Discovering Great Sandy Region

Chapter 5

Animals of the Dunes

The animals of Fraser Island and Cooloola are not readily apparent to the casual observer. The most obvious are birds and dingoes. Despite the obscurity of the fauna it presents an impressive range to those with the patience to explore and discover. This is because much of the fauna is lies buried in the sand or hidden by the great bulk of biomass or else it is either well camouflaged, very timid, or very small.

However, it is not necessary to see animals in the wild to be attracted by them. Tens of thousands of anglers are used to searching out invisible targets as they seek the pelagic tailor during the winter months, and bream, whiting trevally and flathead at any time of the year. However, there are many other interesting animals in the sea around Fraser Island and Cooloola than those which delight the anglers. These mammals and reptiles are not the targets of anglers but the subject of much interest of those who are seeking to understand the environment and the many niches in and around Fraser Island and Cooloola.

Although Fraser Island and Cooloola lack large populations of bigger terrestrial animals, they boast many rare and unusual species. One study in Cooloola alone identified over 300 species of ants, many new to science. In the aquatic environment the acidity of some of the peaty swamps has been so hostile that a specialized group of frogs known as "acid frogs" has evolved to fill this unique niche. Many animals have adapted to the specialized habitat. Several species reach the southern and northern limits of there range here, making it an important overlap zone. As a result, there are associations here which occur nowhere else.

Mammals

The dominant plants do not have the nutritive value of most grasses. Therefore, they lack many herbivores, particularly large herbivores. Herbivores have limited populations. For example, few wallabies or kangaroos will be seen.

Macropods: Except for the swamp wallaby (*Wallabia bicolor*), which is not prolific, there are few macropods. There are a few Eastern grey kangaroos (*Macropus giganteus*), mainly in the Womalah landscape, but they are rare in the sandmass. Most of those observed on western Fraser Island are only casual visitors which swim across Great Sandy Strait.

Diggers: Many of the mammals which have flourished are burrowers and diggers which take advantage of the loose soil. Echidnas, bandicoots and native rodents thrive on roots and the invertebrates which live in the soil. Rodents which take advantage of the niche include the Australian water rat (*Hydromys chrysogaster*), fawn-footed melomys (*Melomys cervinipes*), grassland melomys (*Melomys burtoni*), little native mouse (*Pseudomys delicatulus*), southern bush rat (*Rattus fuscipes*), eastern swamp rat (*Rattus lutreolus*) and the pale field rat (*Rattus tunneyi*). The endangered false water rat (*Xeromys myoides*) almost reaches the southernmost part of its range at Cooloola.

Bats: Bats, particularly fruit bats or flying foxes are amongst the more common mammals but like most they are nocturnal. Flying foxes live in noisy smelly camps in the rainforest and mangroves. These camps are moved periodically. During the night feed on the blossoms and fruits of the melaleucas and other trees. The most common are grey-headed fruit bats (*Pteropus poliocephalus*). Diminutive Queensland blossom bats (*Synconycteris australis*), smaller than many species of butterflies, enjoy the nectar of banksia blossoms with the same

relish as past generations of Aborigines. A number of sonar bats, among them the lesser long-eared bat (*Nyctophilus geoffroyi*) and light-bellied shear-tailed bat (*Taphozous flaviventris*) live in the hollows of the larger trees. They can sometimes be seen hawking around for insects at night.

Arboreal mammals: There are relatively few arboreal mammals such as gliders and possums. Despite their presence, nowhere are they numerous. The interesting yellow-bellied (or fluffy) glider (*Petaurus australis*) is found in Cooloola but not Fraser Island. This animal harvests sap from selected trees by chewing channels into the bark and, like rubber tappers, allows sap to seep out before returning regularly to the same tree to reap the rewards of their work. Despite an abundance of favourable trees there are no koalas on Fraser Island. Aborigines recall that it was present but it was hunted almost to the point when it was too late to save them and they became extinct. It is possible that Aboriginal hunting pressure also exterminated both scrub turkeys and emus on Fraser Island. Although common on Cooloola within two kilometres of Fraser Island neither scrub turkeys nor emus cross the strait.

Rodents: There are nine different species of rodents found on Fraser Island and Cooloola. The rarest of these is the False Water Rat, a species in danger of extinction. However more significant than the diversity is the absence of two ubiquitous feral rodents, the black rat and the brown house mouse. Fraser Island is one of the few areas in Australia to have escaped their invasion. Therefore, people should not revile the nocturnal visitors raiding their camping rations.

