*Ninox strenua*	2	2000
Masked Owl	*Tyto novaehollandiae*	2	2003
Sooty Owl	*Tyto tenebricosa*	2	1998
Hooded Plover	*Thinornis rubricollis*	1	2003
Sooty Oystercatcher	*Haematopus fuliginosus*	2	2006
Green and Golden Bell Frog	*Litoria aurea*	1	2000
Bangalay forest on coastal sands			

2.0 METHODS

2.1 Fauna surveys

Surveys for fauna were conducted on 2 July 2007. This involved diurnal and nocturnal surveys. The diurnal search involved foot searches within the property and recording species of bird and noting indirect evidence of mammals such as scratches on trees and scats. Targeted searches were made on and off site for trees incised by the Yellow-bellied Glider *Petaurus australis* as the habitat on the property was considered suitable for this species. A nocturnal search was conducted that involved dusk stag watching for animal emerging from hollow-bearing trees and searches made on foot for arboreal mammals with the use of a 12 volt spotlight for a period of 40 minutes. The temperature during the survey periods was cool (circa 18°C diurnal and 12°C during the night-time survey), it was overcast during the surveys and relatively still.

2.2 Flora surveys

The flora surveys were conducted on 2 July 2007. Plant identifications were made according to nomenclature used in Harden (1990, 1991, 1992 and 1993). Recent name changes outlined in issues of Cunninghamia and Telopea were used where applicable. The conservation significance of species was established with reference to Briggs and Leigh (1999) and the TSC Act (1995).

The vegetation was searched using a general botanic survey method, as outlined by York, Binns and Shields (1991), in order to establish an inventory of most plant species occurring in the study area and to determine the location and extent of vegetation types (Appendix A).

3.0 RESULTS

3.1 Vegetation communities and fauna habitat

The vegetation communities identified on the property were:

- Forest Red Gum *Eucalyptus tereticornis* woodland;
- Bangaly *E. botryoides* forest on coastal sands;
- Swamp Oak *Casuarina galauca* forest and
- Exotic grassland.

Approximately 50% of the site was covered with native vegetation and the remaining area is open grassland or infrastructre such as roads, cabins, swimming pool or ponds. Fallen logs and surface rock were largely absent, however a relatively large number of trees contained hollows. Native bushland adjoined the site to the north and south. Large hollow-bearing trees were also present on the property and in the adjacent remnant bushland. To the north of the site is Butlers Creek (Figure 2), much of which is managed by the Canberra University research centre.

3.2 Suitability of the existing habitat for threatened species of fauna

Based on habitat and mobility the species of fauna most likely to utilise the property are the Yellow-bellied Glider (YBG) and Grey-headed Flying Fox *Petaurua poliocephalus*. In the Shoalhaven Local Government Area (LGA)the YBG is highly associated with vegetation communties where Grey Gum *Eucalyptus punctata* and Red Bloodwood *Corymbia gummifera* are present (Daly *et al.* 2000). The YBG occurring within Murramurang National Park are highly associated with mixed eucalypt forests. Within Murramurang National Park YBG incise Red Bloodwood (pers. obs.), a species which was absent from the study site.

The manager of the site Mr Van Bergen observed a number of Grey-headed Flying Fox on site a few years ago, presumably when the eucalypts were flowering. The drainage line and one sewerage treatment pond is considered potential abitat for the Green and Golden Bell Frog *Litoria aurea*. The Powerful Owl *Ninox strenua* and Masked Owl *Tyto novaehollandiae* may forage occassionally on site. Threatened species of insectivorous bat may also forage and possibly roost on site.

3.3 Spotlighting

One species of mammal were detected during the spotlight search, namely the Common Brushtail Possum *Trichosurus caninus* (N = 5). The Common Eastern Froglet *Crinia*

signifera, Haswell's Frog *Paracrinia haswelli* and Verreaux's Tree Frog *Litoria verreauxii* could be head from adjacent farmland (presumably from beside dams).

3.4 Bird survey

The managers of the park have recored 50 species of bird on and adjacent to the site. During the current assesment 26 species were recorded. The entire species list for the park is given in Appendix A (marine species detected off site not recorded). No threatened species were recorded on the property. However, the Sooty Oystercatcher was observed nearby on rock outcrops at Butlers Point.

