CONSERVATION COMMISSION OF WESTERN AUSTRALIA

STATUS PERFORMANCE ASSESSMENT: BIODIVERSITY CONSERVATION ON WESTERN AUSTRALIAN ISLANDS

PHASE II – KIMBERLEY ISLANDS

FINAL REPORT




Conservation Commission of Western Australia

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The 2633 Kimberley islands comprise the least impacted part of one of the world's last and largest tropical wilderness areas—the north Kimberley of Western Australia—and are attracting heightened world-wide interest and rapidly increasing tourism. Their varied, often spectacular, landscapes and ecosystems, which include sandstone and volcanic escarpments, rainforest patches, mangrove forests, freshwater creeks and swamps, savannah woodland and pristine beaches, harbour a wide variety of animals and plants, including some that occur nowhere else and some that are threatened with extinction on the mainland.

South of the Kimberley, where most islands are conservation reserves vested in the Conservation Commission of Western Australia, inclusion of islands in the State's protected area system has resulted in very effective biodiversity conservation outcomes. The Kimberley lies in stark contrast: of the 2633 Kimberley islands (53% of Western Australian islands of >1000 ha and 68% of WA islands of >20 ha), only 12 small islands are reserved for conservation and some of these do not have the highest level of protection.

As is the case in the southern two thirds of the State, Kimberley islands are largely unaffected by the key threatened processes that are causing the decline of ecosystems and species on the Australian mainland; threats such as land clearing, introduced animals and plants, changed fire regimes, urban development and pollution.

Islands in the Kimberley have high cultural and traditional values to local Aboriginal people and most are under Native Title claim. Future protection of the biodiversity of Kimberley islands must take account of the aspirations and rights of local Aboriginal people. Their future management offers employment opportunities for local people.

The conservation of the biodiversity on Kimberley islands deserves a much higher priority by government than has been the case in the past. Kimberley islands collectively are an extremely valuable biodiversity conservation resource. There is an opportunity to include all or almost all Kimberley islands in the State's protected area system using mechanisms such as conservation reserves that are jointly managed by the State and Traditional Owners.

Knowledge of the terrestrial biodiversity of most Kimberley islands is generally very limited. While there have been biological surveys since the 1970s and there is good knowledge of the biodiversity of some islands, the high number of islands and the small number of surveys have combined to greatly limit the quantity of data. Most survey work has been on the larger islands and the Department of Environment and Conservation's (DEC) current Kimberley islands Biological Survey is able to examine only 22 of the largest islands. Many of the smaller islands can be expected to have high biodiversity values as well. However, even with the limited quantity of data, it is clear that the larger Kimberley islands have very high biodiversity conservation values and that several smaller islands with seabird breeding colonies and marine turtle rookeries also require the highest levels of protection.

This report includes a number of recommendations for future action. The lack of knowledge about the biodiversity of the vast majority of Kimberley islands indicates the need to extend the current Kimberley islands Biological Survey so that the biodiversity of many other larger Kimberley islands can be documented, plus that of a sample of small islands. DEC's Kimberley Region needs an identified island management budget so that staff can regularly visit

and manage high priority islands. A regulated Kimberley islands and coast tourism and recreation management strategy that minimises impact on biodiversity and cultural values, developed in conjunction with the tourism industry and Traditional Owners, is urgently required. The few populations of feral animals, especially the Pacific rats on Adele Island, need to be eradicated. One weed, the stinking passionflower, is invading Kimberley islands and biological control research is urgent. Biosecurity is a vital requirement of island use to prevent further introductions of non-indigenous species and a biosecurity protocol, developed with the tourism industry, other industries in the region and local Aboriginal people, is needed. In coming decades, climate change appears to be a lower threat to Kimberley islands compared with those further south in WA; however, some islands will be impacted by rising sea levels and increased storm surge. Research into which islands and species will be impacted is needed, with strategies being developed to minimise impact.

The Conservation Commission will seek ways to integrate the recommendations of this assessment report into the broader communication initiatives of the *Kimberley Science and Conservation Strategy*. Through this proposed integration the recommendations in this assessment report will provide part of the Conservation Commissions input into this strategy.

1. INTRODUCTION

1.1 Background

The Conservation Commission of Western Australia is a statutory body set up under the *Conservation and Land Management Act 1984*. Pursuant to section 19(1)(g) of the Act, the Commission has responsibility to assess and audit the performance of the Department of Environment and Conservation (DEC) and the Forest Products Commission in carrying out and complying with management plans. 'Status Performance Assessments' (SPA) are conducted with the agreement of DEC and focus on documenting the status of the biodiversity in a geographic area to provide an overall view of management performance. Performance assessments help inform the Conservation Commission's policy development function and its responsibility to advise the Minister on conservation and management of biodiversity components throughout the State. The assessments have a broad focus and are not confined to land vested in the Commission.

In 2007, the Commission decided to conduct a SPA of biodiversity conservation on Western Australian islands. Phase I of the assessment covered islands vested in the Commission and was finalised in 2009. Phase II covers all Kimberley islands, most of which are not vested in the Commission. Of the 3747 islands, islets and rocks in Western Australia (WA) (Geoscience Australia http://www.ga.gov.au/education/geoscience-basics/landforms/islands.jsp), 2633 (70%) are located in the Kimberley. Of the 8222 islands in the whole of Australia, 32% are in the Kimberley.

WA's islands have very high biodiversity conservation values. They conserve unique subsets of Australia's continental biodiversity, they harbour threatened species that have become extinct or have greatly declined on the mainland, they have genetically-unique populations of mainland species, they provide breeding sites unaffected by terrestrial predators (including exotic predators such as pigs, foxes, cats and rats) for sea turtles, seabirds, seals and sealions, and most are unaffected by most of the threatening processes causing decline of mainland biodiversity such as grazing, altered fire regimes, pests and diseases, urban development and pollution. The littoral zone of islands contains valuable biodiversity that needs protection in its own right and also provides energy and food for terrestrial organisms.

Worldwide, islands are of two major types: oceanic (usually derived from mid-ocean volcanic or tectonic action) and continental (or landbridge) islands on continental shelves—sometimes these are called 'offshore' islands. None of the islands within the jurisdiction of the State of Western Australia are oceanic in origin. Most WA islands are continental in origin, having separated from the Australian mainland between 14,000 and 6,000 years before present as sea levels rose at the end of the last Pleistocene glaciation. Cays, accumulations of sand and/or coral rubble on reefs, usually have a more recent origin. The cays on Rowley Shoals and Scott Reef have accumulated on coral atolls.

WA's islands can be divided into two types:

- islands with mainly terrestrial values, containing unique ecosystems resulting from subsets of mainland ecosystems; many terrestrial-value islands are large enough to allow vegetation communities to grow away from the immediate influence of sea spray, and
- islands with mainly marine values (seabird breeding and resting, sea turtle breeding, seal and sealion breeding and haul-out sites); marine-value islands can be cays (sand and/or coral rubble) or small rocky islands and islets with or without beaches.

On some islands both values are present, as turtles nest on large islands such as Bigge Island and seabirds will use many beaches and headlands on larger islands for resting.

1.2 Objectives

Phase II of the islands SPA has four objectives:

1. Assessment of the existing data and status of biodiversity conservation on Kimberley islands—incorporating the status of the progress relating to the recommendations in the document *Nature Conservation Reserves in the Kimberley Western Australia* (Burbidge *et al.*, 1991);
2. Assessment of the key threatening processes to the Kimberley islands within the scope of this assessment including biosecurity, climate change, and development;
3. Evaluating and reporting on gaps and contribution of Kimberley islands to the island reserve system (with emphasis on comprehensiveness, adequacy and representativeness);
4. In consultation with Traditional Owners and stakeholders, recommending planning, research, management actions and reservation proposals for islands.

The results of the first three objectives are reported hereunder and have been utilised to progress objective 4.

1.3 Methods

The Conservation Commission employed Dr Andrew Burbidge as the assessor in relation to objectives 1, 2 and 3.

Information on the biodiversity of Kimberley islands was sought from the Department of Environment and Conservation, from the scientific literature and from naturalists and ecotourism tour guides.

A list of Kimberley islands was developed as described in Appendix 2.

OBJECTIVES 1, 2 AND 3

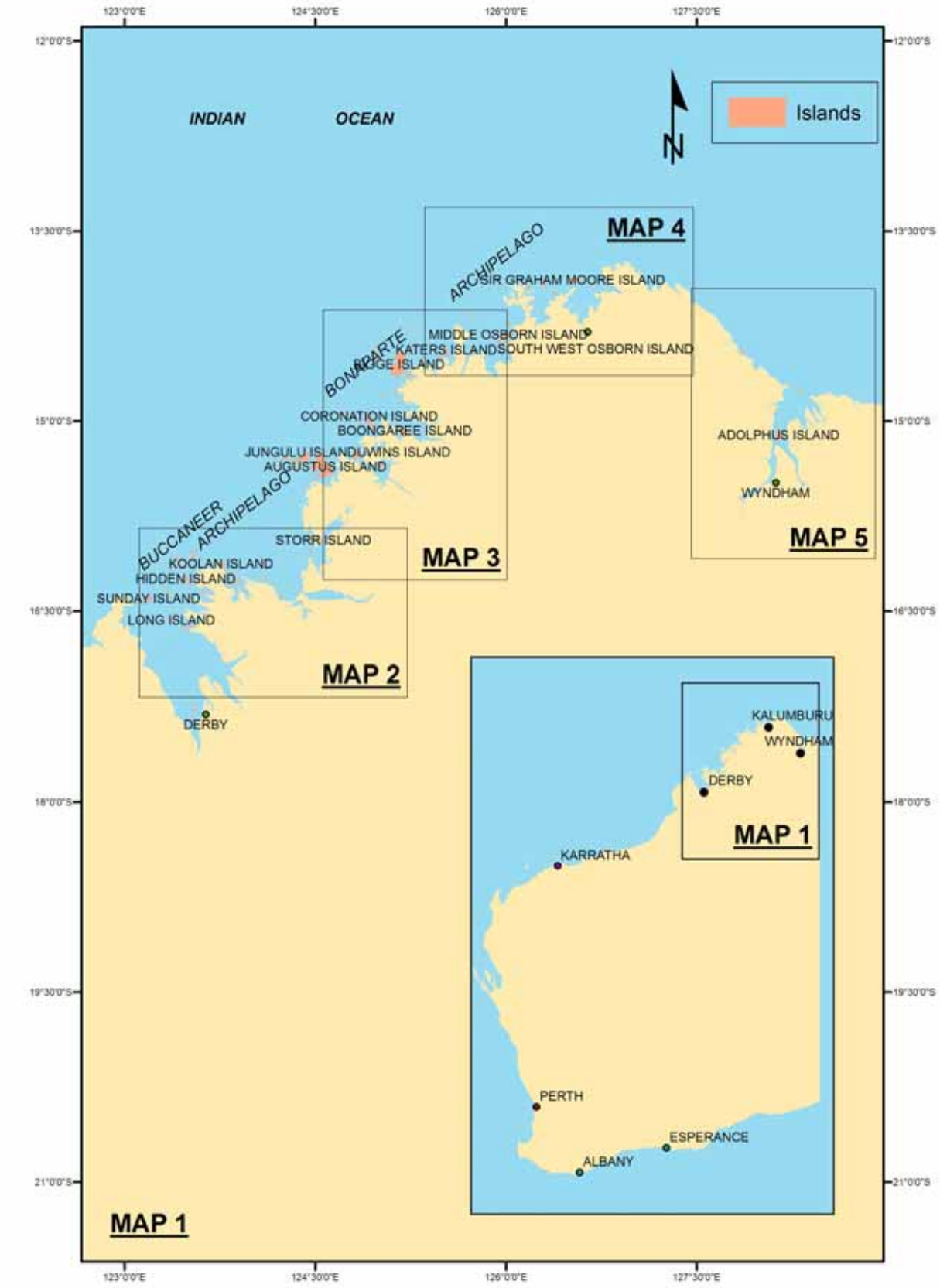
2. KIMBERLEY ISLANDS

This report is limited to the terrestrial biodiversity of Kimberley islands. The Phase I report drew attention to the values of the littoral (intertidal) biodiversity on islands and the importance of the seaward limit of Land Administration Act 1997 conservation reserves in the protection of littoral areas. Recommendations for marine reserves in the Kimberley were made in the Report of the Marine Parks and Reserves Selection Working Group, known as 'The Wilson Report' (MPRSWG 1994). The only marine park in the Kimberley surrounds Rowley Shoals.

