CONSERVATION VALUES OF ISLANDS IN EXMOUTH GULF.

A Preliminary Report by A.N. Start and N.L. McKenzie
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August 1992.

Introduction.

There are three groups of islands in Exmouth Gulf. In this paper they will be referred to as the Doole Group, the Simpson Group and the Y Group (Map 1). Some of the islands have official names; some do not. Names applied to the latter for convenience by CALM scientists are used in inverted commas. There are also several small isolated islets such as Whalebone and Islam Islands.

CALM scientists have briefly surveyed five of the six islands in the Doole Group, all of the Simpson Group, but, as yet, none of the Y Group or singletons. Birds, mammals and reptiles recorded during the surveys have been identified but some plant specimens await identification. Nevertheless there is enough data on the two surveyed groups to demonstrate that they have important conservation values and biogeographical significance. Whilst many of the islands share physiographic units and many associated plants and animals, each is, in one way or another, unique.

Doole Group

The Doole group consists of six islands at the southern end of the Gulf. The group is named for Doole Island which is the largest of the five islands that are permanently isolated from the mainland by sea, even at low tide. One Island, "Sandalwood" is connected to the mainland by mud flats except at high tides. The Islands are:-

ISLAND	Always Isolated	Visited by Survey team	pit traps set for mammals/reps
Doole	yes	yes	yes
Roberts	yes	yes	yes
Whitmore	yes	no	no
"North"	yes	yes	no
"South"	yes	yes	no
"Sandalwood"	no	yes	yes

Doole, about 2km off shore, is approximately 5km by 0.5km with a north-south axis. It is the largest of the completely isolated islands. The surrounding sea is shallow, often less than a meter deep at low tide, but deeper channels maintain its isolation. The adjacent sea bed is muddy.

There is no evidence of recent fire. There are only two minor occurrences of exotic plants. There is no apparent history of grazing by sheep and there are no feral animals on the island.

Wildlife is diverse with records of 95 species plants from 34 families, 40 species of birds and 13 species of reptile. There are no mammals. (Appendix)

Land units include;

(i) An exposed inter-tidal rock platform that runs the length of the east coast supporting mangal (typically mature *Avicennia marina)*. The mangal is usually a fringe but there are some patches of several hectares.

(ii) Sheltered inter-tidal shorelines behind (i) supporting other mangrove species, particularly *Rhizophora stylosa* and, behind the mangal, a variety of samphires.

(iii) Unstable, exposed beaches and beach ridges composed of course sand of shell fragments with many larger shell and coral pieces. It is best developed along the west shore where it supports low shrubs, typically *Acacia bivenosa* and *Myoporum insulare* over large tussocks of the beach spinifex *Spinifex longifolius*. Ephemerals such as *Euphorbia* spp. and the yellow daisy, *Senecio lautus* are common after rain.

(iv) Stable, inland ridges and swales paralleling the axis of the island and made of coarse lime-sand consisting of shell fragments with many larger shell and coral pieces, often overlaid by a layer to 0.5m of finer sand containing a high content of red silt which has probably been blown by wind to the island from the mainland. The vegetation is dominated by *Triodia* aff. *pungens* but it is diverse with many perennial shrub species as well as ephemeral herbs that appear after rain.

(v) Solution and redeposition of lime has cemented older deposits to form limestones; some are exposed. Thus there is a low limestone break-away about 1m high running the length of the east coast behind (ii).

(vi) Where the sand cover is thin on the more extensive ridges there are localised occurrences of shrubs such as *Acacia gregorii* and *Melaleuca* aff. *cardiophylla*.

(vii) Near the centre of the island there is an area of small knolls made up of limestone blocks which supported some species found nowhere else on any of the islands. eg *Calandrina papillata*.

(viii) On the north-east side, there is a relatively high hill of exposed limestone pavement which has been undercut and collapsed to form a small cliff above a scatter of boulders, now just above sea level and behind mangroves. The hill is capped by rock figs, *Ficus platypoda*, over which scrambles an unidentified parasitic dodder, *Cassytha* spp. Several other species that were not seen on any other islands were present on the cliff and boulder piles, including an unidentified mulla mulla *Ptilotus* spp.

(ix) In the centre of the island there is a flat of saline silt which supports a samphire community. It is connected too the east coast by a channel which now lies above normal high tides but which may allow ingress of sea water pushed up by storm surges. This area was probably a shallow lagoon during periods of higher sea level in the relatively recent past.

NOTE. Rocky sites are more extensive and varied on Doole than other islands in this group, (except Sandalwood) but many of the other units are typically found on other islands except "South" Island. Accordingly descriptions of the others summarise salient points and omit a repetitive listing of units.

Roberts Island, 3 km north of Doole Island, is further off shore and situated in deeper water. It is half the size of Doole. The adjacent sea has a sandy bottom supporting patches of coral reef. Most of the land units found on Doole also occur on Roberts. The exceptions are exposed limestone surfaces. There is a saline flat but it is completely cut off from the sea by a sand ridge and has a different assemblage of halophytes on it.

The known biota of Roberts is less diverse than that of Doole (about 50 species of plant from 23 families, 35 birds and 6 reptiles) but some bird and plant species are not so far recorded on Doole. The most striking feature of the fauna of Roberts Island is the presence of the native rodent *Rattus tunneyi* which, south of the Kimberley, is now known only from Doole and Simpson islands in Exmouth Gulf, a few Pilbara islands and parts of the Shark Bay mainland; it used to be much more widespread, extending coastally nearly to Perth.

There are large predatory Varanids on both islands. This is unusual for such small islands off the coast of W.A.