3.5 Flora survey and assessment

The current suvey located 49 species of plant, including two species of fern, 39 dicotyledons and eight monocotyledons (Appendix B). A total of seven species were exotic and some have weeds potential. No species listed under the TSC Act (1995) were located. However, the canopy is composed of species that constitute engangered ecological communities as listed under that act.

Forest Red Gum *Eucalyptus tereticornis* woodland

This community has been extensively cleared within the south coast region. Within the Shoalhaven the community is a composite of various associations. These associations occur on various soil types (volcanic, clay and sandstone) and have a variety of associations with canopy and midcanopy species. There is a need to clarify the distribution and floristic diversity within the various communities where Forest Red Gum is a key canopy species.

Lowland Grassy Woodland in the South East Corner bioregion is proposed for listing as an endangered ecological community under the *TSC Act (1995).* In the Comprehensive Regional Assessment of southern New South Wales Thomas *et al.* (2000) define it as forest ecosystem 54.

Coastal Forest Red Gum forest is an open medium to tall forest, dominated by *Eucalyptus tereticornis*, with *E. botryoides* and *Angophora floribunda. Acacia mearnsii, Allocasuarina littoralis, Casuarina glauca, Exocarpus cupressiformis* and *Pittosporum undulatum* occasionally occur as small trees to 9 metres tall. The lower shrub understorey includes *Acacia longifolia var. sophorae* and *Bursaria spinosa.* The ground cover is dominated by *Imperata cylindrica* and *Lomandra spp,* with forbs including *Dichondra repens, Glycine*

clandestina, and the fern *Cheilanthes sieberi*. Unfortunately at the study site the shrub and ground cover layers have been either removed or highly modified.

Bangalay *E. botryoides* forest on coastal sands

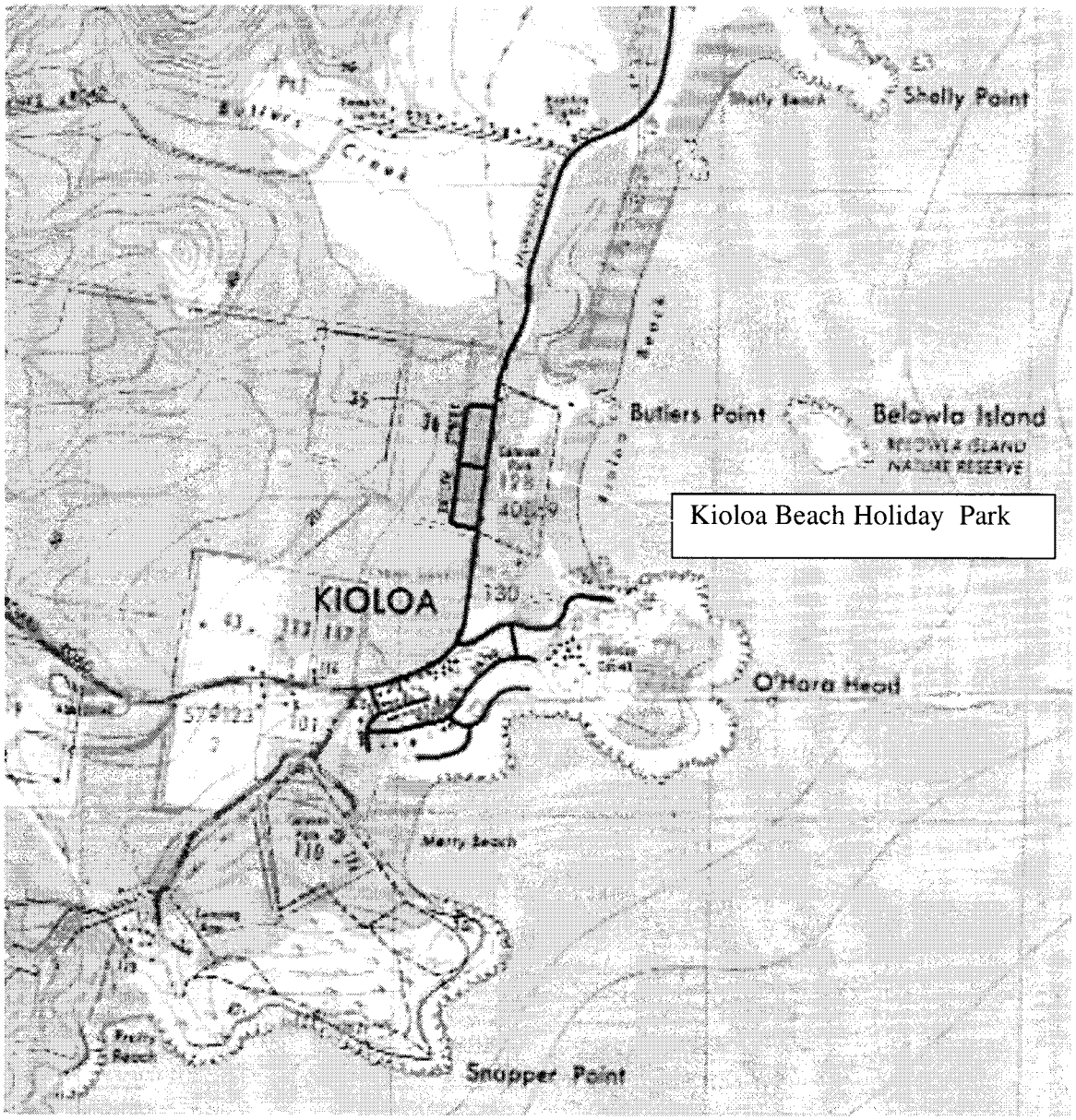
Bangalay Sand Forest of the Sydney Basin and South East Corner bioregions is listed on the TSC Act (1995) as an endangered ecological community. This is the name given to the ecological community associated with coastal sand plains of marine or Aeolian origin. In the Sydney-South Coast region, this community includes 'Ecotonal Coastal Hind Dune Swamp Oak-Bangalay Shrub Forest' (ecosystem 27) excluding those stands that are dominated by *Casuarina glauca* and 'Coastal Sands Shrub/Fern Forest' (ecosystem 28) of Thomas *et al.* (2000).