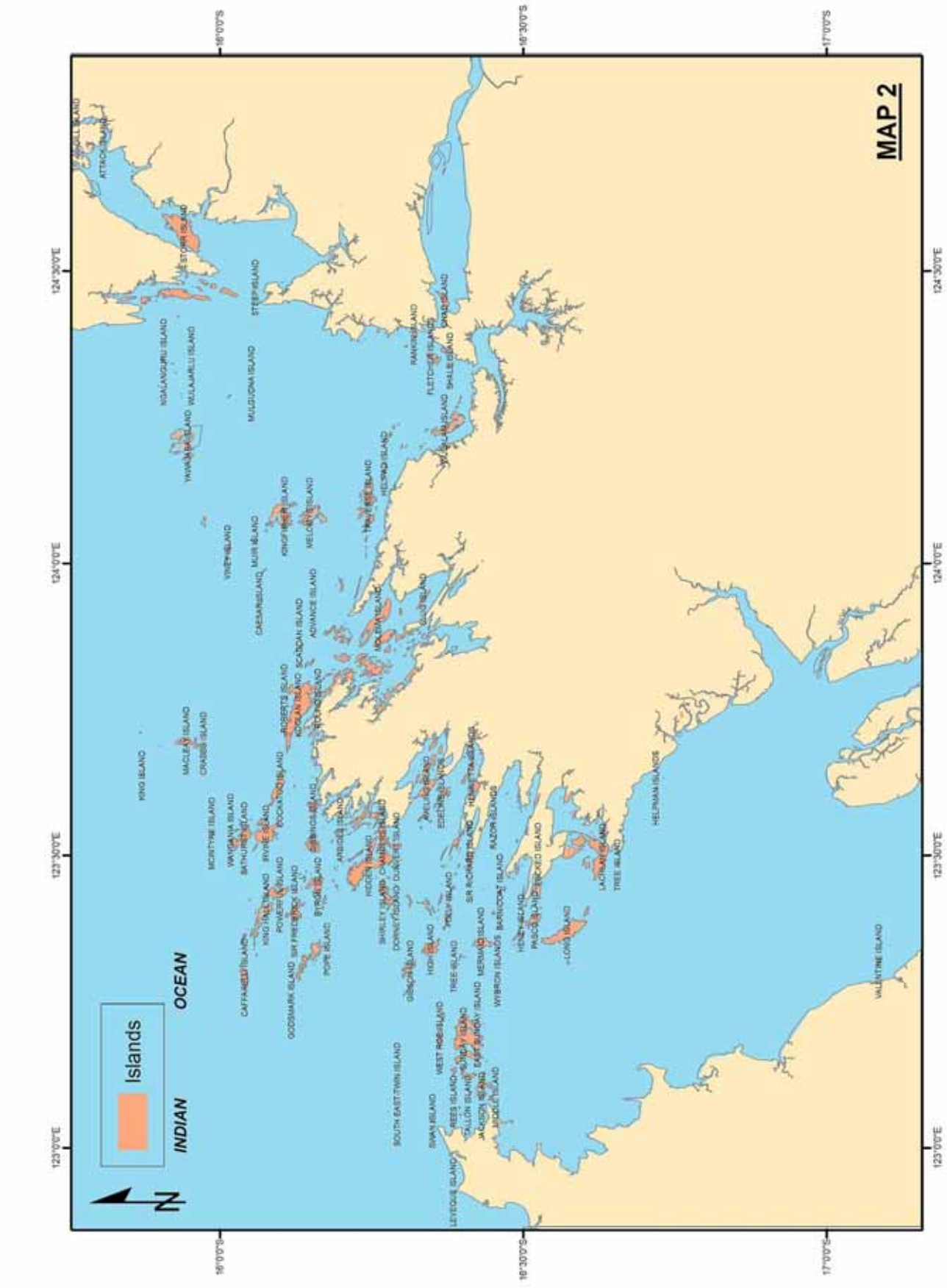
2.1 Number and size distribution of Kimberley islands

No definitive list of Kimberley islands was available when this project commenced, nor was it clear where the boundaries of some archipelagos were situated. A list of islands was therefore developed. The methods used are described in Appendix 2. Table 1 shows the number of islands in different size categories. Maps 1, 2, 3, 4 and 5 (see over) depict the geographical location of the islands.

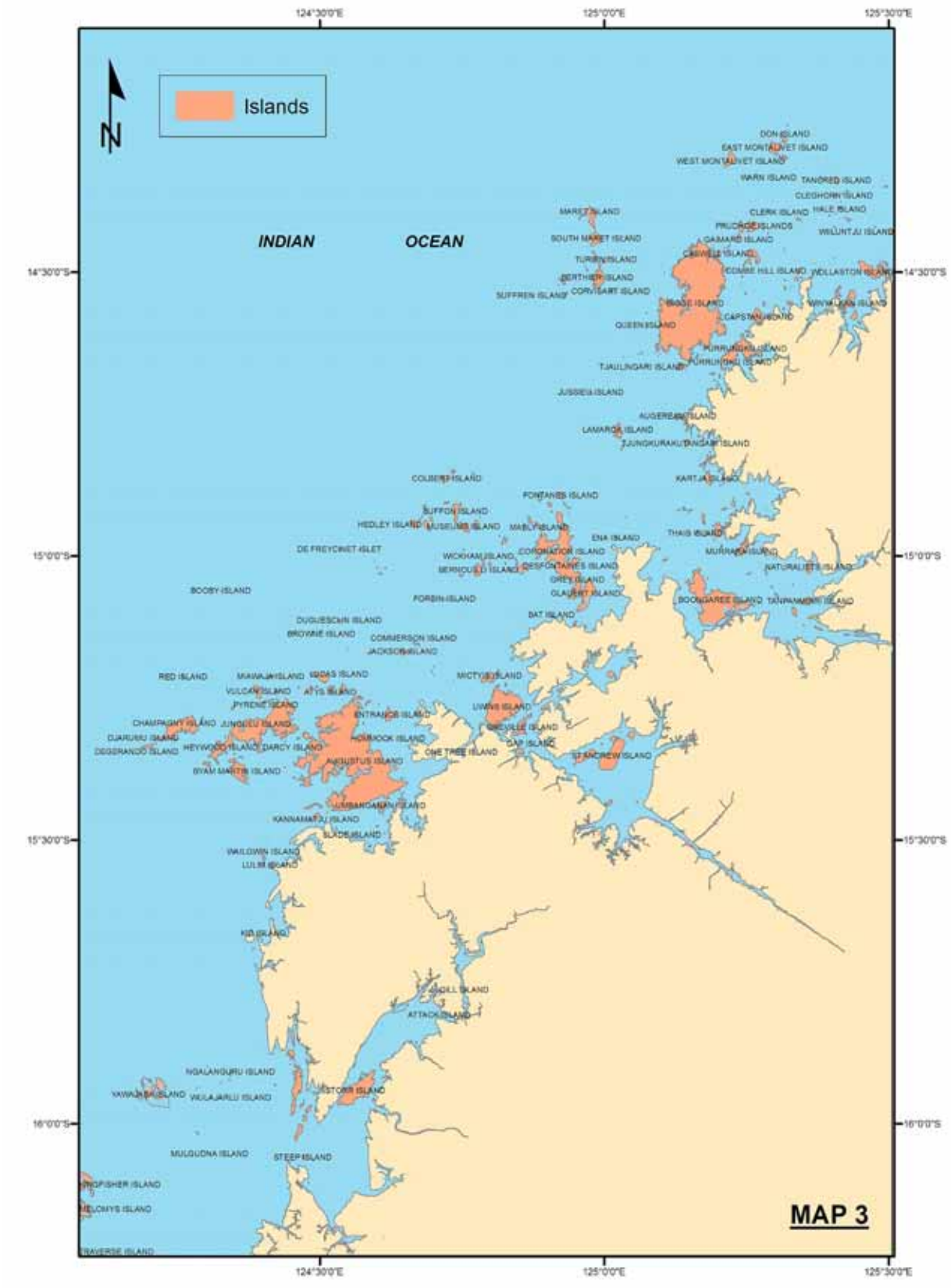
There are approximately 200 islands ≥20 ha in the remainder of Western Australia, meaning that about 68% of Western Australian islands ≥20 ha are in the Kimberley. There are 18 islands ≥1000 ha in the remainder of the State; 53% of islands in this size category occur in the Kimberley.



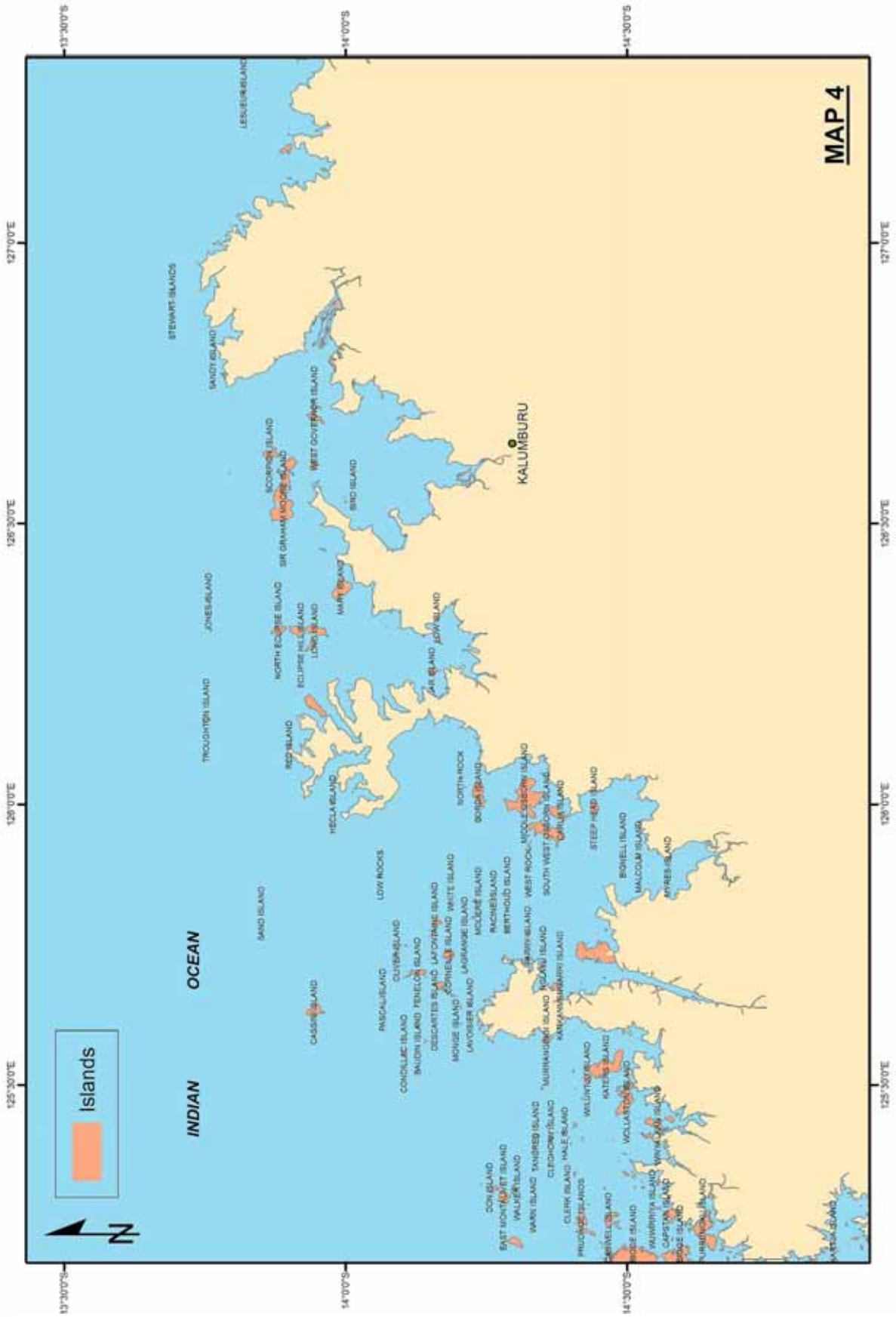
Map 1. Kimberley coast showing archipelagos, the names of some larger islands and the location of detailed maps



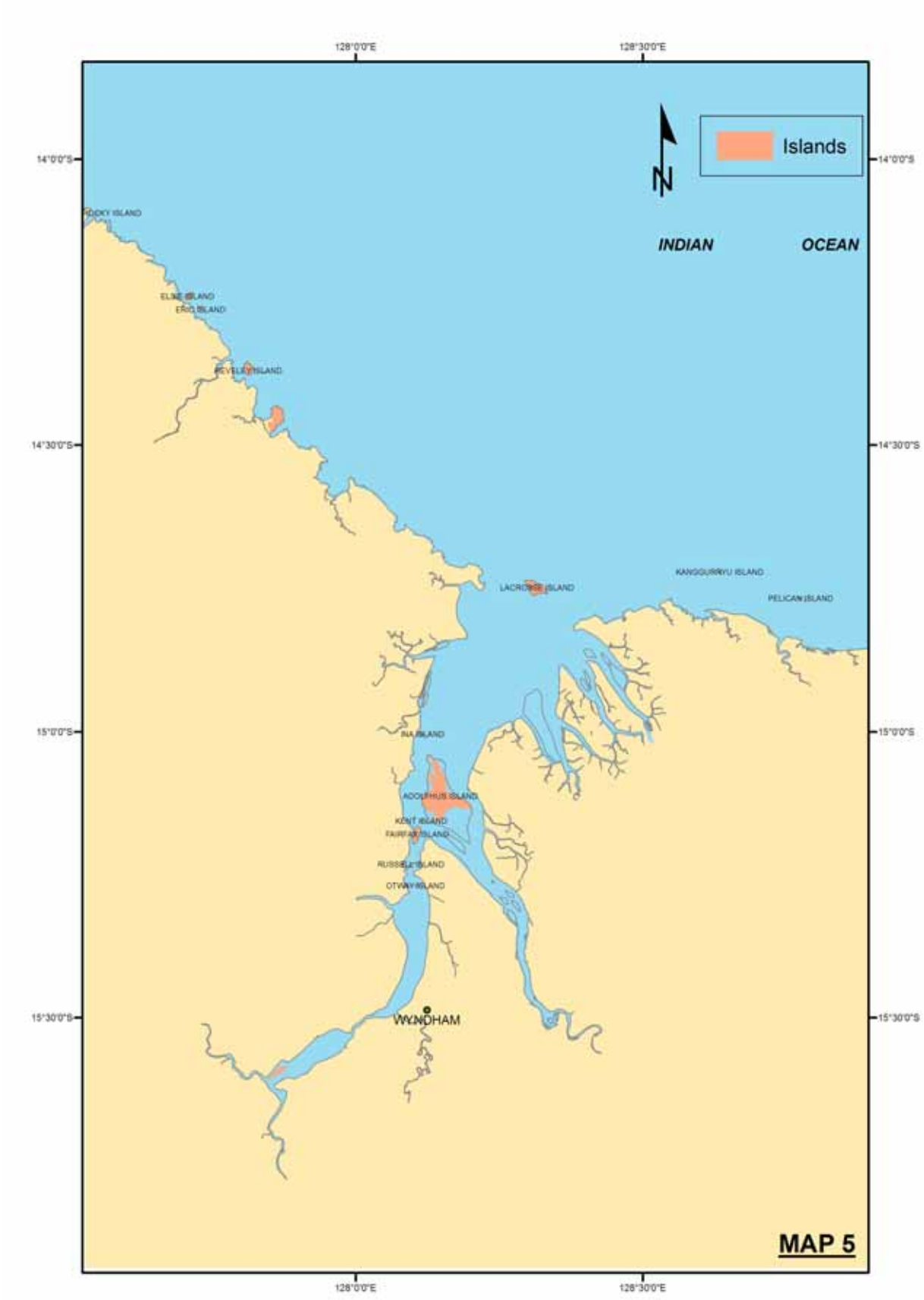
Map 2. Buccaneer Archipelago and adjacent islands



Map 3. Islands in Doubtful Bay and in the southern Bonaparte Archipelago



Map 4. Islands in Admiralty Gulf, Vansittart Bay, Napier Broome Bay and adjacent areas



Map 5. Islands in Cambridge Gulf and adjacent areas

Table 1. Kimberley islands by size category

≥1000 ha	20
<1000 ha, ≥100 ha	145
<100 ha, ≥20 ha	258
<20 ha, ≥10 ha	177
<10 ha, ≥1 ha	908
<1 ha	1125
Total	**2633**

Of the 2633 Kimberley islands, only 352 have been officially named, although some unnamed islands lie within named islands groups. There are 1000 named islands in the whole of Western Australia.

