

Appendix 1

Bird species recorded at Shortland Wetlands and Kooragang Nature Reserve

Records for Shortland Wetlands from Barden (2002). Records for Kooragang derived from Holmes, van Gessel and Kendall, Morris, Clarke and van Gessel *in* NPWS 1998; and NPWS (2002a).

Key

- V1** Listed as ‘Vulnerable’ under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)
- V2** Listed as ‘Vulnerable’ under the NSW *Threatened Species Conservation Act 1995*
- V3** Listed as ‘Vulnerable’ under the *IUCN Redlist of Threatened Species 2000*
- E1** Listed as ‘Endangered’ under the EPBC Act
- E2** Listed as ‘Endangered’ under the NSW *Threatened Species Conservation Act 1995*
- M** Migratory species listed under international treaties: Japan-Australia or China-Australia Migratory Bird Agreements (JAMBA or CAMBA)
- * Introduced species
- # Recorded at the site
- nr Not recorded at the site

Scientific Name	Common Name	Status	Shortland	Kooragang
GALLIFORMES				
Phasianidae	Old World Quail and Pheasant			
<i>Coturnix chinensis</i>	King Quail		nr	#
<i>Coturnix ypsilophora</i>	Brown Quail		#	#
ANSERIFORMES				
WATERFOWL				
Anatidae	Ducks, Geese and Swans			
<i>Anas castanea</i>	Chestnut Teal		#	#
<i>Anas clypeata</i>	Northern Shoveler	M	#	nr
<i>Anas gracilis</i>	Grey Teal		#	#
<i>Anas platyrhynchos</i>	Mallard		#	nr
<i>Anas querquedula</i>	Garganey	M	#	nr
<i>Anas rhynchotis</i>	Australasian Shoveler		#	#
<i>Anas superciliosa</i>	Pacific Black Duck		#	#
<i>Aythya australis</i>	Hardhead		#	#
<i>Biziura lobata</i>	Musk Duck		#	#
<i>Chenonetta jubata</i>	Australian Wood Duck		#	#
<i>Cygnus atratus</i>	Black Swan		#	#
<i>Dendrocygna arcuata</i>	Wandering Whistling-Duck		#	nr
<i>Dendrocygna eytoni</i>	Plumed Whistling-Duck		#	#

Scientific Name	Common Name	Status	Shortland	Kooragang
<i>Malacorhynchus membranaceus</i>	Pink-eared Duck		#	#
<i>Oxyura australis</i>	Blue-billed Duck	V2	#	nr
<i>Stictonetta naevosa</i>	Freckled Duck	V2	#	#
<i>Tadorna tadornoides</i>	Australian shelduck		nr	#
Anseranatidae	Magpie Goose			
<i>Anseranas semipalmata</i>	Magpie Goose	V2	#	nr
PODICIPEDIFORMES	GREBES			
Anhingidae	Darters			
<i>Anhinga melanogaster</i>	Darter		#	#
Pelecanidae	Pelicans			
<i>Pelecanus conspicillatus</i>	Australian Pelican		#	#
Phalacrocoracidae	Cormorants			
<i>Phalacrocorax carbo</i>	Great Cormorant		#	#
<i>Phalacrocorax melanoleucos</i>	Little Pied Cormorant		#	#
<i>Phalacrocorax sulcirostris</i>	Little Black Cormorant		#	#
<i>Phalacrocorax varius</i>	Pied Cormorant		#	#
Podicipedidae	Grebes			
<i>Podiceps cristatus</i>	Great Crested Grebe		nr	#
<i>Poliiocephalus poliocephalus</i>	Hoary-headed Grebe		nr	#
<i>Tachybaptus novaehollandiae</i>	Australasian Grebe		#	#
CICONIIFORMES	HERONS, STORKS AND IBIS			
Ardeidae	Hérons and Egrets			
<i>Ardea alba</i>	Great Egret	M	#	#
<i>Ardea ibis</i>	Cattle Egret	M	#	#
<i>Ardea intermedia</i>	Intermediate Egret		#	#
<i>Ardea pacifica</i>	White-necked Heron		#	#
<i>Botaurus poiciloptilus</i>	Australasian Bittern	V2, V3	#	#
<i>Butorides striatus</i>	Striated Heron		nr	#
<i>Egretta garzetta</i>	Little Egret		#	#
<i>Egretta novaehollandiae</i>	White-faced Heron		#	#
<i>Ixobrychus flavicollis</i>	Black Bittern	V2	nr	#
<i>Ixobrychus minutus</i>	Little Bittern		#	#
<i>Nycticorax caledonicus</i>	Nankeen Night Heron		#	#
Ciconiidae	Storks			
<i>Ephippiorhynchus asiaticus</i>	Black-necked Stork	E2	#	#
Threskiornithidae	Ibis and Spoonbills			
<i>Platalea flavipes</i>	Yellow-billed Spoonbill		#	#
<i>Platalea regia</i>	Royal Spoonbill		#	#
<i>Plegadis falcinellus</i>	Glossy Ibis	M	#	#
<i>Threskiornis molucca</i>	Australian White Ibis		#	#
<i>Threskiornis spinicollis</i>	Straw-necked Ibis		#	#
FALCONIORMES	DIURNAL BIRDS OF PREY			
Accipitridae	Hawks, Eagles and Kites			
<i>Accipiter cirrocephalus</i>	Collared Sparrowhawk		#	nr