Bangalay Sand Forest of the Sydney Basin and South East Corner bioregions typically has a dense to open tree canopy, approximately 5 – 20 m tall, depending on exposure and disturbance history. The most common tree species include *Eucalyptus botryoides* (Bangalay) and *Banksia integrifolia* subsp. *integrifolia* (Coast Banksia), while *Eucalyptus pilularis* (Blackbutt) and *Acmena smithii* (Lilly Pilly) may occur in more sheltered situations, and *Casuarina glauca* (Swamp Oak) may occur on dunes exposed to salt-bearing sea breezes.

Swamp Oak *Casuarina galauca* forest

Swamp Oak Floodplain Forest of the NSW North Coast, Sydney Basin and South East Corner bioregions is listed on the TSC Act (1995) as an endangered ecological community. In the Comprehensive Regional Assessment of southern New South Wales (Thomas *et al.* 2000), this community includes 'Coastal Wet Heath Swamp Forest' (forest ecosystem 24), 'South Coast Swamp Forest' complex (forest ecosystem 25) and those parts of 'Ecotonal Coastal Swamp Forest' (forest ecosystem 27) dominated by *Casuarina glauca*. This forest was restricted to a small area around the ponds.

Figure 1. Location of the property. Base map courtesy Department of Lands.



4.0 ASSESSMENT OF IMPACTS

4.1 Threatened Species Conservation Act 1995- Seven-part test

Section 5A of the Environmental Planning and Assessment (EP and A) Act (1979), as amended by the *Threatened Species Conservation Act 1995* (amended 2002) sets out the factors to be considered in deciding whether there is likely to be a significant effect on threatened species, populations or communities and or their habitat.

An assessment of the habitat and likelihood of occurrence of threatend species within a five kilomete radius of the property is given in Table 2. Threatened species that may use the site include the bats, Powerful Owl and Masked Owl, Yellow-bellied Glider and the Green and Golden Bell Frog. In additional to those threatened species recorded on the wildlife atlas the Gang-gang Cockatoo may use the site.