Many Kimberley islands lie close to the coast and are separated from the mainland by narrow channels. Some are joined at low tide to the mainland by mangal and/or exposed mud, or by exposed reef. Islands ≥100 ha identified as being close to the coast by the 'Ocean Mask' GIS layer (see Appendix 2) were checked using satellite imagery and are shown as being connected at low tide (Y in column F in Appendix 1) or possibly connected (?Y). Islands <100 ha with a '1' in column 2 (Ocean Mask) in Appendix 1 are likely to be joined to the mainland or an adjacent island at low tide. Of the total of 2633 Kimberley islands, 248 (9.4%) were identified as being likely to be joined to the mainland or an adjacent island at low tide.

2.2 Archipelagos and island groups

Several major named archipelagos and many smaller island groups occur in the Kimberley. It is often unclear from maps where the boundaries to archipelagos and island groups lie. In some cases named island groups lie within archipelagos. To clarify boundaries, information was sought from Landgate and is summarised in Appendix 3.

2.3 Assessment of knowledge and status of biodiversity conservation on Kimberley islands

Knowledge of the terrestrial biodiversity of most Kimberley islands is generally very limited. While there have been biological surveys since the 1970s, the large number of islands and the small number of surveys have combined to greatly limit the quantity of data. Most survey work, apart from some land snail collecting, has been on the larger islands and the current 'Biological Survey of Kimberley islands' is able to examine only 22 of the largest islands. Many of the smaller islands can be expected to have high biodiversity values as well. For example, How *et al*. (2006) located golden-backed tree-rat and pale field rat on an unnamed island of 14 ha in Scott Strait, a brief Kimberley Land Council Land and Sea Unit visit to Jar Island (150 ha) located echidna and golden-backed tree-rat (T. Vigilante[1] pers. comm.) and the few small islands examined for land snails are rich in species, often currently not known from elsewhere.

Knowledge of mammals, reptiles and frogs is available, in most cases, only from the larger islands. Knowledge of birds is more widespread resulting mainly from visits by ecotourism guides and naturalists (eg, Kevin Coate[2], Appendix 6). Knowledge of seabird breeding islands is reasonably good, due to visits by scientists and naturalists.

Knowledge of turtle breeding rookeries is poor. Casual observations suggest that almost every beach on Kimberley islands is used by turtles, mainly flatbacks *Natator depressa* and green turtles *Chelonia mydas*, for breeding, with a few islands, such as Browse Island, the Lacepede Islands, Slate Islands, Prudhoe Islands and Lesueur Island, known to have significant rookeries. Information provided by Kevin Coate on beaches that he has recorded as being used by turtles for breeding is included in Table 4).

[1] Tom Vigilante, Kimberley Land Council, Loch St, Derby WA 6728
[2] Kevin Coate, 11 Peak View, Canning Vale, WA 6155

3. CONTEXT

3.1 Biodiversity values of Kimberley islands

3.1.1 Overview

In general, Kimberley islands have similar values to those of islands further south (see Phase I Report), but there are some differences.

Kimberley islands are of very high biodiversity conservation value because:

- They protect unique ecosystems isolated for thousands of years. Each of the larger islands has a unique assemblage of plants and animals, a subset of the biota of the mainland from which they were isolated, reduced in variety dependent on the size of the island, the interactions between the species that were isolated, and chance. The more mobile species (eg, birds, plants with wind-blown, water-borne or bird-carried seeds) may establish and disappear from time to time (species turnover), but populations of many sedentary species have been restricted to an island since it was isolated from the mainland.
- Twenty-five 'Priority Flora' taxa are known from Kimberley islands (Table 2).
- Six listed threatened fauna species and 13 Priority Fauna species are known from Kimberley islands (Table 3).
- No threatened ecological communities are known from Kimberley islands, but detailed surveys have not been conducted.
- Two vertebrates are known only from Kimberley islands: Buccaneer Burrowing Skink *Lerista praefrontalis* from King Hall Island and Koolan Blind Snake *Ramphotyphlops yampiensis* from Koolan Island.
- No vertebrate subspecies have been described that are restricted to Kimberley islands, but it is likely that populations of many sedentary species on islands are genetically distinct from mainland populations.
- Several species of terrestrial molluscs are known only from Kimberley islands.
- Australian islands are extremely important for mammal conservation and Kimberley islands are no exception. Without islands, Australia's appalling extinction record of 22 extinct species since European settlement would be even worse as eight species that became extinct on the mainland survive on islands. There have been no mammal extinctions in the North Kimberley IBRA Region (McKenzie *et al*. 2007), but some species still occurring there have suffered major declines in range and abundance. Several of these, such as the golden bandicoot *Isoodon auratus* and golden-backed tree-rat *Mesembriomys macrurus*, occur on islands. The Kimberley endemic mammals; monjon *Petrogale burbidgei*, scaly-tailed possum *Wyulda squamicaudata* and Kimberley rock-rat *Zyzomys woodwardi* all occur on islands. The golden-backed tree-rat is a 'new endemic' as it is considered to be extinct in the Northern Territory, the only other place it occurred.
- Fire regime change is of significant concern in the Kimberley with large areas now burning every year or almost every year. Most Kimberley islands burn infrequently and most fires on islands originate from lightning strikes. However, as visitation increases, so will fire incidence.
- Damage to vegetation and soils by feral herbivores such as cattle, pigs and donkeys is of significant concern in the Kimberley. Kimberley islands are free from these species.
- Most seabird breeding in WA occurs on islands, many species breed only on islands. WA now has the best (and expanding) populations of the island-nesting roseate tern *Sterna dougallii* anywhere is the world, including those on islands in the Kimberley. Three seabird species breed on Kimberley islands and do not breed further south in WA—great frigatebird *Fregata minor*, red-footed booby *Sula sula* and little tern *Sterna albifrons*—

while three others breed mainly in the Kimberley with some breeding occurring also in the northern Pilbara, ie, masked booby *Sula dactylatra*, brown booby *Sula leucogaster* and lesser frigatebird *Fregata ariel*.

- In WA, most sea turtle breeding is on islands. Island rookeries, unlike those on mainland beaches, are not affected by egg predation from exotic predators. Kimberley islands have important rookeries of two species of turtle: green *Chelonia mydas* and flatback *Natator depressus*.

Often, particularly on the larger islands, some of the above features occur in combination: Bigge Island, for example, has threatened mammals and significant populations of reptiles and birds, as well as sea turtle rookeries.

3.1.2 Biodiversity information summary

No listed threatened flora is known from Kimberley islands. Priority flora taxa known from Kimberley islands are shown in Table 2 and threatened and priority fauna taxa are shown in Table 3. Of particular note are the 'critical weight range' mammals that occur on Kimberley islands—northern quoll, golden bandicoot, golden-backed tree-rat, monjon, scaly-tailed possum and rakali (water-rat)—as many species in this category have become extinct or declined significantly on mainland Australia. Lack of survey clearly limits the comprehensiveness of current lists. Note that Tables 2 and 3 do not include data collected during the ongoing Kimberley islands Biological Survey.

Table 2. Priority flora records from Kimberley islands

Species	Conservation Code	Islands
Acacia deltoidea subsp. *Ampla*	P2	Lamarck, West Montalivet
Acacia kenneallyi	P3	Bigge, Byam Martin, Capstan, Heywood, Naturalists
Alysicarpus suffruticosus	P2	Sunday
Brachychiton incanus	P3	Adolphus
Brachychiton tridentatus	P3	East Montalivet, Maret, Sir Graham Moore
Brachychiton xanthophyllus	P4	East Montalivet, Fenelon
Decaschistia byrnesii subsp. *Lavandulacea*	P3	Bigge
Eriachne semiciliata	P3	King Hall, Sunday
Eucalyptus kenneallyi	P1	Storr
Gardenia gardneri	P3	Augustus
Glycine lactovirens	P3	Grey
Ipomoea sp. A Kimberley Flora (L.J. Penn 84)	P1	King Hall
Jacquemontia sp. Keep River (J.L. Egan 5051)	P1	Koolan
Pentalepis sp. Mt House (E.M. Bennett 1877)	P1	Bigge
Phyllanthus aridus	P3	Augustus
Pittosporum moluccanum	P4	Maret, South Maret, Berthier
Polycarpaea sp. A Kimberley Flora (K.F.Kenneally 8887)	P1	Saint Patrick
Ricinocarpos marginatus	P2	Bigge
Solanum cataphractum	P3	Augustus, Bat, Bigge, Coronation,
Solanum leopoldense	P3	Hidden
Solanum oedipus	P3	Bat
Solanum sp. Boomerang Bay (K.F. Kenneally 10021)	P1	Bigge
Stylidium perizostera	P3	Bigge
Trachymene dusenii	P3	Pascoe
Whiteochloa capillipes	P3	Lacrosse

Table 3. Listed threatened and priority fauna occurring on Kimberley Islands

Species	Threat category	Islands
Dasyurus hallucatus, northern quoll	Vulnerable	Augustus, Bigge, Boongaree, Capstan, Koolan, Purrungku, Uwins
Isoodon auratus, golden bandicoot	Vulnerable	Augustus, Uwins, Storr
Mesembriomys macrurus, golden-backed tree-rat	Vulnerable (EPBC Act), P4 (WA)	Carlia, Jar, Wollaston, Uwins, unnamed island (Scott Strait)
Rhinonicteris aurantius, orange leaf-nosed bat	Vulnerable	Koolan
Petrogale burbidgei, monjon	P4	Bigge, Boongaree, Katers, Wollaston (?)
Wyulda squamicaudata, scaly-tailed possum	P4	Bigge, Boongaree
Hydromys chrysogaster, rakali or water-rat	P4	Kingfisher, Prudhoe, Sir Graham Moore
Hipposideros stenotis¸ northern leaf-nosed bat	P2	Bathurst, Boongaree, Koolan
Numenius madagascariensis, eastern curlew	P4	West (Lacepede), Sunday
Burhinus grallarius, bush stonecurlew	P4	South Maret, Sunday
Lerista praefrontalis, Buccaneer burrowing skink	Vulnerable	King Hall
Ramphotyphlops yampiensis, Koolan blind snake	P2	Koolan
Morelia carinata, rough-scaled python	P1	Bigge
Amplirhagada astuta	Vulnerable	Koolan
Amplirhagada montalivensis	P1	Don, East Montalivet, Patricia, Walker, West Montalivet
Amplirhagada herbertena	P1	Buccaneer Archipelago
Baudinella baudinensis	P3	Baudin
Damochlora millepunctata	P1	Baudin

Those islands known to have marine turtle rookeries are listed in Table 4. However, many other rookeries probably remain to be documented as almost all beaches on islands show sign of turtle nesting activity.

Table 4. Known turtle breeding rookeries on Kimberley islands

Island	Species (if known)	Source
Bigge Island (Wary Bay)		K. Coate
Browse Island	Green	MTRPWA
Cassini Island	Green	MTRPWA
Champagny Island		K. Coate
Helpman Island	Flatback	MTRPWA
Lacepede Islands	Green	MTRPWA, K. Coate
Lacrosse Island (Turtle Bay)		K. Coate, June 1992, May 2006
Lafontaine Island		K. Coate, May 2008
Lamarck Island		K. Coate
Maret Island		K. Coate
Mictyis Island		K. Coate
Prudhoe Island		K. Coate, May 2002
Queen Island (east side)		K. Coate, June 2004
Sandy Island (Scott Reef)	Green	MTRPWA
Slate Island	Flatback	K. Coate, May 1987, May 1993, May 2002, August 2008
South Maret Island		K. Coate
Troughton Island	Flatback	MTRPWA

Source: Kevin Coate (pers. comm.), MTRPWA = Marine Turtle Recovery Plan for Western Australia (draft, 1998).

Seabird breeding islands are relatively well documented (Table 5), although this list, too, will probably be incomplete due to inadequate survey and the plasticity of some seabirds in relation to breeding site.

Table 5. Known seabird breeding colonies on Kimberley islands
Includes data for oystercatchers and beach stone curlew

Island	Breeding seabird(s) recorded
Adele	Masked booby, red-footed booby, brown booby, pied cormorant, Australian pelican, greater frigatebird, lesser frigatebird, Caspian tern, lesser crested tern
Aunt	Crested tern
Bird	Crested tern, roseate tern
Booby	Brown booby, Caspian tern
East (Lacepede Islands)	Common noddy
Fenelon	Pied oystercatcher
Jones	Silver gull
Lesueur	Bridled tern
Low Rocks	Pied cormorant, lesser crested tern, crested tern, roseate tern, bridled tern
Middle (Lacepede Islands)	Brown booby, pied cormorant, Australian pelican, lesser frigatebird, silver gull, Caspian tern, roseate tern, fairy tern, bridled tern, common noddy
Montgomery	Pied oystercatcher
Mulgudna	Caspian tern, little tern
Myres	Caspian tern
North West Twin	Roseate tern
Pelican	Australian pelican
Randall	Crested tern, lesser crested tern, roseate tern
Sandy (Lacepede Islands)	Brown booby
Sandy (Long Reef)	Pied cormorant, Australian pelican, crested tern
Sandy (Scott Reef)	Brown booby, common noddy
Sandy (Lacepede Islands)	Brown booby
South West Twin	Roseate tern
Sterna	Crested tern, lesser crested tern, roseate tern
Sunday	Crested tern, bridled tern
Troughton	Beach stone-curlew, pied oystercatcher, sooty oystercatcher, little tern
Warn	Bridled tern
West (Lacepede Islands)	Masked booby, brown booby, Australian pelican, lesser frigatebird, eastern reef egret, silver gull, Caspian tern, lesser crested tern, crested tern, roseate tern, fairy tern, bridled tern, common noddy
Woku Woku	Pied oystercatcher

Sources: DEC Seabird Breeding Islands Database (A.A. Burbidge and P.J. Fuller), Coate (1997, 2004), Kevin Coate in Appendix 5, Hassell (1999, 2003), Hassell and Boyle (2002), Hassell and Sparrow (1998).