Scientific Name	Common Name	Status	Shortland	Kooragang
<i>Accipiter fasciatus</i>	Brown Goshawk		#	nr
<i>Accipiter novaehollandiae</i>	Grey Goshawk		#	nr
<i>Aquila audax</i>	Wedge-tailed Eagle		#	nr
<i>Aviceda subcristata</i>	Pacific Baza		#	#
<i>Circus approximans</i>	Swamp Harrier		#	#
<i>Circus assimilis</i>	Spotted Harrier		#	nr
<i>Elanus axillaris</i>	Black-shouldered Kite		#	#
<i>Erythrotriorchis radiatus</i>	Red Goshawk	V1, E2	#	nr
<i>Haliaeetus leucogaster</i>	White-bellied Sea-Eagle	M	#	#
<i>Haliastur indus</i>	Brahminy Kite		#	nr
<i>Haliastur spheurus</i>	Whistling Kite		#	#
<i>Hieraaetus morphnoides</i>	Little Eagle		#	nr
<i>Lophoictinia isura</i>	Square-tailed kite	V2	nr	#
<i>Pandion haliaetus</i>	Osprey	M, V2	#	nr
Falconidae	Falcons			
<i>Falco berigora</i>	Brown Falcon		#	nr
<i>Falco cenchroides</i>	Nankeen Kestrel		#	#
<i>Falco longipennis</i>	Australian Hobby		#	#
<i>Falco peregrinus</i>	Peregrine Falcon		#	#
<i>Falco subniger</i>	Black Falcon		nr	#
GRUIFORMES	RAILS, CRANES AND BUSTARDS			
Rallidae	Rails, Crakes and Gallinules			
<i>Fulica atra</i>	Eurasian Coot		#	#
<i>Gallinula tenebrosa</i>	Dusky Moorhen		#	#
<i>Gallirallus philippensis</i>	Buff-banded Rail		#	#
<i>Porphyrio porphyrio</i>	Purple Swampphen		#	#
<i>Porzana fluminea</i>	Australian Spotted Crake		#	#
<i>Porzana pusilla</i>	Baillon's Crake		#	#
<i>Porzana tabuensis</i>	Spotless Crake		#	#
<i>Rallus pectoralis</i>	Lewin's Rail		nr	#
CHARADRIIFORMES				
Burhinidae				
<i>Burhinus grallarius</i>	Bush Stone Curlew	E2	nr	#
Charadriidae	Plovers and Lapwings			
<i>Charadrius bicinctus</i>	Double-banded Plover		nr	#
<i>Charadrius hiaticula</i>	Ringed Plover	M	nr	#
<i>Charadrius lescenaaultii</i>	Greater Sand Plover	M,V2	nr	#
<i>Charadrius mongolus</i>	Mongolian Plover	M,V2	nr	#
<i>Charadrius ruficapillus</i>	Red-capped Plover		nr	#
<i>Charadrius veredus</i>	Oriental Plover	M	nr	#
<i>Elsayornis melanops</i>	Black-fronted Dotterel		#	#
<i>Erythrogonys cinctus</i>	Red-kneed Dotterel		#	#
<i>Pluvialis dominica</i>	Lesser Golden Plover	M	nr	#
<i>Pluvialis fulva</i>	Pacific Golden Plover		nr	#

Scientific Name	Common Name	Status	Shortland	Kooragang
<i>Pluvialis squatarola</i>	Grey Plover	M	nr	#
<i>Vanellus miles</i>	Masked Lapwing		#	#
<i>Vanellus tricolor</i>	Banded Lapwing		nr	#
Glareolidae				
<i>Glareola maldivarum</i>	Oriental Pratincole	M	nr	#
Haematopodidae	Oystercatchers			
<i>Haematopus fuliginosus</i>	Sooty Oystercatcher	V2	nr	#
<i>Haematopus longirostris</i>	Pied Oystercatcher	V2	nr	#
Jacaniidae	Jacanas			
<i>Irediparra gallinacea</i>	Comb-crested Jacana	V2	#	#
Laridae	Gulls, Terns and Skuas			
<i>Chlidonias hybridus</i>	Whiskered Tern		#	#
<i>Chlidonias leucopterus</i>	White-winged Black Tern	M	#	#
<i>Chlidonias niger</i>	Black Tern	M	nr	#
<i>Larus dominicanus</i>	Kelp Gull		nr	#
<i>Larus novaehollandiae</i>	Silver Gull		#	#
<i>Sterna albifrons</i>	Little Tern	M,E2	nr	#
<i>Sterna bergii</i>	Crested Tern		nr	#
<i>Sterna caspia</i>	Caspian Tern	M	#	#
<i>Sterna hirundo</i>	Common Tern	M	nr	#
<i>Sterna nilotica</i>	Gull-billed Tern		nr	#
<i>Sterna paradisea</i>	Arctic Tern		nr	#
<i>Sterna striata</i>	White-fronted Tern		nr	#
Recurvirostridae	Stilts and Avocets			
<i>Cladorhynchus leucocephalus</i>	Banded Stilt		nr	#
<i>Himantopus himantopus</i>	Black-winged Stilt		#	#
<i>Recurvirostra novaehollandiae</i>	Red-necked Avocet		#	#
Rostratulidae	Snipes			
<i>Rostratula benghalensis</i>	Painted Snipe	M	nr	#
Scolopacidae	Sandpipers			
<i>Actitis hypoleucos</i>	Terek Sandpiper		nr	#
<i>Arenaria interpres</i>	Ruddy Turnstone		nr	#
<i>Calidris acuminata</i>	Sharp-tailed Sandpiper	M	#	#
<i>Calidris alba</i>	Sanderling	M,V2	nr	#
<i>Calidris canutus</i>	Red Knot	M	nr	#
<i>Calidris ferruginea</i>	Curlew Sandpiper	M	#	#
<i>Calidris melanotos</i>	Pectoral Sandpiper	M	nr	#
<i>Calidris minuta</i>	Little Stint		nr	#
<i>Calidris ruficollis</i>	Red-necked Stint	M	#	#
<i>Calidris tenuirostris</i>	Great Knot	M,V2	nr	#
<i>Gallinago hardwickii</i>	Latham's Snipe	M	#	#
<i>Heteroscelus brevipes</i>	Grey-tailed Tattler		nr	#
<i>Heteroscelus incanus</i>	Wandering Tattler		nr	#
<i>Limicola falcinellus</i>	Broad-billed Sandpiper	M,V2	nr	#