Table 2. Habitat associated with threatened species within five kilometres of the site

Species	Habitat	Occurrence
Tiger Quoll	Closed forest and tall open forest	No
White-footed Dunnart	Open forest and heathland	No
Southern Brown Bandicoot	Coastal heaths, Bangalay forests	No
Yellow-bellied Glider	Forests containing Grey Gum and Red Bloodwood	Yes
Squirrel Glider	Tall open forest and woodland	Low
Eastern False Pipistrelle	Tall open forests along the escarpment	Low
Eastern Bentwing-bat	Variety of forest types	Low
Large-footed Myotis	Creek lines.	Yes
Greater Broad-nosed Bat	Tall open forests on the coastal plain	Yes
Grey-headed Flying Fox	Closed and open forests	Yes
Glossy Black Cockatoo	Forest containing Black Oak *Casuarina littoralis*	No
Ground Parrot	Coastal heaths	No
Powerful Owl	Tall open forests	Yes
Masked Owl	Tall open forests - woodland	Yes
Sooty Owl	Closed forest and tall open forest	No
Hooded Plover	Sandy beaches	No
Sooty Oystercatcher	Rock outrops, platforms on the beach	No
Green and Golden Bell Frog	Heathland and woodland	Yes

The factors of assessment:

(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,

This factor relates to those species listed on Part 1 and Part 4 of Schedule 1 and Part 1 of Schedule 1A and Part 1 of schedule 2 of the TSC Act, and Part 1 and Part 4 of Schedule 4 of the *Fisheries Management* (FM) *Act* 1994.

No species listed on Part 1 and Part 4 of Schedule 1 of the TSC Act were detected during the current assessment. However the habitat is suitable for the Large-footed Myotis, Greater Broad-nosed Bat, Yellow-bellied Glider, Gang-gang Cockatoo, Powerful Owl, Masked Owl and Grey-headed Flying Fox to forage and den. The proposal will not remove any trees (including hollow dependant ones) and hence the action will not impact on the threatened species of bat, Yellow-bellied Glider, Powerful Owl, Masked Owl. The existing use of the site as a caravan park is not considered 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.

Frogs were heard calling beside one of the ponds, however there is no evidence that the Green and Golden Bell Frog use these ponds for breeding. Fish were observed within one sewerage treatment pond and no frogs were heard calling from this pond. If Green and Golden Bell Frog exisitn in the area then one sewerage treatment pond may provide breeding hbitat for this species.

(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,

No endangered populations listed on Part 2 of Schedule 1 of the TSC Act and Part 2 of Schedule 4 of the FM Act, were found on site.

(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,

Bangalay forest on coastal sands, Lowland Grassy Woodland and Swamp Oak Floodplain Forest are listed under the TSC Act as endangered ecological communities. The proposal will not place these communities at risk of extinction. No trees will be removed as infrastructure has already been built for the park. Individual dead trees may require removal for safety of the park users. Stands of these forest types occur beside Butlers Creek and Murramarang National Park.

The proposal will not substantially and adversely modify the composition of the ecological communities such that its occurrence is likely to be placed at risk of extinction.

(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

(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) No additional habitat shall be removed as a result of the running of the caravan park or the provision of additional camp sites.

ii) The action shall not further fragment the existing habitat.

iii) No additional habitat shall be removed.

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

The DEC website was searched for critical habitat listed in the Register of Critical Habitat kept by the Director General of Department of Environment. Currently critical habitat has been declared for Little Penguin population at Sydney's North Harbour and Mitchell's rainforest snail in Scotts Island Nature Reserve. There are two recommendations for critical

habitat one for the Wollemi Pine and the Bomaderry Zieria. The proposal shall not have an adverse effect on critical habitat.

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

No recovery plan has been prepared for the Bangalay forest on coastal sands, Lowland Grassy Woodland and Swamp Oak Floodplain Forest. No recovery plans have been prepared for threatened species of insectivorous bats. Recovery plans have been prepared for the large forest owls, Yellow-bellied Glider and a draft for the Green and Golden Bell Frog. The actions are consistent with the objective within the recovery plans, that habitat will be retained. However, there is a need to clarify the identity of the fish in the sewerage treatment pond. If Plague Minnow *Gambusia holbrooki* exist on the site then actions should be taken to eliminate this species as it is listed as akey threateneing process under Schedule 3 of the TSC Act (1995).

(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 existing operation of the caravan park is not listed as a key threatening process under Schedule 3 of the TSC Act (1995). The dead senescent trees will be replaced by seedlings of the same species to offset natural losses.