Most Kimberley islands are currently unaffected by significant threatening processes. However, increasing unmanaged use by the burgeoning tourism industry and other visitors, feral animals, weeds, fire regime change and climate change may cause deleterious change in the future.

3.1.3 Translocations

Translocations were discussed in the Phase I Report. In summary, translocation can be an effective conservation action, especially for threatened species and is one of a limited number of management actions that are available to limit the effects of climate change on biodiversity. Major threatening processes on the mainland are often absent from islands and under warmer temperatures the ameliorating effects of the ocean may reduce the impact of climate change on island biotas, ie, they may escape the extreme events resulting from climate change that could tip mainland species over the edge.

Translocations of threatened animals to Kimberley islands are not warranted at present because:

- threatened Kimberley species, such as the northern quoll, golden bandicoot, golden-backed tree-rat and orange-leaf-nosed bat, and geographically restricted mammals such as monjon and scaly-tailed possum, occur naturally on islands,
- the lack of knowledge about the occurrence of many species on islands due to limited biological survey and a large number of islands means that there may be more occurrences of threatened species on islands, and
- introducing species to islands, even species native to the adjacent mainland, can lead to significant ecological change and is only warranted where the conservation outcomes outweigh the possible negative effects.

However, the status of some species on the Kimberley mainland is poorly known. Among mammals, for example, the taxonomic status of the Kimberley population of the brush-tailed phascogale (*Phascogale tapoatafa*) is unclear, but it may be a separate taxon or conservation management unit. The species has not been recorded from any island. Should it become clear that it is declining on the mainland, translocation to an island may be warranted.

3.2 Threats to Kimberley island biodiversity

3.2.1 Tourism and recreation

The north Kimberley coast and islands are one of the world's last large 'wilderness' areas and one that possesses spectacular scenery. As such the area is attracting increased tourism. Most tourism is from charter boats, with increasing numbers of larger vessels entering the industry, such as the 100-passenger ship 'Orion'. Most trips include a visit to an Aboriginal site on Bigge Island. Aboriginal people are concerned about tourists visiting this site, which is a burial site as well as an art site. Naturalists Island in Prince Frederick Harbour is visited by ecotourism and naturalist groups and a beach there is also used by helicopters based at Mitchell Plateau to land to pick up people from vessels for sightseeing flights.

Protection of islands and proper regulation of the industry, including meeting the aspirations and rights of Traditional Owners, are uregntly needed. Future management of Kimberley islands offers employment opportunities for local people. (Also see findings on tourism under the section titled management systems)

3.2 2 Feral animals

Most Kimberley islands are free from feral animals, which is one of their biodiversity conservation values. The adjacent mainland is increasingly affected by feral cattle, donkeys, pigs and cats. Sir Graham Moore Island did have a population of feral pigs, but a recent visit during DEC's Kimberley islands Biological Survey revealed that they had died out, apparently due to the island's only fresh water source becoming saline after erosion caused by a cyclone. House mice (*Mus musculus/domesticus*) occur on Browse Island, black rats (*Rattus rattus*) occur on Sunday Island and Pacific rats (*Rattus exulans*) occur on Adele Island. According to the ShoreAir website www.shorebase.com.au/sa_troughton.html Troughton Island has introduced populations of quail and 'Children's pythons'.

The cane toad (*Bufo marinus*) will establish in the eastern Kimberley in the near future and is likely to spread throughout the higher rainfall parts of the Kimberley. The arrival of cane toads into an area where they previously did not occur leads to a significant decline in some frog predators such as the northern quoll (*Dasyurus hallucatus*), although Queensland experience shows that these predators gradually increase in numbers in the presence of cane toads, perhaps not to the same level of abundance. Cane toads can be carried to islands when flooding occurs

after high rainfall events, as has happened in the Sir Edward Pellew Islands in the Gulf of Carpentaria, Northern Territory. Predicting which islands might be invaded in the future is difficult, but islands near the mouth of major rivers would be most at risk. (Also see findings on feral animals under the section titled management systems)

3.2.3 Weeds

One weed in particular, stinking passion flower *Passiflora foetida*, has established on several Kimberley islands. Its seeds are believed to be spread by birds. It is particularly common at the edges of rainforest patches and in swamps. Research into biological control is urgently needed.

3.2.4 Biosecurity

Biosecurity issues for Western Australian islands were outlined in the Phase I Report. In summary, invasive exotic species have been the major cause of loss of biodiversity on Australian islands. Kimberley islands have, so far, largely escaped the establishment of invasive species. Black rats *Rattus rattus* established on the Lacepede Islands, probably from pearling vessels in the 19th Century and would have affected breeding success by smaller seabirds such as small terns. The rats were eradicated by the Department of Conservation and Land Management in 1986 (Burbidge and Morris 2002). Black rats occur on Sunday Island, possibly being transported in food and materials taken to the mission that once occurred there. The Pacific rat *Rattus exulans* occurs on Adele Island, presumably having escaped from an Indonesian fishing vessel. Pigs *Sus scrofa* occurred on Sir Graham Moore Island but are no longer present. The weed stinking passionflower *Passiflora foetida* occurs on several islands and is expanding in range.

With visitation increasing, prevention of establishment of exotic animals and plants on Kimberley islands should have a very high priority, as should the eradication, where feasible, of any exotics detected on island conservation reserves. Currently, surveillance of islands aimed at detecting incursions of exotic animals or plants is *ad hoc* and should, for high priority islands at least, become a high priority regular action. Eradication expertise in the Department of Environment and Conservation needs to be maintained.

3.2.5 Fire regimes

Fires in the Kimberley can start from lightning or be lit by humans. Most Kimberley islands burn infrequently, mainly from lightning strikes, but fires seem to be increasing in frequency on some visited islands, such as Augustus.

3.2.6 Climate change

Significant changes in regional rainfall patterns have occurred over the past century (Figure 1), especially when comparing the period 1910-1950 and the period since. Since 1950, annual rainfall and extreme daily rainfall intensity and frequency have increased over the north west, mainly in the summer (Steffen *et al*. 2009). Australian average temperatures on land have

Figure 1. Trend in Annual Total Rainfall in Australia, 1950-2007. Source: Bureau of Meteorology.

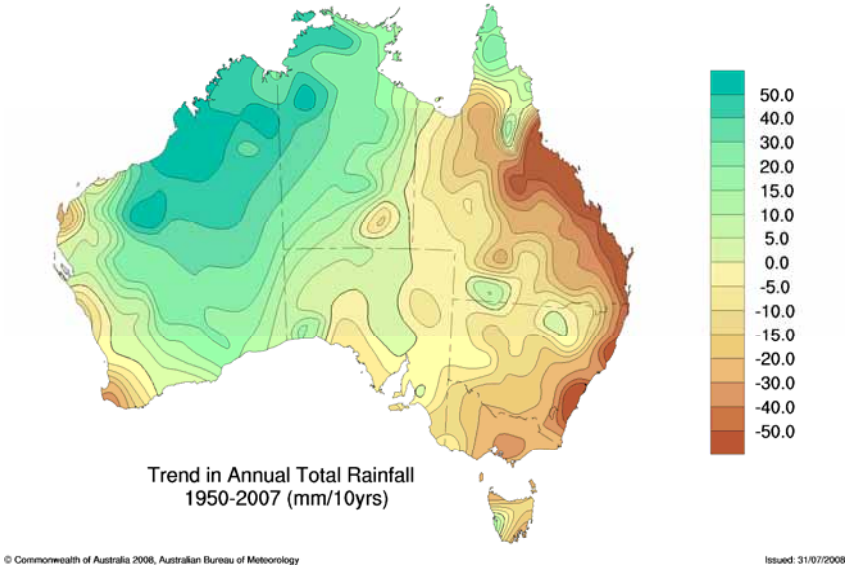
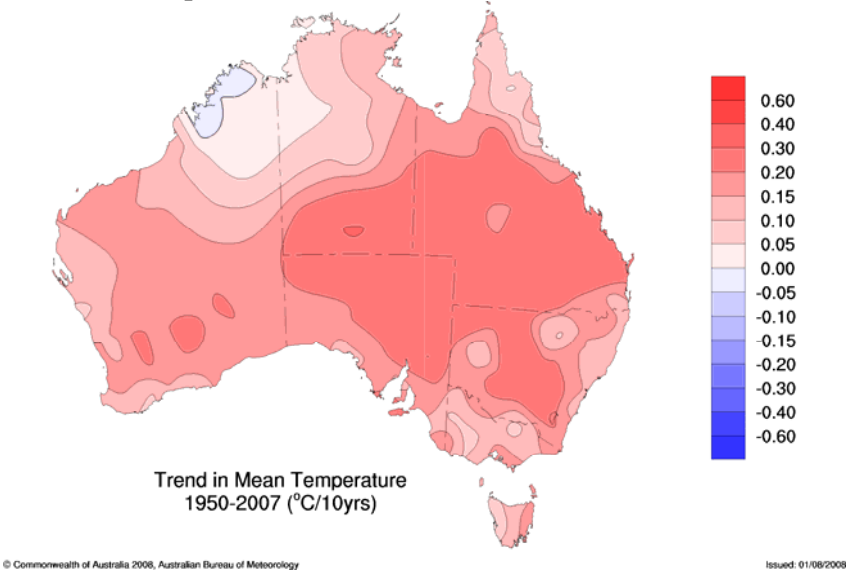


Figure 2. Trend in Mean Temperature in Australia, 1950-2007. Source: Bureau of Meteorology.



increased by 0.9 C since 1950 (Figure 2), but with regional variations; the North Kimberley being an area where there has been no significant change.

The projected rate of temperature increase for the rest of this century far exceeds that experienced during the past several million years. The degree that Australia's biodiversity is affected will depend on the magnitude and rate of change and that, in turn, will depend on the extent to which the nations of world act to limit CO_2 and other greenhouse gas emissions during the coming decades. However, even with a rapid global response, at least a 1.4ºC increase is locked into the climate system and few climate scientists expect less than a 2ºC increase by 2100 compared with 1990 (Steffen *et al*. 2009).

Increases in sea level are already occurring and greater increases are expected over the next decades, the amount depending largely on the amount of ice melt in Greenland and Antarctica. Most Kimberley islands are steep and rugged and terrestrial impacts will be most visible on cays, beaches, mudflats and mangal. Turtle rookery beaches are expected to be severely impacted. High biodiversity value cays and low-lying islands that will be affected by rising sea levels

include the Lacepede Islands, Adele Island, Browse Island, Booby Island, Lesueur Island and Pelican Island, all important seabird breeding islands.

3.2.7 Oil, gas and other resource industries

Major natural gas resources are located off the Kimberley coast in the Browse Basin and the Timor Sea. Exploration and exploitation of these resources has placed some pressure on Kimberley islands in the past and is a potential future issue. The largest proposed impact was the proposal by Inpex to construct a major liquefied natural gas plant and associated infrastructure on Maret and South Maret Islands. This proposal has now lapsed and the State Government has decided that onshore processing for Browse basin gas should be in a multi-user 'hub' on the mainland at James Price Point north of Broome.

Some islands are used by industry. Koolan and Cockatoo Islands (Buccaneer Archipelago) have been mined for iron ore for some decades. Nearby Irvine Island is under consideration for iron ore mining. Troughton Island has an unsealed airstrip, used by ShoreAir, as an alternate the Mungalalu-Truscott airport, which supports oil and gas operations in the Timor Sea. The Bureau of Meteorology maintains an automatic weather station on the island. Aquaculture use of bays adjacent to islands has been considered (Fisheries Department Kimberley Aquaculture Development Plan 1998).

3.3 Context – Findings

1. One weed species, stinking passionflower, is invading numerous Kimberley islands and there is a need for biological control research.
2. While there are obvious logistical and financial difficulties associated with managing islands, regular biosecurity surveillance of high priority biodiversity conservation islands is essential and island biosecurity is not getting a high enough overall priority in nature conservation delivery in WA (also see section 5.1 Inputs).
3. Public education about biosecurity on islands is needed.
4. Protection of islands and proper regulation of the industry, including meeting the aspirations and rights of Traditional Owners, is required.
5. Climate change is predicted to significantly affect many Western Australia islands. In coming decades, rising sea levels and increased storm surge will erode beaches used by turtles and seabirds for breeding, and rising sea levels and storm surge will combine to flood many cays and other low-lying islands. The timing of island loss will depend on the rate of global greenhouse gas emissions and the amount of ice sheet melting. Cays within coral reef systems are unlikely to keep pace with rising sea levels, because coral reefs will not grow due to increased sea temperatures and increasing ocean acidity. Turtle breeding will be affected by increasing incubation temperatures resulting in a sex bias in hatchlings or failure to hatch.

3.4 Context – Recommendations

1. DEC work with CSIRO Division of Entomology to develop biological control for the stinking passionflower *Passiflora foetida*.
2. DEC prioritise and/or seek resources to undertake biosecurity surveillance on high priority biodiversity conservation islands.
3. A public education program about island biosecurity be developed and implemented; the primary target should be commercial and private boat owners.
4. DEC work with the tourism industry (eg, the Leading Travel Companies Conservation Foundation), the Sustainable Tourism Cooperative Research Centre, the Kimberley Land Council and Traditional Owners to develop an enforceable Kimberley islands and coast

tourism and recreation management strategy that minimises impact on biodiversity and cultural values.

5. Research be conducted to identify Kimberley islands and species on islands that will be deleteriously affected by climate change, particularly islands with Kimberley endemics and islands with seabird and turtle breeding rookeries, and strategies be developed to minimise impact.

4. PLANNING

4.1 Kimberley islands vested in the Commission

Information on the few Kimberley islands vested in the Conservation Commission was provided in the Phase I report and is provided in revised summary form below. Areas given below are from DEC's tenure information system (TENIS) and from Appendix 1 (complete list of Kimberley islands), which were calculated from shape files (see Appendix 2 - Methods used in developing a list of Kimberley islands). There is notable variation in the areas figures listed below. Most of the area figures in Appendix 1 are considered more accurate than those listed in TENIS, with a few less accurate. A reconciliation of these vested island land area figures would be of benefit to future planning.