Scientific Name	Common Name	Status	Shortland	Kooragang
<i>Limnodromus semipalmatus</i>	Asian Dowitcher	M	nr	#
<i>Limosa haemastica</i>	Hudsonian Godwit		nr	#
<i>Limosa lapponica</i>	Bar-tailed Godwit	M	nr	#
<i>Limosa limosa</i>	Black-tailed Godwit	M,V2	nr	#
<i>Numenius madagascariensis</i>	Eastern Curlew	M	nr	#
<i>Numenius minutus</i>	Little Curlew	M	nr	#
<i>Numenius phaeopus</i>	Whimbrel	M	nr	#
<i>Philomachus pugnax</i>	Ruff	M	nr	#
<i>Tringa glareola</i>	Wood Sandpiper	M	#	#
<i>Tringa nebularia</i>	Common Greenshank	M	#	#
<i>Tringa stagnatilis</i>	Marsh Sandpiper	M	#	#
<i>Tryngites subruficollis</i>	Buff-breasted Sandpiper	M	nr	#
<i>Xenus cinereus</i>	Terek Sandpiper	V2	nr	#
COLUMBIFORMES	PIGEONS AND DOVES			
Columbidae	Pigeons and Doves			
<i>Chalcophaps indica</i>	Emerald Dove		#	nr
<i>Columba leucomela</i>	White-headed Pigeon		#	nr
<i>Columba livia</i>	Rock Dove	*	#	#
<i>Geopelia humeralis</i>	Bar-shouldered Dove		#	nr
<i>Lopholaimus antarcticus</i>	Topknot Pigeon		#	nr
<i>Macropygia amboinensis</i>	Brown Cuckoo-Dove		#	nr
<i>Ocyphaps lophotes</i>	Crested Pigeon		#	nr
<i>Streptopelia chinensis</i>	Spotted Turtle-Dove	*	#	nr
PSITTACIFORMES	COCKATOOS, PARROTS AND LORIKEETS			
Cacatuidae	Cockatoos			
<i>Cacatua galerita</i>	Sulphur-crested Cockatoo		#	nr
<i>Cacatua roseicapilla</i>	Galah		#	nr
<i>Cacatua sanguinea</i>	Little Corella		#	nr
<i>Cacatua tenuirostris</i>	Long-billed Corella		#	nr
<i>Calyptorhynchus funereus</i>	Yellow-tailed Black-Cockatoo		#	nr
<i>Nymphicus hollandicus</i>	Cockatiel		#	nr
Psittacidae	Parrots and Lorikeets			
<i>Alisterus scapularis</i>	King Parrot		#	nr
<i>Glossopsitta pusilla</i>	Little Lorikeet		#	nr
<i>Platycercus adscitus</i>	Pale-headed Rosella		#	nr
<i>Platycercus eximius</i>	Eastern Rosella		#	#
<i>Psephotus haematonotus</i>	Red-rumped Parrot		#	nr
<i>Trichoglossus chlorolepidotus</i>	Scaly-breasted Lorikeet		#	nr
<i>Trichoglossus haematodus</i>	Rainbow Lorikeet		#	nr
CUCULIFORMES	CUCKOOS AND COUCALS			
Centropodidae	Coucal			
<i>Centropus phasianinus</i>	Pheasant Coucal		#	nr
Cuculidae	Cuckoos			
<i>Cacomantis flabelliformis</i>	Fan-tailed Cuckoo		#	nr

Scientific Name	Common Name	Status	Shortland	Kooragang
<i>Cacomantis variolosus</i>	Brush Cuckoo		#	nr
<i>Chrysococcyx basalis</i>	Horsfield's Bronze-Cuckoo		#	#
<i>Chrysococcyx lucidus</i>	Shining Bronze-Cuckoo		#	nr
<i>Cuculus pallidus</i>	Pallid Cuckoo		#	nr
<i>Cuculus saturatus</i>	Oriental Cuckoo	M	#	#
<i>Eudynamys scolopacea</i>	Common Koel		#	nr
<i>Scythrops novaehollandiae</i>	Channel-billed Cuckoo		#	nr
STRIGIFORMES	OWLS			
Strigidae	Typical (Hawk) Owl			
<i>Ninox novaeseelandiae</i>	Southern Boobook		#	nr
Tytonidae	Barn Owls			
<i>Tyto alba</i>	Barn Owl		#	nr
<i>Tyto novaehollandiae</i>	Masked Owl	V2	#	nr
CAPRIMULGIFORMES	NIGHTJARS AND RELATIVES			
Podargidae	Frogmouths			
<i>Podargus strigoides</i>	Tawny Frogmouth		#	nr
APODIFORMES	SWIFTS			
Apodidae	Swifts			
<i>Hirundapus caudacutus</i>	White-throated Needletail	M	#	nr
CORACIFORMES	KINGFISHERS, ROLLERS AND BEE-EATERS			
Alcedinidae	Water Kingfishers			
<i>Alcedo azurea</i>	Azure Kingfisher		#	nr
Coraciidae	Rollers			
<i>Eurystomus orientalis</i>	Dollarbird		#	nr
Halcyonidae	Tree Kingfishers			
<i>Dacelo novaeguineae</i>	Laughing Kookaburra		#	#
<i>Todiramphus macleayi</i>	Forest Kingfisher		#	#
<i>Todiramphus sanctus</i>	Sacred Kingfisher		#	#
Meropidae	Bee-eaters			
<i>Merops ornatus</i>	Rainbow Bee-eater	M	#	nr
PASSERIFORMES	SONGBIRDS			
Artamidae	Woodswallows, Magpies, Butcherbirds and Currawongs			
<i>Artamus leucorhynchus</i>	White-breasted Woodswallow		#	#
<i>Cracticus nigrogularis</i>	Pied Butcherbird		#	nr
<i>Cracticus torquatus</i>	Grey Butcherbird		#	nr
<i>Gymnorhina tibicen</i>	Australian Magpie		#	#
<i>Strepera graculina</i>	Pied Currawong		#	nr
Campephagidae	Cuckoo-shrikes and Trillers			
<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-shrike		#	#
<i>Lalage sueurii</i>	White-winged Triller		#	#
Cinclosomatidae	Whipbirds and Quail-thrushes			
<i>Psophodes olivaceus</i>	Eastern Whipbird		#	nr