4.2 EPBC Act (1999)

Under Part 9 of the EPBC Act (1999) an action that has, may have or is likely to have a significant impact on a matter of national environmental significance may only be taken with approval of the Commonwealth Minister for the Environment. By applying the Commonwealth's criteria for significance the proposed development does not need to be referred to the Commonwealth Minister for the Environment.

5.0 DISCUSSION

The proposal will not remove any native vegetation. No YBG were detected during the survey, however the Grey-headed Fly fox does forage on the site during periods when the eucalypts flower. The forest canopy on the property is contiguous with that of the surrounding bush and should be maintained to facilitate the movement of animals. The canopy also constitutes endangered ecological communities and under the the TSC Act (1995) must be retained.

6.0 CONCLUSIONS

No threatened species of fauna or flora were found on the property. The proposal does not require the removal of forest. Although the canopy on the property was primarly composed of endangered ecological communities the owners have retained much of the forest to provide amenity to the park users. Given the existing use of the land and the general retention of canopy species the proposal does not represent a significant impact on threatneed species or endangered ecological communties and no Species Impact Statement is required.

7.0 RECOMMENDATIONS

- Dead, hollow-bearing trees that exist on the site will require removal to avoid possible impacts with humans. There should be a policy of one for one, that is for every tree lost through disease, senscence, lightening strike or other factors the same species should be placed nearby.
- Several species of weed are grown as ornamental within the park. These include some species not listed in Appendix B as currently they have not spread from their initial plantings. These include Cocus Palms *Syagrus romanzoffiana*, Washintonia Palms *Washintonia robusta,* Date Palms *Phoenix spp.* and a form of morning glory vine. These weed species have the potential to spread into adjacent bushland as their seeds are dispersed by birds and Flying Fox and should be removed. Other species of weeds that occur as ornamental planting in the park include Fishbone fern *Nephrolepis cordifolia,* Honeysuckle *Lonicera japonica,* Mother of Millions *Bryophyllum delagoense,* Agapanthus *Agapanthus praecox and* Asparagus Fern *Asparagus aethiopicus.* These species should also be removed as they threaten the integrity of the adjoining bushland.
- Many of the above weeds have native (often endemic) equivalents that can be used as ornamental plantings and provide a similar form. For example Cabbage Tree Palms *Livistona australis* should be planted instead of Washingtonia palms and Bangalow Palms or Foxtail palms can be used instead of Cocos.
- An education program needs to be developed for the visitors of the Park. Issues that should be addressed in the program include the planting of local native species that complement the surrounding bushland. The need to remove exotic plants that have invaded nearby bushland and the need to remove (over time) inappropriate non-native species.
- Firewood cannot be collected from the adjoining reserve. It is an important part of the habitat and needs to be left in the bushland.

- Animal feeding should be discouraged. Hand feeding can inflate the numbers of some species and animals can become aggressive and therefore a nuisance to visitors.
- The identity of the fish in the ponds requires resolution. If Plague Minnow exist in the pond then it should be drained or the water treated to eliminate this species.

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Appendix A. Fauna detected at Kioloa Caravan Park

Nomenclature is based on Cogger (2000), Strahan (1995) and Christides and Boles (1994).

Key

Record	o	observed during survey
	w	heard call
	s	scats
	p	previous recorded by Mr and Mrs Van Bergen
	*	introduced species

Mammals

Family	Species	Common Name	
Phalangeridae	*Trichosurus vulpecula*	Common Brushtail Possum	o
Macropodidae	*Macropus giganteus*	Eastern Grey Kangaroo	o
	Wallabia bicolor	Swamp Wallaby	s
Leporidae	*Oryctolagus cuniculus*	Rabbit*	s

Birds

Family	Species	Common Name	
Anatidae	*Anus superciliosa*	Black Duck	w
	Anus castanea	Chestnut Teal	o
	Chenonetta jubata	Australian Wood Duck	o
Phalacrocoracidae	*Phalacrocorax melanoleucos*	Little Pied Cormorant	p
	Phalacrocorax carbo	Great Cormorant	p
Ardeidae	*Egretta novaehollandiae*	White Faced Heron	o
	Egretta garzetta	Little Egret	p
	Nycticorax coledonicus	Nankeen Night Heron	p
Accipitridae	*Accipiter fasciatus*	Brown Goshawk	o
	Haliastur sphenurus	Whistling Kite	p
Rallidae	*Porphyrio porphyrio*	Purple Swamphen	p
Charadriidae	*Vanellus miles*	Masked Lapwing	p
Laridae	*Larus novaehollandiae*	Silver Gull	p
Columbidae	*Columba leucomela*	White-headed Pigeon	p
	Ocyphaps lophotes	Crested Pigeon	o
	Leucosarica melanoleuca	Wonga Pigeon	p
Cacatuidae	*Calyptorhynchus funereus*	Yellow-tailed Black-cockatoo	p