Pelican Island (Joseph Bonaparte Gulf), 8.1 ha in TENIS, 19.4 ha in Appendix 1. Not Class A and does not extend to low water mark. Kevin Coate reported an abandoned Australian pelican rookery with about 30 nests, some containing up to three eggs, during a visit on 14 July 2005. Other birds present during this visit were Australian darter, eastern reef egret, striated heron, rufous night-heron, brahminy kite, Australian kestrel, eastern curlew, common greenshank, common sandpiper, grey-tailed tattler, ruddy turnstone, red-necked stint, beach stone-curlew, pied oystercatcher, sooty oystercatcher, red-capped plover, lesser sand plover, greater sand plover, gull-billed tern, crested tern, sacred kingfisher, willie wagtail and golden-headed cisticola.

Lesueur Island (Joseph Bonaparte Gulf), 57.8 ha in TENIS, 72.0 ha in Appendix 1. Class A reserve, extends to low water mark. Lesueur is a sandy cay. Bridled tern breeding recorded in 1978 and 1982; no recent data. The island has a flatback turtle rookery.

Low Rocks (Admiralty Gulf), 4 ha in TENIS, 5.1 ha in Appendix 1. Class A reserve, extends to high water mark only. Formerly a significant seabird breeding island, but recent information suggests that many species have moved to Sterna Island, on the west side of the Gulf, which is not reserved (Coate 2004). Kevin Coate (2005; Appendix 5) recorded breeding of pied cormorant, white-bellied sea-eagle, crested tern and lesser crested tern.

Browse Island (Timor Sea), 14 ha in TENIS, 25.4 ha in Appendix 1. Not a Class A reserve; extends to low water mark. The site of a major turtle rookery. The island was extensively disturbed by guano mining more than 100 years ago and house mice occur there. A helipad is used by the oil and gas industry. It is visited by Indonesian fishers.

Sandy Island, Scott Reef. Lies within a marine park, the total area of which is 11 568 ha (TENIS). It has a major turtle rookery, is used by the oil and gas industry and is visited by Indonesian fishers.

Adele Island (Timor Sea, north of Buccaneer Archipelago), 217 ha in TENIS, 299.6 in Appendix 1. Class A reserve; extends to low water mark. A very significant seabird breeding island with several Japan-Australia Migratory Birds Agreement (JAMBA), China-Australia

Migratory Birds Agreement (CAMBA) and Republic of Korea Migratory Birds Agreement (ROKAMBA) listed species breeding there. Of particular importance are large colonies of masked booby, brown booby, Australian pelican and lesser frigatebird. It has the only known WA colonies of red-footed booby and greater frigatebird. Intertidal zone used by migratory waders. The exotic *Rattus exulans* is present and a 2004 attempt by DEC's West Kimberley District to eradicate it was not successful. Eradication should be a high priority, as the existence of this population increases the risk of animals being transported to other Kimberley islands or the mainland by boats. Planning is currently underway in DEC for another attempt to eradicate the rats.

Swan Island (off Swan Point, near Cape Leveque), 29 ha in TENIS, 22.0 ha in Appendix 1. Not a Class A reserve; extends to high water mark only. Swan Island was reserved at a time when brown boobies nested there, but there is nothing to indicate that they still do and there is no other information about its biodiversity values.

Lacepede Islands (north of Broome), four islands totalling 180.2 ha in TENIS, Appendix 1: West Island 90.6 ha, Middle Island 60.9 ha, Sandy Island 7.94 ha, East Island 3.5 ha, Total 162.9 ha. Not a Class A reserve; extends to low water mark. Very important seabird and green turtle breeding islands. Major seabird breeding colonies of masked booby, brown booby, pied cormorant, Australian pelican and lesser frigatebird. Black Rats have been eradicated. Visited by tourist charter boats.

Bedwell and Cunningham Islands (Rowley Shoals). No area in TENIS, 56.3 ha and 63.5 ha in Appendix 1. Located within a marine park. Red-tailed tropicbirds breed on Bedwell Island, but it is a minor breeding site for the species, which has large breeding colonies on several oceanic islands. No available information on Cunningham Island. The Rowley Shoals Marine Park Management Plan covers the surrounding waters.

No management plans exist for any of the reserved Kimberley islands.

4.2 Islands not vested in the Commission

The great majority of Kimberley islands are unallocated Crown land. DEC does have certain responsibilities on islands which are unallocated Crown land or unmanaged reserves such as managing declared plants and animals. A number of islands near the former Kunmunya Mission are included in Reserve 23079 for 'Use and Benefit of Aborigines', which is vested in the Aboriginal Lands Trust. It includes islands in Doubtful Bay and the Montgomery Islands, north to Cape Wellington. Larger islands within this reserve include Augustus, Byam Martin, Champagny, Heywood, Jungulu, Uwins, St Andrew and St Patrick.

Other reserves for 'Use and Benefit of Aborigines' that include islands are reserves 23080 (Storr Island and islands in Doubtful Bay), 23081 (unnamed islands north east of Augustus Island and near Lizard Island), 24705 (unnamed island east of Cape Bougainville), 25106 (Sunday and Hancock Islands), 25107 (East Sunday) and 29174 (Jackson Island).

Available published and unpublished terrestrial biodiversity information is summarised in the Annotated Bibliography (Appendix 4).

4.3 Progress relating to the recommendations in the document 'Nature Conservation Reserves in the Kimberley Western Australia'

Nature Conservation Reserves in the Kimberley Western Australia (Burbidge *et al*. 1991) was the submission by the former Department of Conservation and Land Management to the

Kimberley Region Planning Study and was complied from information available in early 1987. Its wide-ranging recommendations for protected areas included a number of islands. The current status of these recommendations is given in Table 6.

Table 6. Status of reservation recommendations made in 'Nature Conservation Reserves in the Kimberley Western Australia' (1991)

Rec No.	Island(s)	Recommendation	Current Status
1.1	Adele	Class A Nature Reserve	Implemented
1.2	Browse	Class A Nature Reserve	Reserved, but not Class A
1.3	Rowley Shoals	Class A marine national parks	Class A Marine Park
2.4	Lacepede Islands	Sandy Island be added to existing reserve. Reserve should be Class A.	Sandy Island added. Reserve not classified as Class A.
3.7	Pelican Island	Existing reserve for 'Wildlife Sanctuary' be amended to nature reserve and classified Class A	Reserve not classified Class A
4.1.1	Institut, Montesquieu and Kingsmill Islands	A Biological survey be conducted; in the meantime any development proposals be referred to the EPA	No detailed survey, no change in status
4.1.2	Cassini Island	Class A Nature Reserve	Not reserved
4.1.3	Osborn Islands	Class A Nature Reserve	Not reserved
4.1.4	Low Rocks	Existing reserve be changed to Class A	Class A Nature Reserve
4.2.1	Bonaparte Archipelago, Augustus Group	CALM negotiate with local Aboriginal communities and the Aboriginal Lands Trust with a view to working out arrangements for the management of the islands for nature conservation and the protection of Aboriginal heritage values	No change
4.2.2	Prince Regent group of islands	1. CALM negotiate with local Aboriginal communities and the Aboriginal Lands Trust with a view to working out arrangements for the management of islands at the mouth of the Prince Regent River and in St George Basin for nature conservation and the protection of Aboriginal heritage values 2. Bat Island, the Coronation Islands, Boongaree Island and other islands in Prince Frederick harbour be added to Reserve 27164 – Prince Regent Nature Reserve	1. No change 2. Not included in Prince Regent Nature Reserve
4.3	Buccaneer Archipelago	1. Hidden, Long, Irvine, Conilurus, Gibbings, Chambers, Pascoe, Flora, Kathleen and the group from King Hall to Caffarelli be declared Class A Nature Reserves 2. Admiral, Powerful, Bruin, Sir Frederick and Lachlan Islands be declared Class B Nature Reserves	1. Not reserved 2. Not reserved (Class B no longer exists)
4.6	Hunter River area	Islands in Prince Frederick Harbour be added to the Prince Regent Nature Reserve (see 4.2.2)	Not reserved
4.7	Kingfisher Islands	Class C Nature Reserve	No change (Class C no longer exists, now equates to 'other' or not Class A reserve)
4.10	Montgomery Islands and Reef	Class A marine park	Not reserved
4.13	Sir Graham Moore Islands	Class C Nature Reserve	Not reserved (Class C no longer exists, now equates to 'other' or not Class A reserve)
4.14	Walcott Inlet area.	Class A nature reserve to include Storr Island	Storr Island is reserved for 'Use and benefit of Aborigines'

4.4 Inclusion of Kimberley islands in the State's protected area system

Very few Kimberley islands are included in Western Australia's system of protected areas and the reserves system in the Kimberley as a whole, and for Kimberley islands in particular, does not meet accepted 'Comprehensive, Adequate and Representative' criteria. Only 12 of the 2633 Kimberley islands are currently reserved for nature conservation. Some of these do not have the highest level of protection and some do not extend to low water mark.

Almost all recommendations for additional nature conservation reserves made in the past have not been enacted, initially because of concerns expressed to government by resource industries and the State Department of Mines and Petroleum (and its predecessors) that this would inhibit mineral exploration and production, and more recently also because of Native Title issues. Future protection of the biodiversity of Kimberley islands must take account of the aspirations and native title claims of local Aboriginal people.

Establishing priorities for inclusion of Kimberley islands in a protected area system is greatly inhibited by lack of comprehensive biodiversity information. Because there are more than two thousand islands that have not had their biodiversity documented, it will not be possible to document the distribution of plants and animals on all but a few of them in the foreseeable future. Detailed information will continue to be limited to a few large islands and the biodiversity of smaller islands will, unless considerable resources are allocated to biological survey in the near future, remain largely unknown.

However, available information demonstrates that the larger Kimberley islands that have been examined by biologists have very high biodiversity conservation values. The 109 Kimberley islands of more than 200 ha, plus smaller islands with biodiversity data and/or known high conservation values, together with a brief notes on their biodiversity values where known, are listed in Table 7 (see over). Of the 109 islands of >200 ha, 50 are noted as 'not surveyed'.

Table 7. Kimberley islands of more than 200 ha, plus smaller islands with known biodiversity values

	Area (ha)	Decimal latitude	Decimal longitude	Biodiversity publications and unpublished information
AUGUSTUS	18992.3	-15.3614	124.5516	Burbidge & McKenzie 1978, McKenzie et al. 1991, KIBS
BIGGE	17096.1	-14.5553	125.1560	Burbidge & McKenzie 1978, McKenzie et al. 1991, How et al. 2006, Start et al. 2007, KIBS
JUNGULU	4840.9	-15.2959	124.4068	Burbidge & McKenzie 1978 (as Darcy Island), KIBS
BOONGAREE	4215.2	-15.0776	125.1871	Burbidge & McKenzie 1978, How et al. 2006, Start et al. 2007, KIBS
ADOLPHUS	4156.7	-15.1120	128.1483	KIBS
CORONATION	3816.8	-14.9927	124.9221	Burbidge & McKenzie 1978, McKenzie et al. 1991, How et al 2006, KIBS
UWINS	3246.7	-15.2662	124.8202	Burbidge & McKenzie 1978, Start et al. 2007, KIBS 2008
SIR GRAHAM MOORE	2746.4	-13.8896	126.5494	Burbidge & McKenzie 1978, KIBS 2008
KOOLAN	2507.6	-16.1297	123.7525	McKenzie et al 1995, Keighery et al. 1995
MIDDLE OSBORN	2360.9	-14.3182	126.0131	Burbidge & McKenzie 1978, How et al. 2006, KIBS 2008
HIDDEN	1900.7	-16.2431	123.4824	DFW 1982, KIBS
STORR	1895.5	-15.9413	124.5659	KIBS
Un-named "Pickering Point"	1828.9	-14.4438	125.7361	not surveyed
KATERS	1717.5	-14.4637	125.5336	Burbidge & McKenzie 1978, KIBS
ST ANDREW	1469.6	-15.3522	125.0139	Burbidge & McKenzie 1978, McKenzie et al. 1991, KIBS
SOUTH WEST OSBORN	1338.8	-14.3582	125.9508	Burbidge & McKenzie 1978, McKenzie et al. 1991, How et al. 2006
CHAMPAGNY	1337.3	-15.3008	124.2581	Burbidge & McKenzie 1978
SUNDAY	1197.6	-16.4059	123.1869	DFW 1982, KIBS 2009
LACHLAN	1180.5	-16.6247	123.4984	DFW 1982, KIBS 2009
LONG	1135.8	-16.5697	123.3690	DFW 1982, KIBS 2009
MOLEMA	914.9	-16.2619	123.9045	not surveyed
Un-named, in Collier Bay	911.1	-15.9367	124.4590	KIBS 2009
Unnamed "Buckle Head"	910.9	-14.4531	127.8610	not surveyed
IRVINE	893.2	-16.0767	123.5387	DFW 1982
WOLLASTON	856.8	-14.4966	125.4697	Burbidge & McKenzie 1978
GLAUERT	855.9	-15.0661	124.9689	How et al. 2006
BYAM MARTIN	821.0	-15.3793	124.3577	Burbidge & McKenzie 1978, KIBS
MARY	809.8	-13.9923	126.3831	not surveyed
MARY NORTH	750.5	-17.2612	123.5465	not surveyed
BORDA	748.0	-14.2366	126.0193	Burbidge & McKenzie 1978
HEYWOOD	722.8	-15.3371	124.3291	Burbidge & McKenzie 1978
LACROSSE	653.4	-14.7496	128.3131	no detailed survey data, Kevin Coate recorded birds during several visits
PURRUNGKU (east)	645.8	-14.6344	125.2480	How et al. 2006
Un-named, adjacent to Bougainville Peninsula	633.8	-13.9442	126.1758	not surveyed
Un-named, in Talbot Bay	610.2	-16.2488	123.8208	KIBS
PURRUNGKU (west)	583.0	-14.6475	125.2221	not surveyed
BERTHIER	556.3	-14.5101	124.9895	How et al. 2006. Bamford Consulting for Inpex
BATHURST	537.1	-16.0361	123.5298	DFW 1982
COCKATOO	520.1	-16.0953	123.6148	Mining lease for iron ore, settled, some biological data available.
LONG	509.1	-13.9472	126.3090	DFW 1982, KIBS 2009
TRAVERSE	504.2	-16.2455	124.1185	not surveyed
CASSINI	487.1	-13.9441	125.6320	EPA 1990, How et al. 2006, significant green