Dingoes (*Canis familiaris*) of Fraser Island are regarded as the purest population remaining in eastern Australia. There are estimated to be between two and three hundred of them. They are scavengers and congregate near camps. They must not be fed as they then become aggressive and dependant on such handouts.

Feral animal: Feral horses (brumbies) are obvious but there are now very few left. They descended from domestic horses introduced to Fraser Island in the 1870s. Brumbies are also found in western Cooloola. Both brumby populations are now very small and declining. They had an adverse environmental impact on the foredunes. There are a few other exotic mammals such as foxes and hares which are found only in Cooloola. However, Fraser Island is almost free from significant exotic predators such as pigs, cats and foxes. This therefore makes it a very special habitat which must be protected against the introduction of such injurious agents.

Key:

FI indicates recorded from Fraser Island
C indicates recorded from Cooloola

Mammal Checklist

Monotremes		
Echidna	FI	C
Marsupials		
Yellow footed antechinus	FI	C
Spotted tail quoll		C
Common planigale	FI	C
Common dunnart	FI	C
Northern brown bandicoot	FI	C
Long nosed bandicoots	FI	C
Greater glider		C

Yellow-bellied glider		C
Sugar glider	FI	C
Squirrel glider	FI	C
Common ringtail possum		C
Feathertail glider	FI	
Rufous bettong		
Longnosed potoroo		
Easern grey kangaroo	FI	C
Swamp Wallaby	FI	C

Placentals

Fruit bats		
Queensland tube nosed bat	FI	C
Grey-headed flying fox	FI	C
Little red flying fox	FI	C
Queensland blossom bat	FI	C
Sonar bats		
Yellow-bellied sheath bat	FI	
White striped mastif	FI	
Gould's wattled bat		C
Hoary bat	FI	C
Little bent-winged bat		C
Large footed mouse-eared bat		C
North Queensland long eared bat	FI	
Lesser long eared bat	FI	
Gould's long-eared bat	FI	C
Rodents		
Water rat	FI	C
Fawnfooted melomys	FI	C
Grassland melomys	FI	C
House mouse	FI	C
Delicate mouse	FI	C
Bush rat	FI	C
Swamp rat	FI	C
Pale field rat	FI	C
False water-rat		C

Dingo	FI	C
Fox (Exotic)		C
Feral cat (Exotic)	FI	C
Feral pig (Exotic)		C
Horse (Exotic)	FI	C
Brown hare (Exotic)		C

Birds

Fraser Island and Cooloola have a remarkable diversity of birds. It is one of the two areas of greatest species diversity of birds found in Australia. Over 330 species have been recorded. This is far more species of birds than recorded in the whole of the British Isles. The prolific birdlife attracts both Australian and overseas visitors.

Rarities: The rare and uncommon species include the Turquoise Parrot (*Neophema pulchella*), Glossy Black Cockatoo (*Calyptorhynchus lathami*), Brush Bronze Pigeon (*Phaps elegans*), Powerful Owl (*Ninox strenua*), Grass Owl (*Tyto longimbris*), Plumed Frogmouth (*Podargus ocellatus plumiferus*), Red Goshawk, (*Acciper radiatus*) and Peregrine Falcon (*Falco peregrinus*). The Ground Parrot (*Pezoporus wallicus*), listed as endangered in other parts of its Australia habitat thrives on Fraser Island and Cooloola at the northern limit of its range. A relict population of the Southern Emu Wren (*Stipiturus malachurus*). found nowhere else in Queensland, occurs on the Noosa Plain. An isolated population of Turquoise Parrots (*Neophema pulchella*) occurs in the same area. The region has an astonishing array of 18 raptors including Peregrine Falcons, Ospreys, and White-breasted sea eagles.

The last remaining populations of coastal emus in Queensland are found in Cooloola. They are characterised by a darker plumage than their inland counterparts. A lucky observer may catch the unusual sight of a group of emus taking a swim in one of the lakes. They swim very well.

Waders: The mudflats of Great Sandy Strait are used by both migratory waders and a number of shorebirds. They are recognized as one of the three most important summer stopovers for migratory-trans-equatorial wading birds in Australia. It has been estimated that at least 36,000 waders use Great Sandy Strait throughout the summer. The most notable of these in significance of habitat are curlews, Bar-tailed godwits and Grey-tailed tattlers. Mudflats associated with seagrass appear to attract the greatest density of waders. There are 20 high tide roosts in Great Sandy Strait with major sites holding over 1500 wading birds.