"North " Island to the west of Doole is about the same size as Roberts with a similar diversity of land units but some plants were recorded there that were not seen on other islands in the group. There is an interesting inter-tidal halophytic community behind mangroves on the north west coast which was not seen on any of the other islands. The mangrove communities are notable for being considerably more extensive and both floristically and structurally more diverse than on any other islands in the group, except, perhaps "South" Island.

Also, like "South" Island it was surrounded by very extensive mud flats at low tide; indeed "North" and "South" may be connected to one another by inter-tidal mud flats at times. These flats are ideal wader feeding grounds, frequented by large flocks of trans-equatorial migrants as well as adventurous residents of the mangal such as mangrove herons. Although we only spent a few hours there we recorded 20 bird species, all but one, singing honeyeater, being sea birds or mangrove specialists.

"South" Island is no more than a rock rising perhaps a meter above high tide and supporting a predominantly halophytic land flora surrounded by extensive and relatively complex mangal. It has a near complete compliment of Pilbara mangrove birds (we did not see Mangrove Kingfishers here). Beyond the mangal, at low tide, huge expanses of mud flat provide foraging grounds for many waders. We recorded 23 bird species, (all waders, sea-birds or mangrove birds) in an hour or two.

"Sandalwood" Island is considerably larger than any of the off shore islands (6 km^2). The eastern part of its northern shore is fringed by mangal, mostly *Avicennia marina*. Further west this grades into a series of small beaches of shell grit and then a small break-away at the intersection of a limestone ridge and a submerged limestone platform. These sections front the open waters of the Gulf.

On its east and west sides it is separated from the mainland by large tidal channels, that on the west side running through very extensive mature, zoned mangal. This is the only site on any of the Exmouth Gulf Islands at which we recorded Mangrove Kingfishers.

To the south the island is separated from the mainland by wide inter-tidal mud flats carrying extensive samphire. This side is easily crossed by feral animals including rabbits and, presumably, foxes, cats and mice. Nevertheless, in contrast to the adjacent mainland, its vegetation did not show the effects of frequent fire or of grazing by stock. Clearly the mud flats

have provided effective shelter from some of the serious disturbers affecting this part of the State.

However its connection to the mainland and, possibly its size, are reflected by higher diversity of all the groups we surveyed. For example we caught two species of rodent, a dasyurid, two skinks, two geckos and an agamid that were not found on any of the islands. We did not record *Rattus tunneyi* on this or any other Gulf island that was connected to the mainland at low tide. (see Appendix)

Simpson Group

The Simpson group consists of five islands on the eastern side of the Gulf. The group is named for Simpson Island which is the largest of the two islands that are permanently isolated from the mainland by sea, even at low tide. The Islands are:-

ISLAND	Always Isolated	Visited by Survey team	pit traps set for mammals/reps
Simpson	yes	yes	yes
Burnside	no	yes	yes
"Dugong"	yes	yes	yes
Hope (Point)	no	yes	yes
Tent	no	yes	yes

Simpson island

Simpson has many of the units found on Doole. These include:

i) A fringe of *Avicennia marina* on an inter-tidal rock platform running the length of the east coast,

ii) Patches of more extensive and more complex mangal (in a bay at the southern end of Simpson Island).

iii) A small break-away running the length of the east coast just behind the fringing mangroves.

iv) Unstable beach ridges of shell grit sand containing some larger shells and coral fragments and supporting beach spinifex *Spinifex longifolius*, a variety of *Euphorbia* species, the beach daisy *Senecio lautus* and, near the crests, *Atriplex paludosa*.

v) stable sand ridges and swales supporting sparse shrubs, commonly *Acacia bivenosa* or *Scaevola spinescens*, over dense hummock grass, *Triodia* aff *pungens*.

vi) Samphire on saline flats that were once lagoons.

Simpson shared with Burnside sea cliffs running the entire length of their west coasts. Wave action undercutting the cliffs had resulted in boulder piles below them. At the top large blocks of limestone which had relatively recently broken loose created deep chasms. These cliffs produced ideal eastern reef egret breeding habitat and we found several old nests.

These cliffs were carved by the erosive action of waves from the open waters of the Gulf on north-south trending limestone ridges. The ridges were the cores of earlier dunes made of calcareous marine deposits that had been cemented by solution and redeposition of carbonates.

The crests of the ridges provide spectacular views of the islands and the "mangrove coastline" of the eastern side of the Gulf. They comprise pavements of limestone pocked by depressions and cracks which suffice to trap enough sandy soil to support halophytic, shrubs such as *Frankenia* aff.*pauciflora* and various chenopods. Whilst the back slopes carry little more soil, they are sheltered from salt-laden winds and support a much richer assemblage of plants dominated by *Triodia*.

Perhaps the most significant feature of Simpson Island is the presence of two mammals. *Rattus tunneyi* is widespread, but at the time of our visit, much less abundant than it had been on Roberts Island in the Doole group. We usually caught one or two per night. The other mammal is the Euro (*Macropus robustus*). This is probably the smallest island supporting the species and, perhaps the smallest island supporting such a large Macropod. This is of considerable interest.

Other significant organisms found on Simpson include a rare pigface previously known from Shark Bay. This supports evidence from other plants found on the Gulf islands that there is a disjunct biogeographical relationship between the two areas. A Lumbricid earthworm lives in damp sand under mangrove litter near the landward margin of the mangrove fringe on the east coast. Although the species is well known from beaches elsewhere on the Indian Ocean rim, there are few previous Western Australian records, and none from north of Geraldton.