Scientific Name	Common Name	Status	Shortland	Kooragang
Climacteridae				
<i>Cormobates leucophaeus</i>	White-throated Treecreeper		nr	#
Corvidae	Ravens and Crows			
<i>Corvus coronoides</i>	Australian Raven		#	#
Dicaeidae	Flowerpeckers			
<i>Dicaeum hirundinaceum</i>	Mistletoebird		#	nr
Dicruridae	Monarchs, Fantails, Magpielarks and Drongos			
<i>Dicrurus bracteatus</i>	Spangled Drongo		#	nr
<i>Grallina cyanoleuca</i>	Magpie-lark		#	#
<i>Monarcha melanopsis</i>	Black-faced Monarch		#	nr
<i>Myiagra inquieta</i>	Restless Flycatcher		#	#
<i>Myiagra rubecula</i>	Leaden Flycatcher		#	nr
<i>Rhipidura fuliginosa</i>	Grey Fantail		#	#
<i>Rhipidura leucophrys</i>	Willie Wagtail		#	#
<i>Rhipidura rufifrons</i>	Rufous Fantail		#	nr
Fringillidae	Finches			
<i>Carduelis carduelis</i>	European Goldfinch	*	#	nr
Hirundinidae	Swallows and Martins			
<i>Hirundo ariel</i>	Fairy Martin		#	nr
<i>Hirundo neoxena</i>	Welcome Swallow		#	#
<i>Hirundo nigricans</i>	Tree Martin		#	nr
<i>Hirundo rustica</i>	Barn Swallow	M	#	nr
Maluridae	Fairy-wrens			
<i>Malurus cyaneus</i>	Superb Fairy-wren		#	#
<i>Malurus lamberti</i>	Variiegated Fairy-wren		#	nr
<i>Stipiturus malachurus</i>	Southern Emu-wren		#	nr
Meliphagidae	Honeyeaters			
<i>Acanthorhynchus tenuirostris</i>	Eastern Spinebill		#	nr
<i>Anthochaera carnunculata</i>	Red Wattlebird		#	nr
<i>Anthochaera chrysoptera</i>	Little Wattlebird		#	nr
<i>Epthianura albifrons</i>	White-fronted Chat		nr	#
<i>Lichenostomus chrysops</i>	Yellow-faced Honeyeater		#	nr
<i>Lichmera indistincta</i>	Brown Honeyeater		#	#
<i>Manorina melanocephala</i>	Noisy Miner		#	nr
<i>Melithreptus brevirostris</i>	Brown-headed Honeyeater		#	nr
<i>Melithreptus lunatus</i>	White-naped Honeyeater		#	nr
<i>Myzomela sanguinolenta</i>	Scarlet Honeyeater		#	nr
<i>Philemon citreogularis</i>	Little Friarbird		#	nr
<i>Philemon corniculatus</i>	Noisy Friarbird		#	nr
<i>Phylidonyris nigra</i>	White-cheeked Honeyeater		#	nr
<i>Phylidonyris novaehollandiae</i>	New Holland Honeyeater		#	nr
<i>Plectorhyncha lanceolata</i>	Striped Honeyeater		#	#
Motacillidae	Pipits and Wagtails			
<i>Anthus novaeseelandiae</i>	Richard's Pipit		#	#

Scientific Name	Common Name	Status	Shortland	Kooragang
<i>Motacilla flava</i>	Yellow Wagtail	M	#	nr
Muscicapidae	One World Warblers			
<i>Acrocephalus stentoreus</i>	Clamorous Reed-Warbler		#	nr
<i>Cincloramphus cruralis</i>	Brown Songlark		nr	#
<i>Cincloramphus mathewsi</i>	Rufous Songlark		#	#
<i>Cisticola exilis</i>	Golden-headed Cisticola		#	#
<i>Megalurus gramineus</i>	Little Grassbird		#	#
<i>Megalurus timoriensis</i>	Tawny Grassbird		#	#
<i>Turdus merula</i>	Common Blackbird	*	#	nr
Oriolidae	Orioles			
<i>Oriolus sagittatus</i>	Olive-backed Oriole		#	nr
<i>Sphecotheres viridis</i>	Figbird		#	nr
Pachycephalidae	Whistlers and Shrike-thrushes			
<i>Colluricincla harmonica</i>	Grey Shrike-thrush		#	nr
<i>Falcunculus frontatus</i>	Crested Shrike-tit		#	nr
<i>Pachycephala pectoralis</i>	Golden Whistler		#	nr
<i>Pachycephala rufiventris</i>	Rufous Whistler		#	nr
Pardalotidae	Pardalotes, Gerygones, Scrubwrens and Thornbills			
<i>Acanthiza chrysorrhoa</i>	Yellow-rumped Thornbill		#	#
<i>Acanthiza nana</i>	Yellow Thornbill		#	#
<i>Acanthiza pusilla</i>	Brown Thornbill		#	nr
<i>Acanthiza reguloides</i>	Buff-rumped Thornbill		#	nr
<i>Gerygone levigaster</i>	Mangrove Gerygone		nr	#
<i>Gerygone olivacea</i>	White-throated Gerygone		#	nr
<i>Pardalotus punctatus</i>	Spotted Pardalote		#	nr
<i>Pardalotus striatus</i>	Striated Pardalote		#	nr
<i>Sericornis frontalis</i>	White-browed Scrubwren		#	nr
Passeridae	House Sparrows and Grass Finches			
<i>Lonchura castaneothorax</i>	Chestnut-breasted Mannikin		#	#
<i>Neochmia temporalis</i>	Red-browed Finch		#	nr
<i>Passer domesticus</i>	House Sparrow	*	#	nr
<i>Taeniopygia bichenovii</i>	Double-barred Finch		#	#
<i>Taeniopygia guttata</i>	Zebra Finch		#	#
Petroicidae	Australasian Robins			
<i>Eopsaltria australis</i>	Eastern Yellow Robin		#	nr
<i>Petroica multicolor</i>	Scarlet Robin		#	nr
<i>Petroica rosea</i>	Rose Robin		#	nr
Sturnidae	Starlings			
<i>Acridotheres tristis</i>	Common Myna	*	#	nr
<i>Sturnus vulgaris</i>	Common Starling	*	#	nr
Zosteropidae	White-eyes			
<i>Zosterops lateralis</i>	Silvereye		#	#

Appendix 2

Bird Species recorded breeding at the site

The following is a list of species recorded breeding at Shortland Wetlands (from Barden 2002), and indicates those species also known to occur at Kooragang Nature Reserve. Count data refers to Shortland only.