Twenty-four wading species use the area for feeding and roosting. Eighteen of these are listed in international agreements with Japan and China. Approximately one third of the waders to be observed are Bar-Tailed Godwits (*Limosa lapponica*). Another third are Grey-Tailed Tattlers (*Tringa brevipes*). Great Sandy Strait contains 14.3% of the known Australian population of the Eastern Curlews (*Numenius madagascariensis*). There are substantial numbers of Whimbrels (*N phaeopus*), Mongolian Plovers (*Charadrius mongolus*), and Red Necked Stints (*Calidris rufficollis*). Cormorants, Egrets, Herons, Ibises, Spoonbills and Jabirus also occur here.

Countless thousands of birds use this flyway on their annual trans-equatorial migrations. Each autumn they fly north to Siberia, briefly changing from drab brown colours for brighter breeding plumage. By the time they arrive back in Australia in September, they have shed most of their gaudier feathers in favour of their dreary garb.

The Great Sandy Strait and Tin Can Inlet estuarine area is recognized as one of the three most important stop-overs for migratory trans-equatorial wading birds in Australia. It provides roosting sites for 18 of the 24 migratory wader species listed under JAMBA or CAMBA international agreements. Australia is obliged to take appropriate measures to protect and enhance the environment of these wading birds, and is also bound under the 1971 RAMSAR Convention, to protect wetlands of international significance. A continuing wader research project into their distribution and abundance is being conducted. This is part of Australia's contribution to a co-operative project which includes Japan, China, Alaska, South Korea and New Zealand.

For those who care to take their binoculars and field guides with them, it should not be too difficult to observe at least fifty different birds from the following lists in any one day.

Bird Checklist

Key:
FI indicates recorded from Fraser Island
C indicates recorded from Cooloola
# indicates covered by international bird agreements

Emu	FI	C
Great crested grebe	FI	
Hoary headed grebe	FI	C
Australasian grebe	FI	C
Shy albatross	FI	
Yelow-nosed albatross	FI	
Grey-headed albatross	FI	
Wandering albatross	FI	
Black-browed albatross	FI	
Sooty albatross		C
Cape petrel	FI	
Southern fulmar		C
Southern giant-petrel	FI	
Slender billed prion	FI	
Antarctic prion	FI	
Fairy prion	FI	C
White-headed petrel	FI	
Brown-headed petrel	FI	C
Black-winged petrel	FI	
Tahiti petrel	FI	
Providence petrel	FI	
Fluttering shearwater	FI	
Sooty shearwater	FI	C
Wedge-tailed shearwater	FI	C
Short-tailed shearwater	FI	C
Australian pelican	FI	C
Australasian gannet	FI	C
Masked booby	FI	C
Brown booby	FI	C
Darter	FI	C
Great cormorant	FI	C
Little pied cormorant	FI	C
Little black cormorant	FI	C
Pied cormorant	FI	C
Least frigatebird	FI	C

Great frigatebird		FI	C
Cattle egret	#	FI	C
White faced heron		FI	C
Pacific (white-necked) heron		FI	C
Australasian bittern			
Striated bittern		FI	C
Black bittern		FI	C
Great egret	#	FI	C
Little egret		FI	C
Intermediate egret		FI	C
Eastern reef heron	#	FI	C
Little bittern		FI	C
Nankeen night heron		FI	C
Black-necked stork (Jabiru)		FI	C
Yellow-billed spoonbill			C
Royal spoonbill		FI	C
Glossy ibis		C	C
Sacred ibis		FI	C
Straw-necked ibis		FI	C
Chestnut teal		FI	C
Blue-winged shoveller	#		
Grey teal			C
Mallard (Mallard)			C
Pacific black duck		FI	C
Hardhead		FI	
Musk duck		FI	
Maned duck			C
Black swan		FI	C
Wandering whistling-duck			C
Cotton pygmy-goose			C
Green pygmy-goose		FI	
Collared sparrowhawk		FI	C
Brown goshawk		FI	C
Grey goshawk		FI	C
Wedgetailed eagle		FI	C
Pacific baza (Crested hawk)		FI	C
Marsh harrier			C
Spotted harrier			C
Black-shouldered kite		FI	C
White-breasted sea eagle	#	FI	C
Brahminy kite (Red-backed sea-eagle)		FI	C
Whistling kite		FI	C
Little eagle		FI	C