Family	Species	Common Name	
	Cacatua roseicapilla	Galah	o
	Cacatua galerita	Sulfur-crested Cockatoo	p
Psittacidae	*Trichoglossus haematodus*	Rainbow Lorikeet	o
	Platycercus elegans	Crimson Rosella	o
	Alisterus scapulasis	Australian King Parrot	o
	Glossopsitta concinna	Musk Lorikeet	p
Halcyonidae	*Dacelo novaeguineae*	Laughing Kookaburra	o
Maluridae	*Malurus cyaneus*	Superb Fairy-wren	o
Pardalotidae	*Acanthiza lineata*	Striated Thornbill	o
Meliphagidae	*Anthochaera carunculata*	Red Wattlebird	h
	Anthochaera chrysoptera	Little Wattlebird	w
	Meliphaga lewinii	Lewin's Honeyeater	o
	Lichenostomus chrysops	Yellow-faced Honeyeater	p
	Phylidonyris novaehollandiae	New Holland Honeyeater	h
	Acanthorhynchus tenuirostris	Eastern Spinebill	o
Petroicidae	*Eopsaltria australis*	Eastern Yellow Robin	p
Dicruridae	*Rhipidura fuliginosa*	Grey Fantail	o
	Rhipidura leucophrys	Willie Wagtail	o
	Grallina cyanoleuca	Magpie Lark	o
Campephagidae	*Coracina novaehollandiae*	Black-faced Cuckoo-shrike	p
Artamidae	*Artamus cyanopterus*	Dusky Woodswallow	p
	Cracticus torquatus	Grey Butcherbird	h
	Gymnorhina tibicen	Australian Magpie	o
	Strepera graculina	Pied Currawong	o
Corvidae	*Corvus coronoides*	Australian Raven	o
Passeridae	*Neochmia temporalis*	Red-browed Firetail	p
Hirundinidae	*Hirundo neoxena*	Welcome Swallow	o
	Hirundo aeriel	Fairy Martin	p
Sylviidae	*Cisticola exilis*	Golden-headed Cisticola	p
Zosteropidae	*Zosterops lateralis*	Silvereye	o
Sturnidae	*Sturnus vulgaris*	Common Starling*	p

Amphibians

Family	Species	Common Name	
Hylidae	*Litoria verreauxii*	Verreaux's Tree Frog	w
Myobatrachidae	*Crinia signifera*	Common Eastern Froglet	W
	Paracrinia haswelli	Haswell's Frog	W

Family	Species	Common Name
Oleaceae	*Notelaea longifolia.*	Mock Olive
Pittosporaceae	*Pittosporum revolutum*	
	Pittosporum undulatum	Sweet Pittosporum
Proteaceae	*Banksia integrifolia*	Coastal Banksia
	Hakea salicifolia	Willow-leafed Hakea
Ranunculaceae	*Clematis aristata*	Old Man's Beard
Santalaceae	*Exocarpus cupressiformis*	Cherry Ballart
Ulmaceae	*Trema tomentosa*	Native Peach
Zingiberaceae	*Canna indica* *	Canna Lily
MAGNOLIOPSIDA	**MONOCOTYLEDONS**	
Asparagaceae	*Asparagus aethiopicus* *	Asparagus Fern
Cyperaceae	*Gahnia sieberana*	Cutty Grass
Iridaceae	*Aristea ecklonii* *	Aristea
Liliaceae	*Agapanthus praecox* *	Agapanthus
Lomandraceae	*Lomandra longifolia*	Mat Rush
Philesiaceae	*Eustrephus latifolius*	Wombat Berry
Poaceae	*Imperata cylindrica*	Blady Grass
	Pennisetum clandestinum *	Kikuyu