Dugong Island. The other permanently isolated island is "Dugong", just south of Simpson. "Dugong comprises an east-west, low rise of marine sand completely surrounded by mangal. The mangal on the south side is very extensive, much larger

than the supra-tidal area of the island. Vegetation comprises an assemblage typical of beach ridges with several components of the back slopes and swales. *Spinifex longifolius* and *Acacia bivenosa* were typical but there was also a grass, as yet not identified, that we only recorded on this island. Mangrove birds were plentiful and included mangrove robins.

Burnside Island appeared from charts to be isolated but at very low tides it is connected by an extensive mud flat to mangrove forest on the mainland shore. Euro droppings were found but no animals were seen. However European house mice were trapped and fox tracks were seen. It would seem that foxes and Euros can move between the mainland and the island at very low tide. The source of mice is more difficult to ascertain: Dutch gin bottles typical of those found in early pearlers' camps about Nickol Bay suggested European occupation about the turn of the century if not earlier and cement slabs, rusting iron and other rubbish in the centre of the island is testament to later European occupation (Probably 2nd. World War; D. Bathgate pers. comm to ANS 1992).

Burnside is the only island showing extensive disturbance to natural communities. Exotic buffel grass, *Cenchrus ciliaris* dominates much of the centre of the island. Presumably it was introduced by the war-time occupants and spread in the wake of their disturbance; there was evidence of old fires on this island. The mice may also have been introduced by these early residents. Despite the disturbances Burnside still has a rich assemblage of naturally occurring plants; indeed it is improbable that any have been lost. The mangroves of Burnside Island included *Aegialitis annulata* and *Aegiceras corniculatum*, neither of which have previously been recorded west of the Cossack-Dampier area, in the Pilbara.

The mangroves on this island contained at least two species of the curious tropical air-breathing marine gastropods, family Ellobiidae as well as a rich assemblage of mangrove birds.

Tent Island is a large area of high sand ridges and swales, some of the latter being inundated by sea water to form *Avicennia*-lined lagoons. The sand is of marine origin. The island appears to terminate an inter-tidal, mangrove-clad peninsula about five km long that extends from the vast mangal and salt flats of the adjacent coast. We spent little time there but it was free of stock and appeared to be ungrazed.

There was no evidence of recent fire. However there were fox tracks and we caught house mice. Amongst the eight reptiles recorded there is one (*Ctenotus hanloni?*) that we did not capture on other islands.

"Hope Island" (Hope Point on the maps) is, like Tent, isolated from the mainland by vast tidal mangal and samphire flats. It id unique amongst the Gulf islands for having extensive aeolian, red sand dunes of desert origins as well as dunes of marine sand similar to those found on all the other islands. Although there were foxes here, the island showed no sign of disturbance from other human activity. The red dunes supported several plant species not found on any of the other islands.

The Y Group.

There is as yet no biological data available on these islands. However, the richness of the other Gulf islands and the more pelagic situation of the group (as well as the isolated Whalebone and Islam Islands) suggests that they may also significant for conservation and possibly as sea bird rookeries.

Conclusion

* The Gulf Islands are topographically and geologically diverse with inter-tidal mangal, samphire on saline flats, foredunes, beach ridges, hind dunes, swales, red sand dunes, breakaways, limestone pavements, ridges and sea cliffs

* They support a rich and diverse array of plants and animals, typical of communities in the Exmouth region.

* Whilst there are many recurrent associations and some of the species are present on most if not all islands, each island has unique attributes.

* Some islands are permanently isolated from the mainland by sea. Some of them have native mammals on them. One, Doole is probably a potential release site for other species threatened with extinction: Shark Bay mouse being one candidate.

* Some islands are accessible to foxes and perhaps house mice at low tide. Nevertheless they are sheltered from fire and grazing stock. The presence of feral pigeons throughout the islands is alarming considering the problems they are causing on the islands of Cockburn Sound.

* All the islands are in nearly pristine condition except Burnside and it is doubtful that any species have been lost from that one.

* Almost all of the adjacent supra-tidal mainland has suffered severe degradation from a combination of post colonial activities including fire and pastoral use.

* There is a variety of mangrove communities from monospecific *Avicennia* fringes to clear zonation of relatively large and complex stands.

* The complex mangrove communities are a particularly important feature. They include a variety of mangrove endemics (birds, bats and plants). One is an undescribed bat, *Mormopterus* sp. nov. (cf. *M. loriae*), endemic to Western Australia.

* All specialised mangrove birds, bats and all species of mangrove plants (except *Osbornia octodonta* and a mangrove mistletoe) recorded south of the Kimberley occur on the Gulf islands.

* There are no significant mangrove stands in any Pilbara/Gascoyne conservation reserves, despite the importance of mangal to the nutrition of biota in inshore waters.

Recommendations.

1. For the above reasons it is important that all the Exmouth Gulf islands, and if possible a substantial section of the coastal system of mangal and samphire, be reserved for nature conservation. Most of the islands occur as integrated groups that complement one another. It is thus important that they be managed as such. Piecemeal reservation would result in significant loss of value particularly if some islands were to be alienated for land bases for fishing, mining or other activities.

2. The Science and Information Division of CALM is currently unable continue the Gulf island surveys and write up previous work. The DPUD planning study draft currently available for public comment includes virtually no information on the conservation values of Exmouth Gulf and its hinterland. If another interested department (eg. DPUD or EPA) could contribute $10,000, CALM scientists would complete the survey and prepare a manuscript for publication within twelve months.