Square-tailed kite		FI	C
Black kite		FI	
Osprey		FI	C
Brown falcon		FI	C
Australian kestrel		FI	C
Australian hobby		FI	C
Peregrine falcon		FI	C
Black falcon		FI	
Australian brush turkey			C
Brown quail		FI	C
King quail		FI	C
Stubble quail			C
Black-breasted button-quail		FI	
Red-chested button-quail		FI	
Painted button-quail		FI	C
Little button-quail		FI	
Red-backed button-quail		FI	C
Eurasian coot		FI	
Bush-hen			C
Dusky moorhen		FI	
Purple swamphen		FI	C
Baillon's crake		FI	
Lewin's rail		FI	C
Buff-banded rail		FI	C
Brolga		FI	C
Comb-crested jacana			C
Bush thick-knee (Stone curlew)		FI	C
Beach thick-knee (Stone curlew)		FI	
Pied oystercatcher		FI	C
Sooty oystercatcher		FI	C
Double-banded plover		FI	C
Large sand-plover	#	FI	
Black-fronted plover	#	FI	
Mongolian plover	#	FI	
Red-capped plover		FI	C
Oriental plover		FI	
Red-kneed dotterel			C
Lesser golden plover	#	FI	C
Grey plover	#	FI	
Masked lapwing (Spur-winged plover)		FI	C
Black-winged stilt		FI	C
Red-necked avocet		FI	C
Ruddy turnstone	#	FI	C

Sharp-tailed sandpiper	#	FI	C
Sanderling	#	FI	
Curlew sandpiper	#	FI	C
Pectoral sandpiper		FI	
Great knot			C
Latham's snipe	#	FI	C
Broad-billed sandpiper	#	FI	C
Bar-tailed godwit	#	FI	C
Black-tailed godwit	#	FI	C
Eastern curlew	#	FI	C
Little curlew		FI	C
Whimbrel	#	FI	C
Painted snipe	#		C
Grey-tailed tattler	#	FI	C
Wood sandpiper	#		C
Common sandpiper	#	FI	
Wandering tattler		FI	
Greenshank	#	FI	C
Marsh sandpiper	#	FI	C
Terek sandpiper	#	FI	
Black noddy		FI	
Common noddy	#	FI	
Whiskered tern		FI	C
White winged tern	#	FI	C
Gull-billed tern		FI	C
Caspian tern	#	FI	C
Silver gull		FI	C
Grey ternlet		FI	
Arctic jaeger		FI	
Pomarine jaeger		FI	
Great skua		FI	
Little tern	#	FI	
Bridled tern	#	FI	C
Lesser-crested tern		FI	C
Crested tern		FI	C
Roseate tern		FI	
Sooty tern		FI	C
Common tern	#	FI	C
White-fronted tern		FI	C
Black-naped tern	#	FI	
Emerald dove (Green-winged pigeon)		FI	C
White-headed pigeon		FI	C
Feral pigeon (Exotic)		FI	C

Bar-shouldered dove	FI	C
Peaceful dove	FI	C
Wonga pigeon		C
Topknot pigeon	FI	C
Brown cuckoo-dove (pigeon)	FI	C
Crested pigeon	FI	C
Common bronzewing	FI	C
Brush bronzewing	FI	C
Wompoo fruit-dove	FI	C
Rose-crowned fruit-dove	FI	C
Superb fruit-dove		
Spotted turtle-dove	FI	C
Sulphur-crested cockatoo	FI	C
Galah	FI	C
Yellow-tailed black cockatoo	FI	C
Glossy black cockatoo	FI	C
Red-taild black cockatoo	FI	C
Musk lorikeet		C
Little lorikeet	FI	C
Rainbow lorikeet	FI	C
Scaly-breasted lorikeet	FI	C
Australian king parrot	FI	C
Red-winged parrot	FI	C
Budgerigar		C
Turquoise parrot		C
Ground parrot	FI	C
Pale-headed rosella	FI	C
Pheasant coucal	FI	C
Horsfield's bronze-cuckoo	FI	C
Shining bronze-cuckoo	FI	C
Little bronze-cuckoo	FI	C
Black-eared cuckoo	FI	
Pallid cuckoo	FI	C
Fan-tailed cuckoo	FI	C
Oriental cuckoo	FI	C
Brush cuckoo	FI	C
Common koel	FI	C
Channel-billed cuckoo	FI	C
Barking owl	FI	C
Southern boobook	FI	C
Powerful owl	FI	C
Barn owl	FI	C
Eastern grass owl		C