The Great Egret (*Ardea alba*), Intermediate Egret (*Ardea intermedia*), Little Egret (*Egretta garzetta*) and Cattle Egret (*Ardea ibis*) are seasonal migrants to the site from New Zealand. They arrive at Shortland during spring for their breeding season (Baxter 1994).

The numbers of White Ibis (*Threskiornis molucca*) at the site increase significantly over autumn and winter as migrants from inland breeding colonies come to the coast for non-breeding seasonal foraging (Maddock 2002).

Straw-necked Ibis (*Threskiornis spinicollis*) are very few in summer but large numbers migrate to the region during autumn and winter. Up to 7000 of these birds use the Melaleuca Swamp Forest for night roosting. The numbers start to drop during August as they set out on their return journey inland (Maddock 2002).

Nankeen Night Herons (*Nycticorax caledonicus*) use the site for night foraging and day roosting during the non-breeding season.

* Recorded at Kooragang Nature Reserve and Shortland Wetlands

Recorded at Shortland Wetlands only

Common Name	Scientific Name	Count
# Magpie Goose	# <i>Anseranas semipalmata</i>	over 100
# Wandering Whistling Duck	# <i>Dendrocygna arcuata</i>	30-50 (over 100 birds in 2000)
* Black Swan	* <i>Cygnus atratus</i>	6-20
* Australian Wood Duck	* <i>Chenonetta jubata</i>	20-50
* Pacific Black Duck	* <i>Anas superciliosa</i>	up to 100
* Grey Teal	* <i>Anas gracilis</i>	up to 100
* Chestnut Teal	* <i>Anas castanea</i>	up to 100
* Hardhead	* <i>Aythya australis</i>	20-40
* Australasian Grebe	* <i>Tachybaptus novaehollandiae</i>	10-30
* Little Black Cormorant	* <i>Phalacrocorax sulcirostris</i>	up to 100
* Little Pied Cormorant	* <i>Phalacrocorax melanoleucos</i>	up to 100
* White-faced Heron	* <i>Egretta novaehollandiae</i>	2-4 (up to 22)
* Little Egret	* <i>Egretta garzetta</i>	4-over 100

Common Name	Scientific Name	Count
* Great Egret	* <i>Ardea alba</i>	40-400
* Intermediate Egret	* <i>Ardea intermedia</i>	20-900
* Cattle Egret	* <i>Ardea ibis</i>	200-1400
* Australian White Ibis	* <i>Threskiornis molucca</i>	2-6 (over 1000 birds roosting)
* Nankeen Night Heron	* <i>Nycticorax caledonicus</i>	20-100
* Purple Swamphen	* <i>Porphyrio porphyrio</i>	10 - 100
* Dusky Moorhen	* <i>Gallinula tenebrosa</i>	10-100
* Eurasian Coot	* <i>Fulica atra</i>	10-40
* Black-fronted Dotterel	* <i>Elsyornis melanops</i>	6-18
* Red-kneed Dotterel	* <i>Erythrogonys cinctus</i>	2-10
* Masked Lapwing	* <i>Vanellus miles</i>	6-10
* Sacred Kingfisher	* <i>Todiramphus sanctus</i>	4-10
* Whistling Kite	* <i>Haliastur sphenurus</i>	2
# Brown Goshawk	# <i>Accipiter fasciatus</i>	2
# Barn Owl	# <i>Tyto alba</i>	2

Appendix 3

Mammals, Reptiles, Amphibians and Fish recorded at Shortland Wetlands

Species list compiled from observations made by Kevin Markwell over a period of several years and is supported by the Ecological Study of the State Highway No 23 – Shortland to Pacific Highway Corridor by Macdonald Wagner (1984). A species list for Kooragang is currently unavailable.

Key

V1 Listed as ‘Vulnerable’ under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*

E2 Listed as ‘Endangered’ under the NSW *Threatened Species Conservation Act 1995*

* Introduced species

Scientific Name	Common Name	Status
MAMMALS		
<i>Isodon macrourus</i>	Northern Brown Bandicoot	
<i>Hydromys chrysogaster</i>	Water Rat	
<i>Mus musculus</i>	House Mouse	*
<i>Rattus rattus</i>	Black Rat	*
<i>Lepus capensis</i>	Brown Hare	*
<i>Oryctolagus cuniculus</i>	European Rabbit	*
<i>Vulpes vulpes</i>	Red Fox	*
REPTILES		
<i>Cheladina longicollis</i>	Long-necked Tortoise	
<i>Ctenotus robustus</i>	Striped Skink	
<i>Lampropholis delicata</i>	Grass Skink	
<i>L. mustelinum</i>	Weasel Skink	
<i>Saiphos equalis</i>	Three-toed Skink	
<i>Sphenomorphus quoyii</i>	Eastern Water Skink	
<i>Tiliqua casuarinae</i>	She-oak Skink	
<i>Hemiaspis signata</i>	Swamp Snake	
<i>Pseudechis porphyriacus</i>	Red-bellied Black Snake	
AMPHIBIANS		
<i>Litoria aurea</i>	Green and Golden Bell Frog	V1,E2
<i>Litoria dentata</i>	Bleating Tree Frog	
<i>Litoria fallax</i>	Dwarf Green Tree Frog	
<i>Litoria peroni</i>	Peron’s Tree Frog	
<i>Litoria tyleri</i>	Tyler’s Tree Frog	
<i>Litoria caerulea</i>	Green Tree Frog	
<i>Crinia signifera</i>	Common Eastern Froglet	
<i>Limnodynastes peroni</i>	Striped Marsh Frog	
<i>Limnodynastes tasmaniensis</i>	Spotted Grass Frog	
FISH		

Scientific Name	Common Name	Status
<i>Gobiomorphus coxii</i>	Cox's Gudgeon	
<i>Hypseleotris galii</i>	Firetail Gudgeon	
<i>Philypnodon grandiceps</i>	Flathead Gudgeon	
<i>Philypnodon sp. Nov.</i>	Gudgeon	
<i>Anguilla australis</i>	Short-finned Eel	
<i>Gambusia holbrooki</i>	Mosquito Fish	*

Appendix 4

Flora species recorded at Shortland Wetlands and Kooragang Nature Reserve

Shortland data relates to occurrence and abundance and is taken from Lightfoot (2000); Kooragang data relates to occurrence only and is taken from Winning (1996).