EXMOUTH GULF ISLANDS

RIVOLI GROUP

The Rivoli Islands comprise two small islands and several shoals located in the centre of Exmouth Gulf. The Islands are Y Island and Eva Island. The fauna and flora have never been surveyed, but the CALM District Manager advises that they are in good condition. Being the closest islands to Exmouth they are sometimes visited by fishing or recreating people with access to seaworthy boats.

Several factors point to potential importance of the islands for conservation. These are:

1. Biogeography. The Rivoli islands are unlike other islands in Exmouth Gulf in being well off shore. They are also separated from the mainland by deeper water. Therefore they will have been isolated from the mainland for much longer. Since the other islands in the Gulf are of considerable interest because of their biogeographic links to the Shark Bay area, the flora of the Rivoli Islands may help to understand past biogeographic patterns of change.

2. Isolation. Being well off shore and isolated from the mainland the islands are likely to be largely or completely free of feral animals and exotic weeds. They are also likely to have been free of regular burning too. This has been the case with all of the other Exmouth Gulf Islands that are completely separated from the mainland even at low tide. Therefore the faunas and floras of the Rivoli Islands are likely to be intact. It is important to keep them so.

The proximity of the islands to Exmouth poses some risks of introduction of these disturbers. Reservation as Nature Reserves, with appropriate local public awareness programs would hone appreciation of their value and reduce the likelihood of damage through ignorance or carelessness.

3. Seabirds. Seabirds often use small islands that are well off-shore for breeding. This is so of many of the seabirds breeding on north-west islands. The Rivoli islands would appear to be ideal in this regard.

Conclusions. The Rivoli Islands have considerable potential significance for conservation. They should be surveyed. CALM intends to do so if funding can be secured. In the meantime it is vital that their values are not jeopardised. Therefore it would be prudent to provide protection through reservation unless funding for survey can be made available in the near future and decision on their future status held in abeyance until the survey results are available.

MAMMALS OF THE EXMOUTH GULF ISLANDS

Species (* = exotic)	Doole Group						Simpson Group				
	Dl	Rb	Nt	St	Sa	I	Si	Du	Bu	Hp	Tn
RODENTS						I					
**Mus musculus*						I			*		*
Notomys alexis					*	I					
Pseudomys hermansbergensis					*	I				*	
Rattus tunneyi		*			?	I	*				
						I					
RABBITS						I					
**Oryctolagus cuniculus*					*	I					
						I					
DOGS						I					
**Vulpes vulpes*						I			*	*	*
						I					
BATS						I					
Chaerephon jobensis					*	I					
Mormopterus loriae					*	I		*			
Tadarida australis					*	I					
Nyctophilus arnhemensis					*	I			*		
Nyctophilus geoffroyi					*	I		*			
						I					
MACROPODS						I					
Macropus robustus						I	*		*	*	
Macropus spp						I					*
						I					
DASYURIDS						I					
Sminthopsis macroura					*	I					

Dl = Doole
Rb = Roberts
Nt = "North"
St = "South"
Sa = "Sandalwood"

Si = Simpson
Du = "Dugong"
Bu = Burnside
Hp = "Hope"
Tn = Tent

? = A rat, probably *Rattus tunneyi* seen 5 June 1978

NB bats not surveyed on most islands. Lists undoubtedly incomplete

REPTILES OF THE EXMOUTH GULF ISLANDS

Species (* = exotic)	Doole Group						Simpson Group				
	Dl	Rb	Nt	St	Sa	I	Si	Du	Bu	Hp	Tn
GECKOS											
Heteronotea binoei	*					*	*		*	*	*
Gehyra variegata	*	*				*	*	*	*		
Diplodactylus strophurus					*						
Diplodactylus stenodactylus					*						
SKINKS											
Ctenotus saxatilis	*	*				*	*	*	*		*
Ctenotus hanloni ?											*
Eremoscincus fasciatus										*	
Lerista bipes	*				*	*	*		*	*	*
Lerista elegans	*									*	*
Lerista muelleri					*						
Lerista petersoni	*	*									
Menetia greyi	*				*	*	*		*		*
Notoscincus ornatus	*										
Sphenomorphus isolepis	*	*				*	*	*	*		*
AGAMIDS											
Gematophora gilberti	*	*		*		*	*	*	*	*	*
Pogona minor					*						
PYGOPIDS											
Delma tincta	*										
VARANIDS											
Varanus gouldii										*	
Varanus tristis							*				
Varanus spp	*	*	*								
SNAKES											
python spp	*										

Dl = Doole
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Si = Simpson
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Tn = Tent