Masked owl	FI	
Marbled frogmouth		C
Tawny frogmouth	FI	C
Australian owlet nightjar	FI	C
Large-tailed nightjar	FI	C
White-throated nightjar	FI	C
Fork-tailed swift	FI	C
White throated needletail	FI	C
Azure kingfisher	FI	C
Laughing kookaburra	FI	C
Collared kingfisher	FI	C
Forest kingfisher	FI	C
Red-backed kingfisher	FI	C
Sacred kingfisher	FI	C
Rainbow bee-eater	FI	C
Dollarbird	FI	C
Noisy pitta	FI	C
Singing bushlark	FI	
Fairy martin	FI	C
Tree martin	FI	C
Welcome swallow	FI	C
White-backed swallow		C
Richard's pipit	FI	C
Pied wagtail	FI	
Yellow-eyed cuckoo-shrike	FI	C
Ground cuckoo-shrike		C
Black-faced cuckoo-shrike	FI	C
White-bellied cuckoo-shrike	FI	C
Cicadabird	FI	C
Varied triller	FI	C
White-winged triller	FI	C
Grey shrike-thrush	FI	C
Little shrike-thrush	FI	C
Eastern yellow robin	FI	C
Jacky winter	FI	C
White-eared monarch	FI	C
Black-faced monarch	FI	C
Specacled monarch	FI	C
Shining flycatcher	FI	C
Satin flycatcher	FI	C
Restless flycatcher	FI	C
Leaden flycatcher	FI	C
Golden whistler	FI	C

Rufous whistler	FI	C
Scarlet robin		C
Rose robin	FI	C
Grey fantail	FI	C
Willie wagtail	FI	C
Rufous fantail	FI	C
Pale-yellow robin	FI	C
White's thrush	FI	C
Spotted quail-thrush		C
Logrunner		C
Eastern whipbird	FI	C
Clamorous reed warbler	FI	
Rufous songlark		C
Golden-headed cisticola	FI	C
Little grassbird	FI	C
Tawny grassbird	FI	C
Variegated fairy-wren	FI	C
Red-backed fairy-wren	FI	C
Southern emu-wren		C
Yeloow rumped thornbill	FI	C
Striated thornbill	FI	C
Brown thornbill	FI	C
Speckled warbler	FI	
Mangrove gerygone	FI	C
Brown gerygone	FI	C
White-throated gerygone	FI	C
Fairy gerygone	FI	C
White-browed scrub-wren	FI	C
Large-billed scrub-wren	FI	C
Weebill	FI	C
Varied sittella	FI	C
White-throated treecreeper	FI	C
Brown treecreeper		C
Spiny-cheeked honeyeater		C
Eastern spinebill	FI	C
Red wattlebird		C
Little wattlebird	FI	C
Rufous-throated honeyeater	FI	
Painted honeyeater		C
Blue-faced honeyeater	FI	C
Yellow-faced honeyeater	FI	C
Mangrove honeyeater	FI	C
Fuscous honeyeater	FI	

Yellow-tufted honeyeater		C
White-eared honeyeater		C
Brown honeyeater	FI	C
Noisy miner	FI	C
Lewin's honeyeater	FI	C
White-throated honeyeater	FI	C
Brown-headed honeyeater	FI	C
Black-chinned honeyeater		C
White-naped honeyeater	FI	C
Dusky honeyeater	FI	C
Scarlet honeyeater	FI	C
Little friarbird	FI	C
Noisy friarbird	FI	C
White-cheeked honeyeater	FI	C
New holland honeyeater		C
Mistletoebird	FI	C
Spotted pardolote	FI	C
Striated pardolote	FI	C
Silvereye	FI	C
House sparrow (Exotic)	FI	C
Diamond firetail	FI	
Red-browed firetail	FI	C
Chestnut-breasted manikin	FI	C
Nutmeg manikin	FI	C
Double barred finch		C
European gold finch	FI	
Common starling	FI	C
Olive-backed oriole	FI	C
Figbird	FI	C
Spangled drongo	FI	C
Green catbird	FI	C
Satin bowerbird		C
Regent bowerbird	FI	C
White-winged chough		C
Magpie-lark (Peewee)	FI	C
Dusky woodswallow	FI	C
Black-faced woodswallow	FI	
Little woodswallow	FI	C
Masked woodswallow	FI	C
White-browed woodswallow	FI	C
Pied butcherbird	FI	C
Grey butcherbird	FI	C
Australian magpie	FI	C

Pied currawong	FI	C
Australian raven	FI	C
Torresian crow	FI	C

Frogs

Acid Frogs: Amongst the twenty-three amphibians recorded from Fraser Island and Cooloola are the so called acid frogs which are adapted to survival in very acidic waters of the swamps and lakes. The 'acid frogs' confined to a very small part of the wallum in undisturbed areas. They depend upon the availability of acid water to facilitate the development of their larvae. Although the high acidity excludes non-acid species (of which there are nine species in the region) from the habitat, it also restricts the distribution of the acid frogs to the wallum wetlands. In areas disturbed by roads, buildings or forestry activities, non-acid species of frogs are able to invade the habitat of the acid frogs. Acid frogs include the wallum rocket frog (*Litoria freycineti*), Cooloola tree frog (*L. cooloolensis*), white striped tree frog (*L. olongburensis*) and wallum froglet (*Ranidella tinnula*).