Key:

A – Abundant C – Common U – Uncommon R – Rare * - Exotic # - Planted
K – occurs at Kooragang

Scientific Name	Common Name	Shortland	Kooragang
DIVISION POLYPODIOPHYTA	FERNS		
Zamiaceae			
<i>Macrozamia communis</i>	Burrawang	U	
Azollaceae			
<i>Azolla pinnata</i>	Common Azolla	C	
Dennstaedtiaceae			
<i>Pteridium esculentum</i>	Bracken	U	
Sinopteridaceae			
<i>Cheilanthes distans</i>			K
<i>Pellaea falcata</i>			K
DIVISION PINOPHYTA	CONIFERS		
Podocarpaceae			
<i>Podocarpus elatus</i>			K
DIVISION MAGNOLIOPHYTA	FLOWERING PLANTS		
Acanthaceae			
<i>Pseuderanthemum variabile</i>	Pastel Flower	R	
Aizoaceae			
<i>Tetragonia tetragonoides</i>			K
Amaranthaceae			
<i>Alternanthera denticulata</i>	Lesser Joyweed	U	
* <i>A. philoxeroides</i>	Alligator Weed	C	
* <i>Ameranthus viridis</i>	Green Ameranth	C	
Apiaceae			
* <i>Foeniculum vulgare</i>	Fennel	A	
* <i>Hydrocotyle bonariensis</i>	Kurnell's Curse	A	
<i>H. laxiflora</i>	Stinking Pennywort	U	
Asclepiadaceae			
* <i>Araujia hortorum</i>	Moth Plant	R	

Scientific Name	Common Name	Shortland	Kooragang
<i>Cynanchum elegans</i>			K
* <i>Gomphocarpus fruticosus</i>			K
Asteraceae			
* <i>Ambrosia artemisiifolia</i>	Annual Ragweed	C	
* <i>Artemisia verlotiorum</i>	Mugwort	U	
* <i>Aster subulatus</i>	Wild Aster	U	
* <i>Bidens pilosa</i>	Pitchforks	U	
<i>Cassinia quinquefaria</i>	Biddy Bush	U	
* <i>Chrysanthemoides monilifera</i> var. <i>rotundata</i>	Bitou Bush	U	
* <i>Cirsium vulgare</i>	Spear Thistle	R	
* <i>Conyza albida</i>	Tall Fleabane	C	
* <i>Conyza bonariensis</i>			K
* <i>Cotula coronopifolia</i>	Water Buttons	C	K
* <i>Crepsis capillaris</i>	Smooth Hawksbeard	U	
* <i>Galinsoga parviflora</i>		R	
* <i>Hypochaeris radicata</i>	Flatweed	C	K
<i>Senecio linearifolius</i>	Fireweed Groundsel	C	
* <i>S. madagascariensis</i>	Fireweed	C	K
* <i>Xanthium occidentale</i>	Noogoora Burr	R	
Avicenniaceae			
<i>Avicennia marina</i>	Grey Mangrove	C	K
Brassicaceae			
* <i>Capsella bursapastoris</i>	Shepherd's Purse	U	
* <i>Lepidium campestre</i>	Field Cress	R	
Campanulaceae			
<i>Wahlenbergia gracilis</i>			K
Capparaceae			
<i>Capparis arborea</i>			K
Caprifoliaceae			
* <i>Lonicera japonica</i>	Japanese Honeysuckle	U	
Cassythaceae			
<i>Cassytha glabella</i>			K
<i>Cassytha pubescens</i>			K
Casuarinaceae			
<i>Casuarina glauca</i>	Swamp She-Oak	C	K
Celastraceae			
<i>Cassine australis</i>			K
<i>Celastrus australis</i>			K
<i>Celastrus subspicatus</i>			K
Chenopodiaceae			
<i>Atriplex australasica</i>		U	
* <i>Atriplex prostrata</i>			K

Scientific Name	Common Name	Shortland	Kooragang
<i>Einadia hastata</i>			K
<i>Sarcornia quinqueflora</i>			K
<i>Suaeda australis</i>			K
Convolvulaceae			
<i>Dichondra repens</i>	Kidney Weed	C	K
Dilleniaceae			
<i>Hibbertia scandens</i>	Golden Guinea Flower	U	
Ebenaceae			
<i>Diospyros australis</i>			K
Elaeocarpaceae			
# <i>Elaeocarpus grandis</i>		R	
# <i>E. obovatus</i>		R	K
Elatinaceae			
<i>Elatine gratioloides</i>			K
Euphorbiaceae			
<i>Breynia oblongifolia</i>			K
<i>Croton verreauxii</i>			K
* <i>Euphorbia pepus</i>	Petty Spurge	C	K
<i>Glochidion ferdinandi</i>	Cheese Tree	C	
# <i>Omalanthus populifolius</i>	Bleeding Heart	R	
* <i>Ricinus communis</i>	Castor Oil Plant	U	
Fabaceae/Caesalpinioideae			
* <i>Senna pendula</i>	Winter Senna	U	
Fabaceae/Faboideae			
<i>Glycine microphylla</i>		R	
<i>Hardenbergia violacea</i>	False Sarsaparilla	R	
* <i>Trifolium dubium</i> ,	Yellow Suckling Clover	C	
* <i>T. repens</i>	White Clover	C	K
* <i>Vicia sativa</i>	Common Vetch	C	
Fabaceae/Mimosoldeae			
# <i>Acacia baileyana</i>	Cootamundra Wattle	R	
# <i>A. elongata</i>		R	
<i>A. falcata</i>	Falcate Wattle	R	
<i>A. longifolia</i>	Sydney Golden Wattle	A	
<i>A. maidenii</i>			K
<i>A. parramattensis</i>	Parramatta Green Wattle	U	
<i>A. sophorae</i>	Coastal Wattle	U	
Flacourtiaceae			
<i>Scolopia braunii</i>			K
Fumariaceae			
* <i>Fumaria bastardii</i>	Bastard's Fumitory	R	
Gentianaceae			