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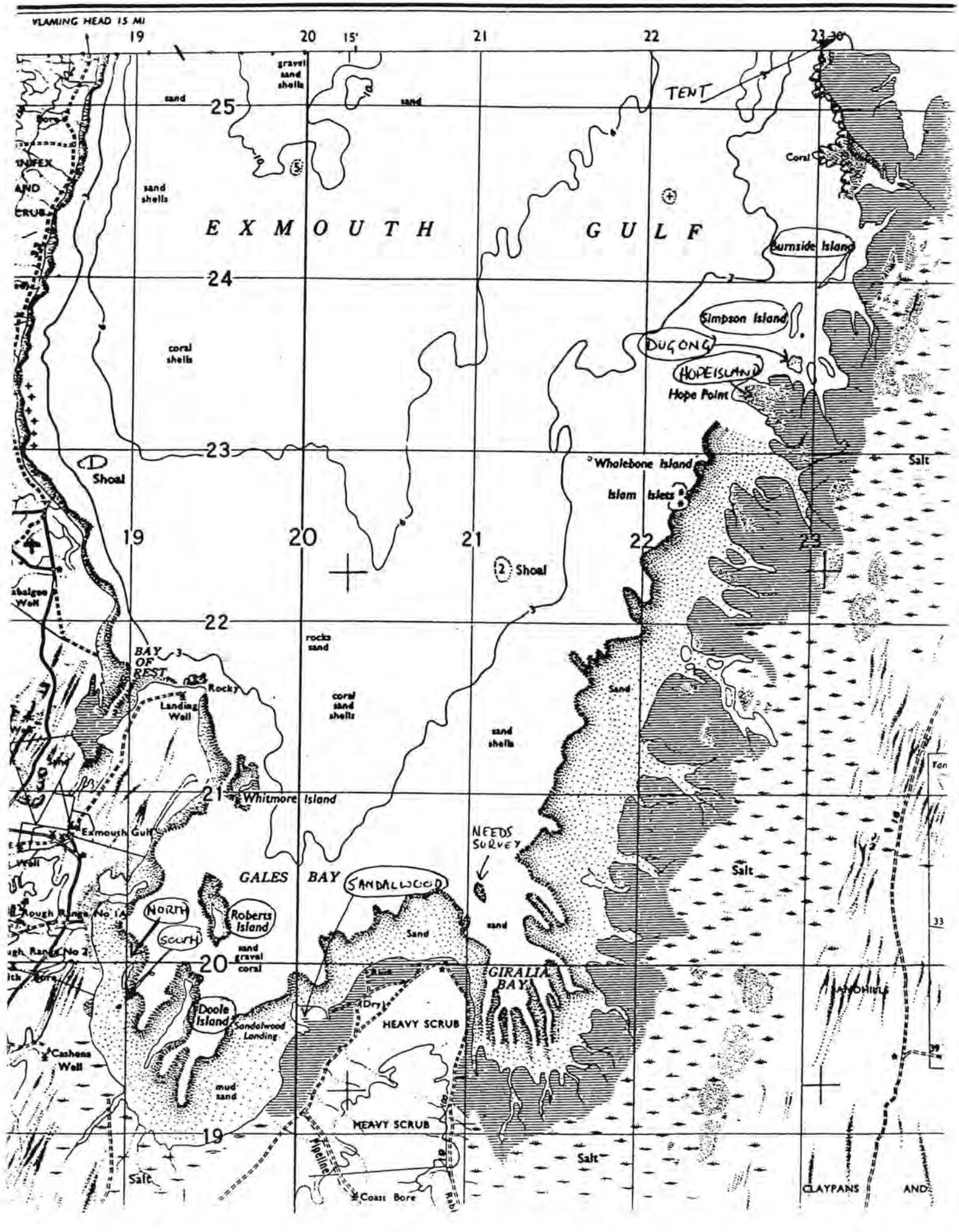
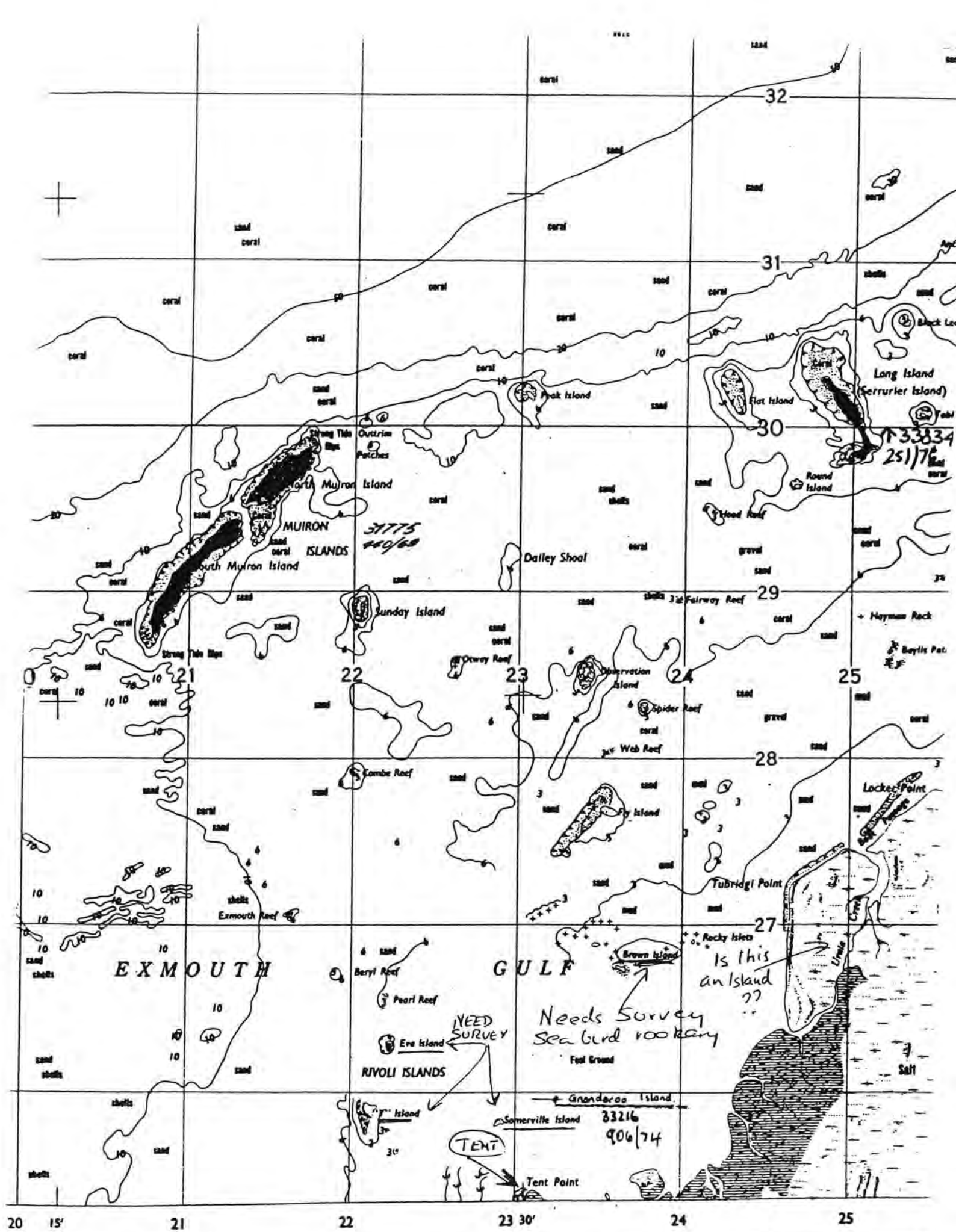