The Great Sandy Region provides most of the world's known habitat for the comparatively rare (on a world scale) "acid Frogs". Four species have been identified. The processes that form and maintain frog habitats are fully contained.

Cane toads (*Bufo marinus*) are extremely common pests. They occupy niches of native species. Many bird species, including cattle egrets, have now adapted to eat immature toads before their glands develop the infamous lethal properties. Other birds, including crows and kookaburras, have learnt to attack adult toads, turn them on their backs and remove only the viscera, thus avoiding the poison in the back of the toads' necks. As a result of these predations, populations of cane toads in the region are coming under control.

Frog Checklist

Tusked frog		C
Wallum froglet	FI	C
Ornate burrowing frog	FI	C
Brown-striped frog	FI	C
Northern banjo frog	FI	C
Great barred frog	FI	C
Brown toadlet	FI	C
Red-backed toadlet	FI	C
Ranidella parinsignifera	FI	C
Common eastern froglet	FI	C
Uperoleia fusca		C
Uperoleia laevigata	FI	C

Tree Frogs:

Green tree frog	FI	C
Cooloola tree frog	FI	C
Bleating tree frog		C
Eastern dwarf tree frog		C
Freycinet's frog	FI	C
Dainty green tree frog	FI	C

Broad-palmed rocket frog	FI	C
Leseur's frog		C
Rocket frog	FI	C
White-lined tree frog	FI	C
Peron's tree frog	FI	C
Roth's tree frog		C
Desert tree frog		C
Littoria tyleri	FI	C
Cane toad (Exotic)	FI	C

Reptiles

More than sixty species of terrestrial reptiles and many more turtles, sea snakes and the estuarine crocodile have been recorded from Fraser Island and Cooloola. One of the few reporting's of the four-fingered skink comes from Cooloola. One previously undescribed species of blind snake (*Ramphotyphlops*) is restricted to the heathlands of Cooloola. The three-toed reduced limb skink (*Anolopus cf. aphioscincus*) was recently discovered. It is believed to be endemic to the rainforests. The tiger snake (*Notechis scutatis*) reaches its northern limit in the region. Although there are also other venomous species of snakes, including taipans, death adders and brown snakes, they are rarely seen unless they are sought. Despite the formidable list of formidable reptiles, the sand transmits vibrations from approaching people and vehicles very readily causing most reptiles to seek cover avoiding detection. Thus very few are encountered except for the fat lazy monitors which scavenge around most of the more popular picnic and camping spots.

Reptile Checklist

Crocodiles

Estuarine crocodile

Lizards

Geckos:

Stone gecko	FI	C
Gehyra dubia		
Tryon's velvet gecko	FI	C
Pygopodidae:		
Delma fraseri	FI	
Delma plebeia		C
Burton's legless lizard	FI	C
Common scaley-foot	FI	C

Dragons:

Frilled lizard	FI	C
Tommy roundhead		C
Nobby dragon	FI	C

Eastern water dragon	FI	C
Bearded dragon		C
Monitors:		
Sand monitor	FI	
Lace monitor	FI	C
Skinks:		
Anomalopus ophinioscincus		C
Anomalopus verreauxii		C
Calyptotis lepidorostrum		C
Calyptotis scutirostrum	FI	C
Carlia pectoralis		C
Carlia vivax		C
Coeranoscincus reticulatus		C
Cryptoblepharus virgatus	FI	C
Ctenotus robustus	FI	C
Copper-tailed skink	FI	C
Pink-tongued lizard	FI	C
Major-skink	FI	C
Lampropholis amicula		C
Lampropholis delicata	FI	C
Lampropholis guichenoti	FI	C
Lyisaurus foliorum		C
Morethia boulengeri		C
Fire-tailed skink	FI	C
Elf skink	FI	C
Cooloola legless skink	FI	C
Eastern water skink	FI	C
Sphenomorphus tenuis	FI	C
Eastern blue-tongue	FI	C
Snakes		
Ramphotyphpops ligatus		C
Ramphotyphpops wiedi		
Ramphotyphpops sp	FI	C
Children's python	FI	C
Carpet python	FI	C
Brown tree snake	FI	C
Green tree snake	FI	C
Freshwater snake	FI	C
Common death adder	FI	
White-crowned snake	FI	C