	Area (ha)	Decimal latitude	Decimal longitude	Biodiversity publications and unpublished information
				turtle rookery
ST PATRICK	454.8	-15.3521	124.9666	Kevin Coate recorded birds during several visits
HIGH	448.9	-16.3480	123.3416	not surveyed
Un-named, in Talbot Bay	424.4	-16.2714	123.8717	not surveyed
CARLIA	419.4	-14.3746	125.9845	Burbidge & McKenzie 1987, How et al. 2006
MELOMYS	418.1	-16.1485	124.0832	Burbidge & Mckenzie 1978
WULALAM	418.0	-16.3711	124.2290	KIBS
MARET	392.8	-14.4015	124.9769	How et al. 2006, Bamford Consulting for Inpex
CAPSTAN	389.4	-14.5775	125.2686	How et al. 2006
SIR FREDERICK	388.6	-16.1241	123.4037	DFW 1982
CHAMBERS	384.7	-16.2676	123.5304	not surveyed
EAST MONTALIVET	384.0	-14.2811	125.2997	Burbidge & McKenzie 1972, How et al. 2006, Bamford Consulting for Inpex
GREY	382.5	-15.0581	124.9512	How et al. 2006
MURRARA	381.8	-14.9870	125.2421	not surveyed
SOUTH MARET	374.2	-14.4411	124.9843	Burbidge & McKenzie 1987, How et al. 2006, Bamford Consulting for Inpex
WEST MONTALIVET	370.0	-14.3015	125.2205	Morgan 1992, How et al. 2006, Bamford Consulting for Inpex
AVELING	367.7	-16.3416	123.6144	not surveyed
POWERFUL	367.6	-16.0942	123.4362	not surveyed
KINGFISHER	367.1	-16.1073	124.0752	Burbidge & McKenzie 1978
Un-named	349.9	-16.5786	123.5049	not surveyed
SCORPION	346.8	-13.8666	126.6234	not surveyed
GIBBINGS	343.4	-16.1543	123.5165	DFW 1982
Un-named	337.6	-14.9547	125.1985	not surveyed
GREVILLE	333.8	-15.3019	124.8542	not surveyed
Un-named	330.1	-15.5947	127.8637	not surveyed
Unnamed, Prudhoe Islands	324.8	-14.4195	125.2598	Bamford Consulting for Inpex
ENTRANCE	322.9	-15.2799	124.6242	not surveyed
BYRON	322.5	-16.1627	123.4475	not surveyed
MACLEAY	320.8	-15.9453	123.6935	DFW 1982
Un-named	320.10	-13.9122	126.3087	not surveyed
CORNEILLE	318.50	-14.1831	125.7319	How et al. 2006
Un-named	317.86	-16.1573	123.3373	not surveyed
EAST SUNDAY	317.32	-16.4088	123.2132	DFW 1982
MERMAID	307.86	-16.4311	123.3507	not surveyed
Un-named	306.01	-16.0947	124.0893	not surveyed
Un-named	302.48	-15.0877	125.2419	not surveyed
Un-named	301.87	-16.5926	123.5252	not surveyed
NORTH ECLIPSE	299.75	-13.8811	126.3099	not surveyed
ADELE	299.60	-15.5242	123.1573	Serventy 1952, Burbidge & McKenzie 1978, Coate et al. 1994
BUFFON	295.32	-14.9214	124.7397	How et al. 2006.
Un-named	293.20	-14.4692	125.2611	not surveyed
LAMARCK	292.08	-14.7796	125.0248	Bamford Consulting for Inpex
FAIRFAX	290.61	-15.1795	128.1063	not surveyed
STEEP HEAD	285.68	-14.4421	125.9927	How et al. 2006
ONAD	269.84	-16.3694	124.4493	not surveyed
REVELEY	269.01	-14.3663	127.8135	not surveyed
FENELON	263.74	-14.1283	125.7000	How et al. 2006
Un-named	258.34	-16.1839	123.7890	not surveyed
WEST GOVERNOR	251.77	-13.9454	126.6878	not surveyed
MUSEUMS	248.79	-14.9485	124.7543	not surveyed
MICTYIS	248.24	-15.2150	124.7963	not surveyed
CONILURUS	244.65	-16.1541	123.5845	DFW 1982

	Area (ha)	Decimal latitude	Decimal longitude	Biodiversity publications and unpublished information
KIDNEY	235.96	-14.3291	125.9844	How et al. 2006
UMBANGANAN	234.23	-15.4401	124.6077	not surveyed
YAWAJABA	229.06	-15.9480	124.2056	not surveyed
Un-named	227.52	-13.8956	127.1663	not surveyed
DESFONTAINES	226.25	-15.0210	124.8552	not surveyed
BERNOUILLI	224.08	-15.0232	124.7792	not surveyed
PASCO	219.97	-16.5199	123.3916	not surveyed
Un-named	219.67	-16.0138	124.4631	not surveyed
Un-named	217.37	-15.2147	124.5067	not surveyed
CAFFARELLI	212.72	-16.0398	123.2967	not surveyed
JACKSON	209.39	-16.4321	123.1114	not surveyed
Un-named	205.16	-16.2334	123.5647	not surveyed
KARTJA	203.63	-14.8638	125.1825	not surveyed
VULCAN	203.19	-15.2386	124.3909	not surveyed
KING HALL	202.98	-16.0793	123.4074	DFW 1982
Un-named	200.68	-16.3397	123.6449	not surveyed
Smaller islands with biological survey data or with known high biodiversity conservation values				
NATURALISTS	198.83	-15.0197	125.3598	Coate 2008
HEDLEY	188.86	-14.9437	124.6658	How et al. 2006
LAFONTAINE	181.34	-14.1615	125.7878	How et al. 2006
COLBERT	166.71	-14.8640	124.7222	How et al. 2006
DESCARTES	163.61	-14.1680	125.6779	How et al. 2006
KERAUDREN	146.15	-14.9465	124.6880	How et al. 2006
TROUGHTON	76.28	-13.7530	126.1493	seabird breeding island
DON	75.67	-14.2661	125.3173	How et al. 2006
LESUEUR	72.04	-13.8194	127.2719	seabird breeding island, turtle rookery
WALKER	63.43	-14.2994	125.3157	How et al. 2006, Bamford Consulting for Inpex
WOODWARD	59.97	-14.8521	124.7343	How et al. 2006
WHITLEY	50.51	-14.9353	124.6958	How et al. 2006
PARRY	47.10	-14.3247	125.7667	How et al. 2006
unnamed, largest of Albert Islands	43.70	-14.5176	124.9284	Bamford Consulting for Inpex
BROWSE	25.42	-14.1092	123.5474	major green turtle rookery
unnamed, in Scott Strait	21.61	-14.6114	125.2412	How et al. 2006
PELICAN	19.37	-14.7684	128.7749	seabird breeding island
JONES	17.64	-13.7570	126.3597	seabird breeding island
SAND (Long Reef)	17.05	-13.8511	125.8054	seabird breeding island
BONAPARTE	16.43	-14.8553	124.7691	How et al. 2006
STERNA	12.76	-14.1072	125.7485	seabird breeding island, Coate et al. 2004
RANDALL	7.54	-14.1431	125.5793	seabird breeding island, see Appendix 5
LOW ROCKS	5.09	-14.0627	125.8751	Burbidge & McKenzie 1987, Coate et al. 2004, How et al. 2006, seabird breeding island
WARN	3.64	-14.3341	125.3152	seabird breeding island
AUNT	3.31	-14.3721	127.8412	seabird breeding island
MULGUDNA	3.27	-16.0529	124.3069	seabird breeding island
BOOBY	3.19	-15.0612	124.3261	Serventy 1952, Coate 2004
SOUTH EAST TWIN	2.66	-16.2935	123.0921	seabird breeding island
NORTH WEST TWIN	1.49	-16.2776	123.0616	seabird breeding island
BIRD	0.91	-14.0839	125.7132	seabird breeding island
SANDY (Scott Reef)				seabird breeding island

KIBS - DEC's Kimberley islands Biological Survey
DFW 1982 - Department of Fisheries and Wildlife Buccaneer Archipelago survey

Making specific recommendations for particular islands or island groups to be included in the protected area system would be biased in favour of those for which information is available. It is clear, however, that all the larger islands have significant biodiversity conservation values and that some smaller islands with seabird colonies and/or marine turtle rookeries also require urgent protection.

Kimberley islands collectively are an extremely valuable biodiversity conservation resource. There is an opportunity to include all or almost all Kimberley islands in the State's protected area system using mechanisms such as conservation reserves that are jointly managed by the State and Traditional Owners.

4.5 Planning Findings

1. Very few Kimberley islands (12 out of 2633) are included in the State's system of protected areas.
2. No management plans exist for any of the reserved Kimberley islands.
3. Almost all recommendations for additional nature conservation reserves made in the past, including those in *Nature Conservation Reserves in the Kimberley Western Australia* (Burbidge *et al*. 1991), have not been enacted.
4. Detailed biodiversity information is limited to the largest islands and a few smaller islands known to have seabird breeding colonies and/or marine turtle rookeries.
5. Larger islands that have been surveyed by biologists are known to have very high biodiversity conservation values.
6. The 2633 Kimberley islands collectively are a very significant biodiversity conservation asset.
7. Translocation of threatened species to Kimberley islands is currently not warranted.

4.6 Planning Recommendations

1. The Conservation Commission and DEC work towards including all Kimberley islands in the State's protected area system in a manner that takes account of the rights and aspirations of Traditional Owners. This can be considered as an important recommendation with a medium to long term view. For immediate consideration the list of outstanding recommendations presented in Table 6 (Status of reservation recommendations made in 'Nature Conservation Reserves in the Kimberley Western Australia' – 1991) and Table 7 (Kimberly islands of more than 200 ha, plus smaller islands with known biodiversity values) should form the priority listing for this recommendation.

5. INPUTS

Scientific research has been limited to occasional biological survey, mainly of the larger islands, with the current Kimberley islands Biological Survey, which ends in 2010, being a significant investment. Allocation of resources by DEC to Kimberley island survey, research and management is minimal. Biological survey data has also been collected by the Western Australian Museum, by Western Australian Naturalists' Club expeditions, by Landscope Expeditions and by ecotourism tour guides. DEC's Kimberley region staff do not have an identified budget for managing islands and do not visit any Kimberley islands on a routine basis.

Island biodiversity is clearly a very important component of WA's biodiversity, and island conservation and management has been recognised as a significant activity for many decades. Nevertheless, resource allocation to Kimberley island conservation and management is very low. While there are obvious logistical and financial difficulties associated with managing islands there seems to be no specific allocation of resources to island conservation.

5.1 Inputs Findings

1. DECs Kimberley Region does not have an identified budget for work on islands.
2. Apart from an attempt to eradicate *Rattus exulans* from Adele Island, DEC's Kimberley Region staff have not undertaken any work on Kimberley islands.
3. While there have been occasional biodiversity surveys by DEC and its predecessors and by the Western Australian Museum, there is no ongoing program to accumulate biodiversity data for Kimberley islands.
4. DEC's Science Division is currently undertaking a major biological survey of 22 the largest Kimberley islands, which will provide high quality data for them, in many cases augmenting data collected previously. There are no plans to survey the thousands of other Kimberley islands.

5.2 Inputs Recommendations

1. Kimberley Region be provided with an identified budget for management of islands.
2. Visits to high priority islands be frequent and regular and include biosecurity surveillance. Staff visiting islands should be trained so that they can record and evaluate necessary information.
3. The Kimberley islands Biological Survey be extended so that that the biodiversity of many other larger Kimberley islands can be documented, plus a sample of small islands.

6. MANAGEMENT SYSTEMS

This topic was covered in the Phase I Report and the findings in the Phase I Report should apply to the unreserved Kimberley islands as well as the few reserved ones. As stated in the context section, with visitation increasing, prevention of establishment of exotic animals and plants on Kimberley islands should have a very high priority, as should the eradication, where feasible, of any exotics detected on island conservation reserves. Currently, surveillance of islands aimed at detecting incursions of exotic animals or plants is *ad hoc* and should, for high priority islands at least, become a high priority regular action. Eradication expertise in the Department of Environment and Conservation needs to be maintained.

6.1 Management System Findings

1. Visitor use of Kimberley islands is increasing, including landings by ships carrying up to 100 passengers, but there is no Kimberley islands tourism strategy or means of managing visitor use to minimise impact on biodiversity and cultural values.
2. Feral animals are absent from almost all Kimberley islands and weeds, with one exception, are not a major problem. Establishment of invasive species of Kimberley islands would cause significant biodiversity loss, yet there is no biosecurity plan or regular inspection of high priority islands.
3. Feral animals are not currently a major issue on Kimberley islands, but there is a risk that exotic species will be introduced. Existing feral animal populations, such as of the Pacific rat on Adele Island, should be eradicated.
4. Fire management is currently not a significant management issue on Kimberley islands; however, increasing visitation may lead to more frequent fires.

6.2 Management System Recommendations

1. Commercial tourism operators and other visitors to Kimberley islands need better regulation and supervision. DEC work with tourism operators using Kimberley islands to develop and implement a biosecurity protocol
2. Populations of feral animals on Kimberley islands be eradicated (Adele Island (highest priority), Sunday Island, Browse Island).
3. High biodiversity value islands be regularly surveyed for feral animals. Priorities for surveillance be developed as recommended in the Phase I Report.

7. OUTPUTS

As previously stated, knowledge of the terrestrial biodiversity of most Kimberley islands is generally very limited. There are no management plans for the reserved islands and as such there are no specific management or research products arising from plans to report against in this section. While there have been occasional biodiversity surveys by DEC and its predecessors and by the Western Australian Museum, there is no ongoing program to accumulate biodiversity data for Kimberley islands. The current DEC Kimberley islands Biological Survey is examining 22 of the largest islands and preliminary information and media releases have been recently produced.

The development of a *Kimberley Science and Conservation Strategy* is also underway and there have been community forums, workshops and meetings held in the Kimberley and in Perth. DEC is the lead agency for the development and implementation of the Kimberley strategy in conjunction with the Department of State Development. See further discussion of the *Kimberley Science and Conservation Strategy* under the section titled 'Objective 4' later in this report.

8. OUTCOMES

The conservation of biodiversity on WA islands south of the Kimberley has been a very successful method of conserving the State's and nation's biodiversity and the foresight of people who successfully sought the reservation of many of the State's islands for conservation should be commended. Unfortunately, however, reservation of Kimberley islands has not been an accepted strategy, despite recommendations from the conservation agency and others.