FLAMING HEAD 15 MI
19
20
15'
21
22
23 30'
25
24
23
22
gravel sand shells
sand
sand
TENT
Coral
sand shells
EXMOUTH GULF
Burnside Island
Simpson Island
DUGONG
HOPEISLAND
Hope Point
coral shells
Shoal
Wholebone Island
Islam Islets
Salt
Shoal
rocks sand
BAY OF REST
Rocky
Landing Well
coral sand shells
sand shells
Sand
Whitmore Island
Exmouth Gulf
NEEDS SURVEY
GALES BAY
SANDALWOOD
North
South
Roberts Island
sand gravel coral
Sand
sand
GIRALIA BAY
Doole Island
Sandalwood Landing
HEAVY SCRUB
Cashens Well
mud sand
HEAVY SCRUB
Salt
Pipeline
Coast Bore
Salt
CLAYPANS
AND



LEGEND

* approximate distances in miles between stars

one or telegraph line _____ _ _ + _ _ _ _ Lake or pond perennial, intermittent.

Scale 1:250,0

Bird Species
Australian Bustard
Australian Hobby
Australian Kestrel
Australian Magpie-lark
Australian Pelecan
Bar-shouldered Dove
Bartailed Godwit
Beach Thicknee
Black Honeyeater
Black-breasted Buzzard
Black-faced Cuckoo-shrike
Black-faced Woodswallow
Black-necked Stork
Black-shouldered Kite
Brahminy Kite
Bridled Tern
Brown Falcon
Brown Goshawk
Brown Honeyeater
Brown Quail
Brown Songlark
Caspian Tern
Common Sandpiper
Corvid
Crested Bellbird
Crested Pigeon
Crested Tern
Crimson Chat
Curlew Sandpiper
Dusky Gerygone
Eastern Curlew
Eastern Reef Egret
Fairy Martin
Fairy Tern
Galah
Great Egret
Great Knot
Greenshank
Grey Fantail
Grey Plover
Grey Shrike-thrush
Grey-tailed Tattler
Gull-billed Tern
Horsfield's Bronze-cuckoo
Large Sand Plover
Lesser Crested Tern
Little Button-Quail
Little Corella
Mangrove Golden Whistler
Mangrove Heron
Mangrove Kingfisher
Mangrove Robin
Mongolian Plover
Orange Chat
Osprey

Bird Species
Pied Butcherbird
Pied Cormorant
Pied Honeyeater
Pied Oystercatcher
Pigeon (domestic)
Rainbow Bee-eater
Red-capped Plover
Red-capped Robin
Red-necked Stint
Richard's Pipit
Roseate Tern
Ruddy Turnstone
Sacred Ibis
Sacred Kingfisher
Sharp-tailed Sandpiper
Silver Gull
Singing Bushlark
Singing Honeyeater
Sooty Oystercatcher
Spotted Harrier
Terek Sandpiper
Torresian Crow
Tree Martin
Variegated Fairy-wren
Welcome Swallow
Whimbrel
Whiskered Tern
White-bellied Sea-eagle
White-breasted Whistler
White-breasted Woodswallow
White-faced Heron
White-plumed Honeyeater
White-winged Fairy-wren
Willie Wagtail
Yellow Silvereye
Yellow-throated Miner
Zebra Finch

Island	Bird Species
burnside	Australian Kestrel
burnside	Bar-shouldered Dove
burnside	Beach Thicknee
burnside	Black Honeyeater
burnside	Brahminy Kite
burnside	Brown Honeyeater
burnside	Brown Quail
burnside	Brown Songlark
burnside	Caspian Tern
burnside	Common Sandpiper
burnside	Corvid
burnside	Dusky Gerygone
burnside	Eastern Reef Egret
burnside	Grey Fantail
burnside	Grey-tailed Tattler
burnside	Little Corella
burnside	Mangrove Golden Whistler
burnside	Mangrove Heron
burnside	Mangrove Robin
burnside	Osprey
burnside	Pied Cormorant
burnside	Pied Oystercatcher
burnside	Richard's Pipit
burnside	Singing Honeyeater
burnside	Spotted Harrier
burnside	Torresian Crow
burnside	Tree Martin
burnside	White-breasted Whistler
burnside	White-breasted Woodswallow
burnside	Yellow Silvereye
Burnside	Australian Pelecan
Burnside	Bartailed Godwit
Burnside	Black Honeyeater
Burnside	Brahminy Kite
Burnside	Brown Honeyeater
Burnside	Brown Songlark
Burnside	Crested Tern
Burnside	Crimson Chat
Burnside	Dusky Gerygone
Burnside	Galah
Burnside	Great Knot
Burnside	Grey Fantail
Burnside	Horsfield's Bronze-cuckoo
Burnside	Little Button-Quail
Burnside	Mangrove Golden Whistler
Burnside	Mangrove Heron
Burnside	Pigeon (domestic)
Burnside	Rainbow Bee-eater
Burnside	Red-capped Plover
Burnside	Red-capped Robin
Burnside	Red-necked Stint