Dwarf-crowned snake		
Eastern small-eyed snake	FI	C
Black whip snake		
Yellow-faced whip snake	FI	C
Black bellied swamp snake		C
Stephen's banded snake		C
Eastern tiger snake	FI	C
Taipan	FI	C
Red-bellied black snake	FI	C
Eastern brown snake	FI	C
Coral snake		
Rough scaled snake	FI	C
Bandy-bandy		C

Sea Snakes:

Acalyptophis peronii		C
Aipysurus laevis	FI	C
Astrotia stokesii	FI	
Disteira major	FI	C
Hydrophis elegans	FI	C
Yellowbellied sea snake	FI	C

Turtles

Goggerhead turtle	FI	C
Green turtle	FI	
Hawksbill turtle	FI	C
Flatback turtle	FI	C
Pacific ridley turtle	FI	C
Luth turtle	FI	C
Broad-shelled turtle	FI	
Eastern long-necked turtle	FI	C
Krefts' river turtle	FI	C
Emydura sp	FI	C

Freshwater Fauna

Although the freshwater lakes and streams are unable to maintain large aggregations of waterfowl, they have some interesting fish. The isolation of the lakes, both from the ocean and from each other, has enabled each lake to develop its own distinctive fauna. Some of the fish, including small rainbow fish (*Rhadinocentrus ornatus* and *Hypseleotris klunzingeri*), have presumably been introduced as eggs on the feet of birds. A new species of sunfish (*Melanotaenia sp. nov*) was recently found in Lake Boomanjin, Lake Wabby and Red Lagoon of Fraser Island. It had previously not been recorded as far south. The lakes appear to be free of the cannibalistic introduced mosquito fish (*Gambusia affinis*) which seem to have affected the distribution of the rainbow fish elsewhere in Australia. This fish, which occurs only in dune lakes and swamps in wallum country, is in the most common species in Fraser Island lakes.

The upper Noosa River, and some freshwater streams of Fraser Island, provide significant habitats for Australian bass (*Macquarie novemaculeata*), a species whose distribution and abundance have been dramatically reduced elsewhere since European settlement.

The invertebrate fauna of the perched dune lakes is low in both diversity and numbers when compared with other freshwater lakes, but is of great scientific interest. Researchers discovered a new genus of insect in Fraser Island's lakes. The sub-family *Aphroteminae* had previously only been known from South Africa and the tip of South America. The most primitive Chironomid (*Diptera*) larva yet known in the world occurs in great abundance in the fine sands from Lake Boomanjin on Fraser Island. Another distinctive and related midge species occurs only in Lake Wabby (*Paralauterborniella)*. Studies of the affinities of these insects has enhanced knowledge of southern Gondwanan biogeography. The absence or rarity of groups which are usually common in freshwater lakes (planarians, ostracods, planktonic cladocera, amphipods and molluscs) also distinguishes the dune lakes as unusual and a distinct class.

At least twelve new species of invertebrates have been found in the dune lakes (Insecta, Cladocera, an oligochaete worm). Even among the highly mobile dragonflies there are two species unique to the dune lakes. Other invertebrates occur in abundance only in these lakes, among them the zoo-planktonic copepod *Calamoecia tasmanica*.

Invertebrates

Sand Swimmers: Sand provides a rare medium for specialized fauna. It has developed a particularly wide and impressive array of sand swimmers on a scale and with a diversity found nowhere else in the world. Sand swimmers which move through the sand such as crickets and earthworms. The sand environment also makes a great environment for many ground clinging animals such as lizards which like to bask. Other small animals crawl across the sand surface such as cockroaches and ants. All which find the medium of loose sand thrive. Such fauna seems to be generally unaffected by the surface plant communities. Most are not seen without close study and scrutiny and identification of each species is a specialized task.

Earthworms: The sandmasses harbour a rich endemic earthworm fauna. Twenty species of earthworms were recorded from one Cooloola study. The most spectacular is the deep-burrowing earthworm (*Digaster keastii*), which reaches a length of more than 80 centimetres. This close relative of the giant gurgling Gippsland earthworm is widespread in the coastal sandmasses and adjacent inland area. All but one species identified in the study were new to science. Of over five genera, one, *Pheretimoides*, is endemic to the sandmasses of south-east Queensland. Earthworms in sand podzols is a most unusual phenomenon, possibly unique. Some earthworm species parallel the acid frogs in being adapted to the high acidity levels on localised peaty habitats in the sandmasses. Many of the species discovered appear to be the product of localised evolution. They have very limited distributions and small population sizes. As such they may be endangered even by small-scale human interference.