Scientific Name	Common Name	Shortland	Kooragang
<i>Centaurium spicatum</i>			K
Geraniaceae			
<i>Geranium solanderi</i> var. <i>solanderi</i>	Native Geranium	U	
Lauraceae			
# <i>Cryptocarya hypospodia</i>		R	
Lobeliaceae			
<i>Pratia purpurescens</i>			K
Loranthaceae			
<i>Amyena cambagei</i>			K
Malvaceae			
# <i>Hibiscus tiliaceus</i>	Cottonwood Hibiscus	R	
* <i>H. trionum</i>	Bladder Ketmia	R	
* <i>Modiola caroliniana</i>		C	K
* <i>Sida rhombifolia</i>	Paddy's Lucerne	C	K
Meliaceae			
<i>Dysoxylum fraserianum</i>			K
<i>Synoum glandulosum</i>	Scentless Rosewood	U	
<i>Toona ciliata</i>	Red Cedar	R	
Menispermaceae			
<i>Sarcopetalum harveyanum</i>			K
<i>Stephania japonica</i>	Snake Vine	U	
Moraceae			
# <i>Ficus coronata</i>	Sandpaper Fig	R	
<i>F. obliqua</i>			K
# <i>F. fraseri</i>		R	
# <i>F. racemosa</i>		R	
<i>F. rubiginosa</i>			K
<i>Maclura cochinchinensis</i>			K
<i>Streblus brunonianus</i>			K
Myrsinaceae			
<i>Aegiceras corniculatum</i>			K
Myrtaceae			
# <i>Acmena smithii</i>	Lilly Pilly	R	
# <i>Austromyrtus bidwillii</i>	Python Tree	R	
<i>Backhousia myrtifolia</i>			K
# <i>Callistemon citrinus</i>	Crimson Bottlebrush	R	
<i>Callistemon salignus</i>			K
# <i>Eucalyptus deanei</i>	Mountain Blue Gum	R	
# <i>E. gummifera</i>	Red Bloodwood	R	
<i>E. maculata</i>	Spotted Gum	U	
# <i>E. punctata</i>	Grey Gum	R	
<i>E. robusta</i>	Swamp Mahogany	U	
# <i>Leptospermum polygalifolium</i>		U	

Scientific Name	Common Name	Shortland	Kooragang
<i>Melaleuca ericifolia</i>	Swamp Paperbark	U	K
<i>M. erubescens</i>	Pink Honey Myrtle	R	
<i>M. linariifolia</i>	Snow-in-Summer	C	K
<i>M. nodosa</i>	Ball Honey Myrtle	R	
<i>M. quinquenervia</i>	Broad Leaved Paperbark	A	
<i>M. sieberi</i>			K
<i>M. styphelioides</i>	Prickly Leaved Paperbark	U	K
<i>Syncarpia glomulifera</i>	Turpentine	C	
# <i>Syzygium australe</i>	Brush Cherry	R	
# <i>S. crebrinerve</i>	Purple Cherry	R	
# <i>S. leuhmannii</i>	Riberry	R	
# <i>S. paniculatum</i>	Magenta Lilly pilly	R	
# <i>S. sp.</i>		R	
# <i>Waterhousea floribunda</i>	Weeping Lilly pilly	R	
Oleaceae			
<i>Jasminum volubile</i>			K
* <i>Ligustrum sinense</i>	Small-Leaved Privet	U	
<i>Notelaea longifolia</i>			K
Onagraceae			
<i>Ludwigia peploides</i>			K
* <i>Oenothera spp.</i>			K
Passifloraceae			
* <i>Passiflora edulis</i>	Common Passionfruit	U	
Phytolaccaceae			
* <i>Phytolacca octandra</i>	Inkweed	R	
Pittosporaceae			
<i>Bursaria spinosa</i>	Blackthorn	R	
<i>Citriobatus pauciflorus</i>			K
<i>Pittosporum revolutum</i>			K
<i>Pittosporum undulatum</i>	Sweet Pittosporum	C	K
Plantaginaceae			
* <i>Plantago lanceolata</i>	Plantain or Lamb's Tongues	C	K
* <i>P. major</i>	Large Plantain	U	
Podocarpaceae			
# <i>Podocarpus elatus</i>	Plum Pine or Brown Pine	R	
Polygonaceae			
<i>Muehlenbeckia gracillima</i>		R	K
<i>Persicaria decipiens</i>	Slender Knotweed	U	
<i>P. hydropiper</i>			K
<i>P. lapathifolia</i>	Pale Knotweed	C	K
* <i>Polygonum arenastrum</i>	Sandwireweed	U	