Island	Bird Species
Burnside	Richard's Pipit
Burnside	Sacred Kingfisher
Burnside	Sharp-tailed Sandpiper
Burnside	Silver Gull
Burnside	Singing Honeyeater
Burnside	Terek Sandpiper
Burnside	Welcome Swallow
Burnside	White-bellied Sea-eagle
Burnside	White-faced Heron
Burnside	Yellow Silvereye
doole	Australian Kestrel
doole	Australian Pelecan
doole	Bar-shouldered Dove
doole	Bartailed Godwit
doole	Black Honeyeater
doole	Black-faced Cuckoo-shrike
doole	Black-shouldered Kite
doole	Brahminy Kite
doole	Brown Honeyeater
doole	Caspian Tern
doole	Common Sandpiper
doole	Corvid
doole	Eastern Curlew
doole	Eastern Reef Egret
doole	Fairy Martin
doole	Fairy Tern
doole	Great Knot
doole	Greenshank
doole	Grey Plover
doole	Grey-tailed Tattler
doole	Large Sand Plover
doole	Little Button-Quail
doole	Little Corella
doole	Mangrove Heron
doole	Osprey
doole	Pied Cormorant
doole	Pied Oystercatcher
doole	Pigeon (domestic)
doole	Red-capped Plover
doole	Red-necked Stint
doole	Richard's Pipit
doole	Ruddy Turnstone
doole	Silver Gull
doole	Singing Honeyeater
doole	Sooty Oystercatcher
doole	White-bellied Sea-eagle
doole	White-breasted Whistler
doole	White-breasted Woodswallow
doole	Yellow Silvereye
doole	Zebra Finch
dugong	Black Honeyeater
dugong	Brahminy Kite

Island	Bird Species
dugong	Brown Honeyeater
dugong	Dusky Gerygone
dugong	Grey Fantail
dugong	Horsfield's Bronze-cuckoo
dugong	Little Button-Quail
dugong	Mangrove Golden Whistler
dugong	Mangrove Robin
dugong	Rainbow Bee-eater
dugong	Singing Honeyeater
dugong	Welcome Swallow
dugong	White-bellied Sea-eagle
dugong	White-breasted Whistler
dugong	White-breasted Woodswallow
dugong	White-faced Heron
dugong	White-winged Fairy-wren
dugong	Willie Wagtail
dugong	Yellow Silvereye
hope	Australian Hobby
hope	Australian Pelecan
hope	Bartailed Godwit
hope	Beach Thicknee
hope	Black Honeyeater
hope	Black-breasted Buzzard
hope	Brown Falcon
hope	Brown Honeyeater
hope	Brown Quail
hope	Brown Songlark
hope	Caspian Tern
hope	Corvid
hope	Crested Tern
hope	Crimson Chat
hope	Dusky Gerygone
hope	Eastern Reef Egret
hope	Great Knot
hope	Greenshank
hope	Grey Fantail
hope	Grey Plover
hope	Grey-tailed Tattler
hope	Gull-billed Tern
hope	Horsfield's Bronze-cuckoo
hope	Large Sand Plover
hope	Little Button-Quail
hope	Little Corella
hope	Mangrove Heron
hope	Mangrove Robin
hope	Orange Chat
hope	Pied Cormorant
hope	Pied Honeyeater
hope	Pied Oystercatcher
hope	Pigeon (domestic)
hope	Red-capped Plover
hope	Red-necked Stint

Island	Bird Species
hope	Richard's Pipit
hope	Ruddy Turnstone
hope	Sacred Kingfisher
hope	Silver Gull
hope	Singing Honeyeater
hope	Spotted Harrier
hope	Torresian Crow
hope	Welcome Swallow
hope	White-bellied Sea-eagle
hope	White-breasted Whistler
hope	White-breasted Woodswallow
hope	White-faced Heron
hope	White-winged Fairy-wren
hope	Willie Wagtail
hope	Yellow Silvereye
hope	Zebra Finch
north	Australian Pelecan
north	Bartailed Godwit
north	Caspian Tern
north	Crested Tern
north	Curlew Sandpiper
north	Dusky Gerygone
north	Eastern Curlew
north	Eastern Reef Egret
north	Grey Fantail
north	Grey Plover
north	Grey-tailed Tattler
north	Pied Oystercatcher
north	Pigeon (domestic)
north	Red-necked Stint
north	Ruddy Turnstone
north	Singing Honeyeater
north	Terek Sandpiper
north	Whimbrel
north	White-breasted Woodswallow
north	Yellow Silvereye
roberts	Australian Kestrel
roberts	Australian Pelecan
roberts	Bartailed Godwit
roberts	Beach Thicknee
roberts	Black-necked Stork
roberts	Caspian Tern
roberts	Common Sandpiper
roberts	Crested Tern
roberts	Curlew Sandpiper
roberts	Dusky Gerygone
roberts	Eastern Reef Egret
roberts	Fairy Tern
roberts	Great Knot
roberts	Greenshank
roberts	Grey Fantail
roberts	Grey Plover