Ants: Studies also revealed that Cooloola contained 280 ant species belonging to about fifty-five genera. This is the greatest diversity and number of ant species so far recorded in a given area.

Cooloola Monster: In 1980, a cricket-like creature new to science was discovered at Cooloola. Although popularly known as the "Cooloola Monster", Cooloola propator has been placed in a new scientific family called Cooloolidae.

A giant subterranean cockroach (*Geoscapheus primulatus*), approximately 6 to 8 centimetres long and the second largest cockroach yet recorded in the world, is found in the sand-dunes.

There are also twenty species of termites, two of which appear to be new to science, and fifty-eight species of Collembola (springtails), five of which have apparently never been recorded before. Other sand swimmers have yet to be studied in detail. These include burrowing bees, snails and some freshwater fauna. A large number of invertebrate species is probably yet undiscovered.

Marine fauna

Marine fauna is both prolific and diverse ranging from whales to whiting and from dugong to shrimps. The sheltered waters support several species of marine turtles and mammals, including dolphins.

Humpback whales: During winter about 1200 to 1600 humpback whales make a casual cruise north through waters adjacent to Cooloola and Fraser Island in early winter to breed in the waters of the southern Great Barrier Reef. A few hundred, or about a fifth of the estimated population, enter Hervey Bay about mid-August after the calving period as the whales return to their Antarctic feeding ground. They remain for only a few days. The whales have been recorded between mid-August and mid-October before moving to their Antarctic feeding grounds. They don't appear to eat during their winter sojourn. More than 20,000 tourists go out to watch the leviathans frolicking and just relaxing while they are in Platypus Bay, close to Fraser Island.

Dugongs: Hervey Bay and the Great Sandy Strait is the habitat for more than 2000 dugong (*Dugong dugong*), which is recognised as an endangered species. This is the most important Australian habitat south of Cape York for the legendary mammal renowned as the mermaids of the sea.

Turtles: The marine areas are very important for sea turtles. Thousands of have been recorded in Hervey Bay. The endangered loggerhead sea turtle (*Caretta caretta*) rendezvous off Rooney Point annually in Late October and early November for a mating orgy. Virtually all of the loggerhead turtles in the south-west Pacific carry out their courtship and mating here although they may subsequently swim hundreds of kilometres away to nest on beaches such as Mon Repos or the islands of the Great Barrier Reef.

At Rooneys Point, divers have discovered some rare colonies of vernetid gastropods, sedentary marine snails, in a remote and rarely visited subtidal reef lying in about 30 metres of water. Large reef conglomerations of these creatures are unusual in Australia, and they are normally found only in intertidal areas. The gastropod colonies, which could be more than 100 years old, appear as a series of brown domes lying in a shallow sand depression. They are affected by strong tidal currents.

Fish: The estuaries and shallow bays of the Great Sandy Strait, Tin Can Bay and the Noosa River support a rich and varied fauna. The brackish water, shallow flats, seagrass and mangrove-lined shores provide habitats for marine life, particularly juvenile fish and crustaceans. The productivity of mangrove and adjacent seagrass flats in terms of organic food production has been shown to be equal to, or greater than, that of the best farmlands. These areas produce a great part of the food on which the fish and crustaceans of the estuary depend.

The waters adjacent to Fraser Island, Rainbow and Teewah beaches and in the Noosa River are popular with amateur anglers. In particular, the ocean beach of Fraser Island attracts large numbers of enthusiasts suitably equipped with beach transport. With the exception of the upper Noosa River the same waters support a number of commercial fishing operations. Most of the commercial catch is made up of finned fish, particularly mullet, whiting, tailor, bream,

mackerel and flathead, but Queensland mud crabs and prawns are also taken, mainly in estuarine and inshore areas.

The large Aboriginal middens are testimony to the traditional productivity of the estuaries. During the early part of this century a ship called weekly to collect the huge oysters from the Great Sandy Strait and take them to Brisbane. The mangroves, particularly the Rhizophera species, are particularly important as a habitat of the famous Queensland mud crabs, one of the gastronomic delicacies of the state.

Marine mammals of Hervey Bay and Great Sandy Strait

Dugong
Risso's dolphin
Short-finned pilot whale
Long-finned pilot whale
Fraser's dolphin
Narrow-beaked dolphin
Bottlenose dolphin
Indopacific humpback dolphin
Cuvier's beaked whale
Minke whale
Sei whale
Bryde's whale
Pygmy sperm whale
Humpback whale