8.1 Outcomes Findings

1. Most islands south of the Kimberley have been reserved for nature conservation, but Kimberley islands are almost entirely unprotected with only 12 of 2633 Kimberley islands being reserved for nature conservation.
2. Most Kimberley islands are under Native Title claim; most of these claims are unresolved.

8.2 Outcomes Recommendations

1. The conservation of the biodiversity on Kimberley islands deserves a much higher priority by government than has been the case in the past. This can be achieved by protecting all Kimberley islands in a manner that respects the rights and aspirations of Traditional Owners. Further to the detail of 'Planning recommendation 1' include all Kimberley islands on the national heritage list and most Kimberley islands and adjacent coast on the World Heritage List.

OBJECTIVE 4

The Kimberley islands collectively are an extremely valuable biodiversity conservation resource and the details and recommendations collated for Objectives 1, 2 and 3 as outlined earlier in this document aim to facilitate information for future planning. However the assessment has not to this point attempted to gauge and report on the cultural significance of specific islands to Traditional Owners.

The aim of Objective 4 for this performance assessment is as follows:-

- In consultation with Traditional Owners and stakeholders, recommending planning, research, management actions and reservation proposals for islands.

9. CONSULTATION

Most of the Kimberley islands are within the boundaries of Native Title claims/determinations. The results of these claims will mark an important milestone for future management of the Kimberley islands. Most of the Kimberley islands are also subject to several federally administered Indigenous Protected Area Consultation Projects.

The Conservation Commission has previously stated that the meaningful engagement of the Traditional Owners in the management of conservation areas is imperative. It is considered that the people who speak for country as traditional custodians should be directly involved in the decision making processes. The positive outcomes of a successful approach in this regard are numerous and are to the great benefit of all parties, such as:-

- A greater understanding by the broader community of the living cultures of Australia;
- Connection to country of people with traditional responsibilities;
- Economic opportunities for Aboriginal people across a wide range of areas;
- Direct engagement with improved management of the land, and;
- Acknowledgement of the importance of Aboriginal knowledge.

9.1 Mechanisms for Joint Management

In its current form, the *Conservation and Land Management Act 1984* (CALM Act) does not provide for Aboriginal joint management initiatives. In recent years options have been explored to amend the CALM Act in such a way that will enable joint management provisions to apply to conservation lands.

There is also a current initiative to;

- introduce legislative changes to the CALM Act to acknowledge Aboriginal interests in, and allow joint management of, lands and waters to which the Act applies and to allow for Aboriginal customary practices, as well as;
- associated amendments to the *Wildlife Conservation Act 1950* relating to Aboriginal hunting and gathering to enable joint management of land under agreement between Traditional Owners and the State Government.

9.2 Kimberley Science and Conservation Strategy

The *Kimberley Science and Conservation Strategy* is being developed by DEC in conjunction with the Department of State Development and the consultation phase has commenced. The Conservation Commission was asked by the Minister for the Environment; Youth to play a key

role in the development of the strategy with a specific focus on areas within the Kimberley conservation estate that warrant enhanced protection.

Through the process of engagement, which has commenced with the development of the strategy, the Conservation Commission will seek to fulfil its role in the discussions and arrangements which transpire. The Conservation Commission has outlined in its support of the strategy that it is important to investigate additional and complementary approaches to conventional tenure arrangements to enable shared and joint management of conservation reserves. The Conservation Commission considers flexibility and the discussion of all options a necessary approach to achieve sustainable conservation, tourism and broader development outcomes in a manner that takes account of the rights and aspirations of Traditional Owners. To achieve these multiple outcomes will be a complex task.

9.3 Implementing recommendations

The Conservation Commission will seek ways to integrate the recommendations of this report into the broader communication and consultation initiatives of the *Kimberley Science and Conservation Strategy*. Through such integration the recommendations in this assessment report will provide part of the Conservation Commissions input into the strategy.

As detailed in the Phase 1 report (*Biodiversity Conservation on Western Australian Islands (2008)*) the process of reserving islands for biodiversity conservation and vesting islands in the Conservation Commission of Western Australia has proved a successful method of conserving Western Australia's biodiversity. For immediate consideration the list of outstanding recommendations presented in Table 6 (*Status of reservation recommendations made in* 'Nature Conservation Reserves in the Kimberley Western Australia' – 1991) and Table 7 (*Kimberly islands of more than 200 ha, plus smaller islands with known biodiversity values*) should form the priority listing for the purposes of consultation.

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- DEC for providing information on threatened ecological communities,
- Russell Palmer for providing references on Kimberley islands,
- DEC for providing information on DEC's Kimberley islands Biological Survey, and
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APPENDIX 1. Complete list of Kimberley islands (in order of size - largest first)

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
AUGUSTUS ISLAND	0	18992.33	-15.36144709	124.5516417		
BIGGE ISLAND	0	17096.14	-14.55533041	125.1559578		
JUNGULU ISLAND	0	4840.91	-15.2959255	124.406813		formerly confused with Darcy Island, which is a small island to the south of Jungulu Island
BOONGAREE ISLAND	0	4215.24	-15.07761809	125.1870614		
ADOLPHUS ISLAND	0	4156.71	-15.11201861	128.1482608		
CORONATION ISLAND	0	3816.79	-14.99268554	124.922101		
UWINS ISLAND	0	3246.71	-15.26618576	124.8202019		
SIR GRAHAM MOORE ISLAND	0	2746.40	-13.88957959	126.5494141		Sir Graham Moore Islands
KOOLAN ISLAND	0	2507.62	-16.12966895	123.7524908		
MIDDLE OSBORN ISLAND	0	2360.87	-14.31822222	126.0131126		Osborn Islands
HIDDEN ISLAND	0	1900.70	-16.24312667	123.4823833		
STORR ISLAND	0	1895.55	-15.94126736	124.5658727		
"Pickering Point"	1	1828.92	-14.44383743	125.7361358	Y	
KATERS ISLAND	0	1717.50	-14.46373758	125.5335524		
ST ANDREW ISLAND	0	1469.58	-15.35219169	125.0138918		
SOUTH WEST OSBORN ISLAND	0	1338.81	-14.35816597	125.9508396		Osborn Islands
CHAMPAGNY ISLAND	0	1337.27	-15.30078376	124.2581349		
SUNDAY ISLAND	0	1197.61	-16.40589854	123.1868559		
LACHLAN ISLAND	0	1180.54	-16.62472691	123.498403		
LONG ISLAND	0	1135.78	-16.5696501	123.3689863		
MOLEMA ISLAND	0	914.86	-16.26185101	123.9044733	Y?	
	0	911.08	-15.93667765	124.45895		
	1	910.89	-14.45312334	127.8610118	Y	
IRVINE ISLAND	0	893.16	-16.0767377	123.5387093		
WOLLASTON ISLAND	0	856.79	-14.49659299	125.4696759		
GLAUERT ISLAND	0	855.91	-15.0661402	124.9689411		Coronation Islands
BYAM MARTIN ISLAND	0	820.96	-15.37927864	124.357652		
MARY ISLAND	0	809.81	-13.9923014	126.383149		
MARY ISLAND NORTH	0	750.54	-17.2612051	123.5465003		
BORDA ISLAND	0	747.96	-14.23664889	126.0192673		Osborn Islands
HEYWOOD ISLAND	0	722.75	-15.33710312	124.3291034		
LACROSSE ISLAND	0	653.40	-14.74962313	128.3130953		
PURRUNGKU ISLAND	1	645.81	-14.63438916	125.2480234	?Y	Purrungku 'East'
	0	633.82	-13.94417971	126.1757564		
	0	610.20	-16.248848	123.8208116		
PURRUNGKU ISLAND	1	583.04	-14.64748463	125.2220773	?Y to Purrungku 'East'	Purrungku 'West'
BERTHIER ISLAND	0	556.27	-14.51009876	124.9895386		
BATHURST ISLAND	0	537.07	-16.03610733	123.5298208		
COCKATOO ISLAND	0	520.15	-16.09530577	123.6147964		
LONG ISLAND	0	509.12	-13.9472058	126.3090224		Eclipse Islands
TRAVERSE ISLAND	0	504.23	-16.24554419	124.1185377		
CASSINI ISLAND	0	487.12	-13.94406879	125.6320296		
ST PATRICK ISLAND	0	454.82	-15.3520734	124.9665991		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
HIGH ISLAND	0	448.89	-16.34796801	123.3416033		
	0	424.42	-16.27140635	123.8717138		
CARLIA ISLAND	0	419.42	-14.37463349	125.9844891		Osborn Islands
MELOMYS ISLAND	0	418.13	-16.14852937	124.0831842		Kingfisher Islands
WULALAM ISLAND	0	417.95	-16.37108165	124.2290388		
MARET ISLAND	0	392.81	-14.40149589	124.9768504		
CAPSTAN ISLAND	0	389.42	-14.57747994	125.2685506		
SIR FREDERICK ISLAND	0	388.58	-16.12410536	123.4037022		
CHAMBERS ISLAND	0	384.67	-16.26762333	123.5304134		
EAST MONTALIVET ISLAND	0	384.02	-14.28114042	125.2996605		
GREY ISLAND	0	382.54	-15.05806175	124.9511816		
MURRARA ISLAND	1	381.84	-14.98704302	125.2420732	?Y	
SOUTH MARET ISLAND	0	374.21	-14.44113354	124.9842604		
WEST MONTALIVET ISLAND	0	369.97	-14.30147598	125.220545		
AVELING ISLAND	0	367.72	-16.34164538	123.6143926		
POWERFUL ISLAND	0	367.57	-16.09415056	123.4362305		
KINGFISHER ISLAND	0	367.11	-16.10726773	124.0751979		Kingfisher Islands
	1	349.87	-16.57858301	123.5048575	Y	
SCORPION ISLAND	0	346.80	-13.86662107	126.6234229		Sir Graham Moore Islands
GIBBINGS ISLAND	0	343.39	-16.15433285	123.5164789		
	1	337.55	-14.95472533	125.1984818	?Y	
GREVILLE ISLAND	0	333.78	-15.30193647	124.8542272		
	0	330.14	-15.59469963	127.8636958		
	0	324.79	-14.4195221	125.2598121		Prudhoe Islands
ENTRANCE ISLAND	0	322.93	-15.2798953	124.6242341		
BYRON ISLAND	0	322.47	-16.16267081	123.4474941		
MACLEAY ISLAND	0	320.75	-15.94531148	123.6935428		
	0	320.10	-13.91222901	126.308731		
CORNEILLE ISLAND	0	318.50	-14.18305434	125.7318604		
	0	317.86	-16.1573074	123.337274		
EAST SUNDAY ISLAND	0	317.32	-16.40880985	123.2131826		
MERMAID ISLAND	0	307.86	-16.43109184	123.3507109		
	0	306.01	-16.09469839	124.08933		
	0	302.48	-15.08770377	125.2419389		
	0	301.87	-16.59257465	123.5252223		
NORTH ECLIPSE ISLAND	0	299.75	-13.8810917	126.3099214		Eclipse Islands
ADELE ISLAND	0	299.60	-15.52422862	123.1572945		
BUFFON ISLAND	0	295.32	-14.92136004	124.7397388		
	0	293.20	-14.46916958	125.2610531		
LAMARCK ISLAND	0	292.08	-14.77957722	125.0248054		
FAIRFAX ISLAND	0	290.61	-15.17952426	128.1062631		
STEEP HEAD ISLAND	0	285.68	-14.44208581	125.9927186		Osborn Islands
ONAD ISLAND	0	269.84	-16.3694147	124.4492895		
REVELEY ISLAND	0	269.01	-14.36629754	127.8134536		
FENELON ISLAND	0	263.74	-14.12829167	125.7000483		Montesquieu Islands
	1	258.34	-16.18387683	123.7890262	Y	
WEST GOVERNOR ISLAND	0	251.77	-13.9454104	126.6878243		Governor Islands