Island	Bird Species
roberts	Grey-tailed Tattler
roberts	Large Sand Plover
roberts	Mangrove Heron
roberts	Orange Chat
roberts	Osprey
roberts	Pied Cormorant
roberts	Pied Oystercatcher
roberts	Pigeon (domestic)
roberts	Red-capped Plover
roberts	Red-necked Stint
roberts	Richard's Pipit
roberts	Ruddy Turnstone
roberts	Sharp-tailed Sandpiper
roberts	Silver Gull
roberts	Singing Honeyeater
roberts	Sooty Oystercatcher
roberts	White-bellied Sea-eagle
roberts	White-breasted Woodswallow
roberts	Yellow Silvereye
sandalwood	Australian Kestrel
sandalwood	Australian Pelecan
sandalwood	Bar-shouldered Dove
sandalwood	Bartailed Godwit
sandalwood	Black Honeyeater
sandalwood	Black-necked Stork
sandalwood	Brahminy Kite
sandalwood	Brown Honeyeater
sandalwood	Caspian Tern
sandalwood	Common Sandpiper
sandalwood	Dusky Gerygone
sandalwood	Eastern Curlew
sandalwood	Grey Fantail
sandalwood	Grey Plover
sandalwood	Grey-tailed Tattler
sandalwood	Little Button-Quail
sandalwood	Mangrove Heron
sandalwood	Mangrove Kingfisher
sandalwood	Pied Cormorant
sandalwood	Pied Oystercatcher
sandalwood	Pigeon (domestic)
sandalwood	Red-capped Plover
sandalwood	Richard's Pipit
sandalwood	Roseate Tern
sandalwood	Ruddy Turnstone
sandalwood	Silver Gull
sandalwood	Singing Honeyeater
sandalwood	Variegated Fairy-wren
sandalwood	Whimbrel
sandalwood	White-bellied Sea-eagle
sandalwood	White-breasted Woodswallow
sandalwood	White-winged Fairy-wren
sandalwood	Yellow Silvereye

Island	Bird Species
sandalwood	Zebra Finch
simpson	Australian Hobby
simpson	Australian Kestrel
simpson	Australian Pelecan
simpson	Bar-shouldered Dove
simpson	Bartailed Godwit
simpson	Beach Thicknee
simpson	Black Honeyeater
simpson	Black-shouldered Kite
simpson	Brahminy Kite
simpson	Brown Goshawk
simpson	Brown Honeyeater
simpson	Brown Quail
simpson	Brown Songlark
simpson	Caspian Tern
simpson	Crested Tern
simpson	Crimson Chat
simpson	Dusky Gerygone
simpson	Eastern Reef Egret
simpson	Fairy Tern
simpson	Great Knot
simpson	Grey Fantail
simpson	Grey Plover
simpson	Grey Shrike-thrush
simpson	Grey-tailed Tattler
simpson	Horsfield's Bronze-cuckoo
simpson	Large Sand Plover
simpson	Lesser Crested Tern
simpson	Little Button-Quail
simpson	Little Corella
simpson	Mangrove Golden Whistler
simpson	Mangrove Heron
simpson	Mangrove Robin
simpson	Mongolian Plover
simpson	Osprey
simpson	Pied Cormorant
simpson	Pied Oystercatcher
simpson	Pigeon (domestic)
simpson	Red-capped Plover
simpson	Red-necked Stint
simpson	Richard's Pipit
simpson	Roseate Tern
simpson	Ruddy Turnstone
simpson	Sacred Ibis
simpson	Sacred Kingfisher
simpson	Sharp-tailed Sandpiper
simpson	Silver Gull
simpson	Singing Honeyeater
simpson	Sooty Oystercatcher
simpson	Spotted Harrier
simpson	Torresian Crow
simpson	Tree Martin

Island	Bird Species
simpson	Welcome Swallow
simpson	White-bellied Sea-eagle
simpson	White-breasted Woodswallow
simpson	White-faced Heron
simpson	Willie Wagtail
simpson	Yellow Silvereye
simpson	Zebra Finch
Simpson	Welcome Swallow
south	Australian Pelecan
south	Bartailed Godwit
south	Caspian Tern
south	Curlew Sandpiper
south	Dusky Gerygone
south	Eastern Curlew
south	Eastern Reef Egret
south	Fairy Tern
south	Great Knot
south	Greenshank
south	Grey Fantail
south	Grey-tailed Tattler
south	Large Sand Plover
south	Mangrove Heron
south	Pied Oystercatcher
south	Pigeon (domestic)
south	Red-capped Plover
south	Ruddy Turnstone
south	Silver Gull
south	Terek Sandpiper
south	Whimbrel
south	White-breasted Woodswallow
south	Yellow Silvereye
tent	Bartailed Godwit
tent	Bridled Tern
tent	Brown Goshawk
tent	Brown Songlark
tent	Caspian Tern
tent	Common Sandpiper
tent	Corvid
tent	Crimson Chat
tent	Curlew Sandpiper
tent	Eastern Reef Egret
tent	Galah
tent	Great Egret
tent	Great Knot
tent	Grey-tailed Tattler
tent	Gull-billed Tern
tent	Large Sand Plover
tent	Osprey
tent	Pied Oystercatcher
tent	Red-capped Plover
tent	Red-necked Stint
tent	Richard's Pipit

Island	Bird Species
tent	Roseate Tern
tent	Ruddy Turnstone
tent	Silver Gull
tent	Singing Honeyeater
tent	Spotted Harrier
tent	Whimbrel
tent	Whiskered Tern
tent	White-bellied Sea-eagle
tent	White-breasted Woodswallow
tent	White-faced Heron
tent	White-winged Fairy-wren
tent	Willie Wagtail
tent	Yellow Silvereye