Scientific Name	Common Name	Shortland	Kooragang
<i>*Rumex crispus</i>	Curled Dock	C	
Portulacaceae			
<i>Portulaca oleracea</i>	Pigweed	C	
Proteaceae			
<i>#Banksia integrifolia</i>	Coastal Banksia	R	
<i>B. robur</i>	Swamp Banksia	C	
<i>Grevillea robusta</i>	Silky Oak	R	
<i>#Hakea salicifolia</i>	Willow-Leaved Hakea	R	
<i>#Stenocarpus salignus</i>	Scrub Beefwood	R	
<i>#S. sinuatus</i>	Fire Tree	R	
Ranunculaceae			
<i>Clematis aristata</i>			K
<i>Clematis glycinoides</i>	Headache Vine	C	
Rosaceae			
<i>*Rosa bracteata</i>			K
<i>*Rubus fruticosus</i>	Blackberry	C	
Rutaceae			
<i>#Acronychia oblongifolia</i>		R	
<i>Geijera latifolia</i>			K
<i>#Melicope elleryana</i>		R	
Sapindaceae			
<i>Alectryon subcinereus</i>			K
<i>*Cardiospermum grandiflorum</i>	Balloon Vine	R	
<i>#Cupaniopsis anarcardiodes</i>	Tuckeroo	R	K
<i>#Dipliglottis australis</i>	Native Tamarind	R	
<i>#Harpullia pendula</i>	Tullipwood	R	
<i>Rhysotoechia bifoliolata</i>			K
Sapotaceae			
<i>#Planchonella australis</i>	Black Apple	R	
Scrophulariaceae			
<i>Bacopa monnieri</i>	Bacopa	C	
Solanaceae			
<i>*Datura stramonium</i>	Common Thornapple	R	
<i>*Solanum mauritianum</i>	Wild Tobacco Bush	U	
<i>*S. nigrum</i>	Black-Berry Nightshade	C	
Sterculiaceae			
<i>Commersonia fraseri</i>	Brush Kurrajong	U	
Tropaeolaceae			
<i>*Tropaeolum majus</i>	Nasturtium	R	
Urticaceae			
<i>Dendrocnide photinophylla</i>			K
<i>Urtica incisa</i>	Stinging Nettle	R	K
Verbenaceae			

Scientific Name	Common Name	Shortland	Kooragang
<i>Clerodendrum tomentosum</i>			K
* <i>Lantana camara</i>	Lantana	C	K
* <i>Verbena bonariensis</i>	Purpletop	A	K
Violaceae			
<i>Viola hederacea</i>	Ivy-Leaved Violet	U	
Vitaceae			
<i>Cayratia clematidea</i>			K
<i>Cissus antarctica</i>			K
CLASS LILIOPSIDA	MONOCOTYLEDONS		
Alliaceae			
* <i>Nothoscordum inodorum</i>	Onion Weed	R	
Amaryllidaceae			
* <i>Narcissus jonquilla</i>	Jonquills	R	
Areaceae			
# <i>Livistona australis</i>	Cabbage Tree Palm	U	K
Commelinaceae			
<i>Commelina cyanea</i>	Scurvy Weed	U	
* <i>Tradescantia albiflora</i>	Wandering Jew	U	
Cyperaceae			
<i>Bolboschoenus caldwelli</i>	Coast Clubrush	C	K
<i>Carex inversa</i>			K
<i>Carex? pumila</i>			K
* <i>Cyperus eragrotis</i>	Umbrella Sedge	U	
<i>C. odoratus</i>	Fragrant Sedge	C	
* <i>C. papyrus</i>	Papyrus	R	
<i>C. polystachyos</i>			K
<i>C. tetraphyllus</i>			K
<i>Eleocharis acuta</i>	Spike Rush	R	
<i>Fimbristylis ferruginea</i>			K
<i>Schoenoplectus litoralis</i>			K
<i>Schoenoplectus validus</i>	River Clubrush	U	
Hydrocharitaceae			
<i>Vallisneria gigantea</i>	Giant Ribbon Weed	C	
Iridaceae			
* <i>Romulea rosea var. australis</i>	Onion Grass	C	
Juncaceae			
* <i>Juncus acutus</i>	Spiny Rush	R	K
<i>J. kraussii</i>	Sea Rush	C	K
<i>J. polyanthemus</i>			K
<i>J. usitatus</i>	Common Rush	C	K
Juncaginaceae			
<i>Triglochin striatum</i>			K

Scientific Name	Common Name	Shortland	Kooragang
<i>Triglochin multifructum</i>	Water Ribbons	C	
<i>Triglochin procerum</i>			K
Liliaceae			
<i>Blandfordia grandiflora</i>	Christmas Bush	C	
Lomandraceae			
<i>Lomandra longifolia</i>	Spiny-Headed Mat Rush	C	
Philesiaceae			
<i>Eustrephus latifolius</i>			K
<i>Geitonoplesium cymosum</i>			K
Poaceae			
<i>Agrostis avenaceae</i>			K
<i>Avena barbata</i>			K
* <i>Briza maxima</i>	Quaking Grass	C	
* <i>B. minor</i>	Shivery Grass	C	K
<i>Bromus uniloides</i>			K
* <i>Chloris gayana</i>	Rhodes Grass	C	
* <i>Cortaderia selloana</i>	Pampas Grass	R	
<i>Cynodon dactylon</i>	Couch	C	K
<i>Dichelachne micrantha</i>			K
* <i>Echinochloa crus-gali</i>	Barnyard grass	C	
<i>Ehrharta erecta</i>			K
<i>Isachne globosa</i>	Swamp Millet	C	
<i>Lolium spp.</i>			K
* <i>Lolium temulentum</i>	Darnel	C	
* <i>Melinis repens</i>	Red Natal Grass	R	
<i>Microlaena stipoides</i>			K
<i>Oplismenus imbecillis</i>			K
* <i>Panicum maximum</i>	Guinea Grass	C	
* <i>Paspalum, dilatatum</i>	Paspalum	C	K
<i>Paspalum vaginatum</i>			K
<i>P. Distichum</i>	Water Couch	A	
* <i>Pennisetum clandestinum</i>	Kikuyu Grass	A	K
<i>Poa annua</i>			K
<i>Sporobolus indicus var. africanus</i>			K
<i>Sporobolus elongata</i>			K
<i>Sporobolus virginicus</i>			K
<i>Stenotaphrum secundatum</i>			K
Ruppiaceae			
<i>Ruppia ?polycarpa</i>			K
Typhaceae			
<i>Typha orientalis</i>			K
Zannichelliaceae			
<i>Zannichellia palustris</i>			K