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
MUSEUMS ISLAND	0	248.79	-14.9485454	124.7542661		
MICTYIS ISLAND	0	248.24	-15.21499471	124.796305		
CONILURUS ISLAND	0	244.65	-16.15406579	123.5844858		
KIDNEY ISLAND	0	235.96	-14.32912487	125.9844017		Osborn Islands
UMBANGANAN ISLAND	0	234.23	-15.44009846	124.6076761		
YAWAJABA ISLAND	0	229.06	-15.94801204	124.2055661		
	0	227.52	-13.89563575	127.1662796		
DESFONTAINES ISLAND	0	226.25	-15.02102386	124.8552134		
BERNOUILLI ISLAND	0	224.08	-15.02323334	124.7791562		
PASCO ISLAND	0	219.97	-16.5199146	123.3915856		
	0	219.67	-16.01375271	124.4630714		
	0	217.37	-15.21474609	124.5066965		
CAFFARELLI ISLAND	0	212.72	-16.03979338	123.2966627		
JACKSON ISLAND	0	209.39	-16.43212722	123.1114396		
	1	205.16	-16.23343026	123.5646601	?Y	
KARTJA ISLAND	0	203.63	-14.86378158	125.1824642		
VULCAN ISLAND	0	203.19	-15.23856999	124.3909345		Vulcan Islands
KING HALL ISLAND	0	202.98	-16.07925849	123.4073846		
	0	200.68	-16.33974806	123.6448848		
NATURALISTS ISLAND	0	198.83	-15.01965724	125.3597767		
WINYALKAN ISLAND	0	192.72	-14.55541576	125.426912		
HEDLEY ISLAND	0	188.86	-14.94365081	124.6658121		
	0	182.59	-16.20196868	123.837073		
LAFONTAINE ISLAND	0	181.34	-14.16146831	125.7877851		Kingsmill Islands
	0	181.04	-14.5402445	125.4344715		
JAR ISLAND	0	176.76	-14.15414963	126.2370137		
SHIRLEY ISLAND	0	176.09	-16.2684514	123.4442448		
WIILUNTJU ISLAND	0	175.03	-14.42997832	125.5110019		
TANPANMIRRI ISLAND	0	170.21	-15.07957182	125.356332		
	1	169.67	-16.42085386	123.6175779	?Y	
ECLIPSE HILL ISLAND	0	169.44	-13.93875986	126.2830884		Eclipse Islands
COLBERT ISLAND	0	166.71	-14.86403613	124.7221787		
	0	165.40	-15.93109835	124.2191204		
DESCARTES ISLAND	0	163.61	-14.16803256	125.677894		Institut Islands
MURRANGINGI ISLAND	0	161.48	-14.35760928	125.5800321		
ADMIRAL ISLAND	0	160.47	-16.06561618	123.4010606		
	0	158.53	-15.87621614	124.4489809		
	0	157.87	-17.32072822	123.5304032		
	1	157.50	-16.31594546	123.8099132	Y	
	0	156.56	-16.3005672	123.8749994		
	0	156.49	-16.25439459	123.5656714		
	1	155.08	-16.3896172	123.5213111	Y	
ALLORA ISLAND	0	153.09	-16.41191238	123.159317		
	0	152.04	-16.24682832	124.071358		
	0	152.00	-15.31706597	124.4777362		
	0	151.55	-17.34657775	123.5221078		
SLUG ISLAND	0	147.73	-16.33587975	123.9375223		
KERAUDREN ISLAND	0	146.15	-14.94649417	124.688007		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
KANKANMENGARRI ISLAND	1	141.76	-14.37385556	125.6765091	?Y	
TALLON ISLAND	0	141.03	-16.40923289	123.124876		
DUNVERT ISLAND	0	139.51	-16.28734814	123.5163687		
	1	139.12	-16.57291801	123.5996499	Y	
MARY ISLAND SOUTH	0	137.55	-17.30848649	123.54761		
KANNAMATJU ISLAND	0	136.45	-15.45855077	124.4938276		
PECKED ISLAND	0	131.33	-16.52604734	123.4428		
	1	129.72	-16.21406065	123.8065596	Y	
WEST ROE ISLAND	0	126.93	-16.36252256	123.1882174		
	0	126.34	-14.57670955	125.4391159		
CARRONADE ISLAND	0	124.40	-13.94340148	126.6015714		
	0	119.30	-16.2328753	124.0861312		
	0	119.11	-15.31446376	125.0477381		
SIR RICHARD ISLAND	1	118.94	-16.41248101	123.4880604	Y	
	0	116.57	-16.35191783	123.6892766		
	0	115.38	-13.98386476	126.8886514		
	0	111.40	-14.5057364	125.4990577		
	0	111.16	-15.20840926	125.0107383		
	0	110.21	-15.34302901	124.8513485		
	0	110.18	-16.36786034	123.6065701		Edeline Islands
	0	110.00	-16.38604133	124.2520266		
	0	109.31	-16.13078808	123.3036545		
LORD ISLAND	0	109.26	-16.14907939	123.4511563		
	1	108.27	-16.26525726	123.7522287	Y	
QUOY ISLAND	0	107.57	-14.42245476	125.2404534		Prudhoe Islands
	0	104.06	-16.39692367	124.2437955		
	0	102.48	-16.34953442	124.3540051		Fletcher Islands
	0	99.90	-16.35193383	123.6637776		
	0	99.80	-15.23385153	124.5401696		
	0	98.47	-16.13942227	123.3191649		
	0	98.14	-15.09787613	125.3335033		
	1	97.91	-15.51159746	125.150863		
DEGERANDO ISLAND	0	94.91	-15.33552506	124.1980265		
	0	94.59	-15.31667382	124.4368677		
	1	93.99	-16.41345539	123.6935109		
DORNEY ISLAND	0	93.00	-16.28083391	123.4211303		
CONDILLAC ISLAND	0	91.80	-14.10436568	125.5562841		Institut Islands
	0	90.95	-16.19513882	123.8760006		
WEST ISLAND	0	90.63	-16.85440309	122.1106964		
	0	90.43	-15.97378223	124.4805759		
POOLNGIN ISLAND	0	90.11	-16.39234838	123.1516832		
	0	89.12	-16.41528651	123.6535203		Henrietta Islands
JACKSON ISLAND	0	88.16	-15.1687051	124.645928		
LOW ISLAND	0	87.51	-14.1648089	126.2920825		
DJARUMU ISLAND	0	87.19	-15.32047795	124.2233557		
TANCRED ISLAND	0	86.15	-14.33855504	125.4082648		
	0	86.04	-14.93385433	125.1736452		
	0	83.72	-14.9460534	124.7751221		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
	0	83.07	-15.26323577	124.5700437		
	0	82.40	-16.40672464	123.6340762		
	0	82.39	-16.60525442	123.4848673		
	0	81.66	-16.23261664	123.8410771		
TJAULINGARI ISLAND	0	81.53	-14.66615647	125.1397083		
	0	81.33	-16.18060524	123.8838243		
	0	79.23	-16.20059819	123.9638455		
ELSIE ISLAND	0	78.98	-14.24058046	127.7075362		
TJUNGKURAKUTANGARI ISLAND	0	78.03	-14.80155468	125.1440204		
	1	77.81	-16.29273485	123.7877656		
	1	77.24	-13.9753494	126.7828097		
DARCY ISLAND	0	76.89	-15.34310622	124.3944496		
	0	76.31	-15.3212762	125.0153474		
TROUGHTON ISLAND	0	76.28	-13.7529588	126.1493499		
VINEY ISLAND	0	76.24	-16.01370808	124.0175668		
DON ISLAND	0	75.67	-14.26608433	125.3173434		
	0	75.58	-17.29620075	123.5418719		
	0	74.40	-15.44211816	124.4804745		
	0	73.86	-16.21016319	123.816318		
CASWELL ISLAND	0	72.81	-14.46636012	125.2007027		
LESUEUR ISLAND	0	72.04	-13.819402	127.2719218		
	0	71.28	-15.26611837	124.8945681		
	0	70.79	-16.27691508	123.8518697		
VERCO ISLAND	0	70.04	-16.27629968	123.4292049		
MIAWAJA ISLAND	0	69.18	-15.21246647	124.4143875		
	0	68.04	-14.97302062	124.824503		
AUGEREAU ISLAND	0	67.87	-14.7550351	125.1291666		
	0	67.52	-15.23829542	124.4787708		
	0	67.46	-15.36616023	124.3014065		
MABLY ISLAND	0	66.31	-14.94820582	124.8845946		
	0	65.96	-15.36030765	124.3460558		
	0	65.49	-16.19236645	123.8081666		
	0	65.46	-14.49573382	125.211318		
CUNNINGHAM ISLAND	1	63.52	-17.51071057	118.9467144		
GREGORY ISLAND	0	63.47	-16.31559058	123.312586		
WALKER ISLAND	0	63.43	-14.29941126	125.3156805		
	0	63.09	-16.36363602	123.679887		
FRASER ISLAND	0	62.95	-16.05627869	123.3664053		
	0	62.53	-16.27605748	123.7747977		
	0	62.28	-15.98968092	124.4737502		
	0	62.24	-16.35907074	124.3457677		
	0	61.99	-16.60376885	123.4042781		
	1	61.48	-15.10760345	125.3648781		
	1	61.35	-15.18999565	124.9691788		
MIDDLE ISLAND	0	60.88	-16.85630556	122.1372519		
	0	60.45	-14.75640616	125.1383619		
GAIMARD ISLAND	0	60.17	-14.43853192	125.2360935		
GIBSON ISLAND	0	60.02	-16.31067153	123.3028108		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
WOODWARD ISLAND	0	59.97	-14.85211271	124.7342805		
	0	59.13	-14.15764309	125.7695205		
	0	58.47	-14.93680068	124.86895		
	0	58.16	-16.17109212	124.074304		
LUCAS ISLAND	0	57.76	-15.20825084	124.4923873		
WEST ROCK	0	56.79	-14.3261806	125.9248125		Osborn Islands
	1	56.34	-16.760865	123.740873		
BEDWELL ISLAND	1	56.29	-17.26511379	119.3561973		
	0	56.23	-15.37237129	124.6322072		
	0	55.94	-16.22638214	123.9527583		
TURBIN ISLAND	0	55.81	-14.47848387	125.0026042		
VALENTINE ISLAND	0	55.48	-17.08633607	123.3186118		
RANKIN ISLAND	0	55.22	-16.32077618	124.3911165		
HANCOCK ISLAND	0	54.22	-16.42743679	123.1590938		
	0	53.43	-14.53913474	125.4090193		
	0	52.93	-15.43463409	125.0086833		
LAUANGI ISLAND	0	52.85	-14.1790284	125.6667128		
	0	52.07	-15.12749318	125.3763663		
	0	52.06	-16.21988868	123.4959521		
COMBE HILL ISLAND	0	51.75	-14.49831399	125.3416408		
	0	51.01	-16.33891873	123.4186297		
WHITLEY ISLAND	0	50.51	-14.93533891	124.6958421		
	0	50.48	-14.55456581	125.3255364		
	0	50.29	-15.84498141	124.4530922		
	0	50.16	-15.04483424	128.128586		
	0	49.88	-15.97375697	124.0752906		
ERIC ISLAND	0	49.24	-14.26013622	127.7301224		
	0	47.37	-14.90725983	125.2269704		
FONTANES ISLAND	0	47.12	-14.89375237	124.9235695		
MARGARET ISLAND	0	47.12	-16.37496753	123.3919277		
PARRY ISLAND	0	47.10	-14.32468776	125.7666824		
EAST GOVERNOR ISLAND	0	46.30	-13.94637847	126.7046323		Governor Islands
KATHLEEN ISLAND	0	45.90	-16.06573088	123.5562013		
NGLAYU ISLAND	0	44.89	-14.35193739	125.713001		
LASERON ISLAND	0	44.38	-15.23123926	124.517957		
	0	44.23	-14.90888057	124.9038879		
ARBIDEJ ISLAND	0	44.17	-16.19934686	123.5439124		
	1	44.13	-15.49005762	124.9913604		
	0	43.70	-14.51755371	124.9284168		largest of Albert Islands
SALURAL ISLAND	0	43.52	-16.38577427	123.1311876		
RACINE ISLAND	0	43.15	-14.26360518	125.8270181		
	0	42.59	-16.0424866	123.2814991		
LAGRANGE ISLAND	0	42.05	-14.21203711	125.7667461		
	0	42.03	-14.51258827	125.3371855		
BRUEN ISLAND	0	41.75	-16.06577192	123.3808524		
	0	40.93	-14.4799175	125.2545186		
RUSSELL ISLAND	0	40.79	-15.23214954	128.0970488		
	0	40.63	-14.64568682	125.2738165		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
	0	40.35	-15.32846516	124.3203457		
	0	39.98	-14.40758325	125.4290634		
ETISUS ISLAND	0	39.85	-15.2390175	124.4250767		
	0	39.69	-16.27103305	123.8250785		
	0	39.60	-16.3255247	123.6311485		
	0	39.20	-16.36917382	124.3627146		
	0	38.71	-16.22175407	123.5597783		
HENEY ISLAND	0	38.55	-16.49714608	123.3842105		
LULIM ISLAND	0	38.47	-15.54460084	124.4131537		
	0	38.41	-15.06958526	125.3023909		
	0	38.07	-14.95974142	125.1776967		
	1	37.98	-15.56304769	125.2200636		
	0	37.72	-16.20120119	123.8679551		
CLEGHORN ISLAND	0	37.52	-14.36595218	125.4049319		
	0	36.91	-15.43672354	124.4938645		
FOLLY ISLAND	0	36.82	-16.37790167	123.4253563		
	0	36.82	-15.00895559	124.8453757		
	1	36.78	-16.38014633	124.2021455		
	0	36.66	-16.13580301	124.0682876		
	0	36.64	-15.28461195	124.4972618		
PYRENE ISLAND	0	36.52	-15.25620126	124.4054004		
MALCOLM ISLAND	0	35.94	-14.5214774	125.9062038		
MOLIERE ISLAND	0	35.58	-14.22964165	125.8269083		
WARING ISLAND	0	34.80	-15.01335869	124.7986282		
	0	34.68	-14.63603777	125.0927456		
ATYS ISLAND	0	34.66	-15.23951392	124.5192034		
BAUDIN ISLAND	0	34.50	-14.12747585	125.6051571		Institut Islands
MIDWAY ISLAND	0	34.23	-15.2821211	124.8675488		
	1	33.66	-18.71608261	121.6628991		
	0	33.65	-15.25945198	124.5825835		
	1	33.53	-16.58445266	123.5713731		
	0	33.50	-16.37613998	123.6060968		
	0	33.05	-14.66881334	125.2063241		
LAPLACE ISLAND	0	32.86	-14.18995364	125.6592403		Institut Islands
TROCHUS ISLAND	0	32.57	-14.48489199	125.4925774		
	0	32.56	-14.53147424	125.4090346		
SHALE ISLAND	0	32.21	-16.38022789	124.3402828		
	0	31.96	-14.7857722	125.1850567		
	0	31.60	-13.90112388	126.5638254		
	0	31.55	-16.27418771	124.2100514		
EAST ROE ISLAND	0	31.43	-16.36812458	123.2260115		
	1	31.42	-15.11721887	124.9486162		
	0	31.10	-16.49000433	123.471967		
	0	31.09	-16.36773887	123.5012885		Mary Islands
	1	31.07	-15.5507147	125.2173605		
	0	30.86	-14.76439647	125.1426112		
NGALANGURU ISLAND	0	30.60	-15.9083982	124.3436158		
WAILGWIN ISLAND	0	30.59	-15.53086872	124.4015272		Slate Islands

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
	0	30.47	-16.28095808	124.218834		
FLORA ISLAND	0	29.70	-16.05886871	123.5143729		
	0	29.68	-15.4409395	124.5015427		
KIM ISLAND	0	29.65	-13.8804662	126.5928921		
TOURNEFORT ISLAND	0	29.47	-14.80778178	125.0317489		
	1	29.46	-14.56814709	125.3944811		
	0	29.45	-16.95926826	122.5651162		
	0	29.45	-16.4171635	124.2829111		
	1	29.37	-16.18531499	124.5288768		
	1	29.19	-16.41066665	123.5467629		
	0	29.10	-15.95278424	124.182876		
	0	29.08	-15.20414547	124.8132353		
TYRA ISLAND	0	29.01	-16.44403951	123.1045127		
SCADDAN ISLAND	0	28.94	-16.13157846	123.8555286		
NORTH ROCK	0	28.64	-14.20512384	126.0471519		
	0	28.54	-16.15088794	123.8290682		
BARNICOAT ISLAND	0	28.36	-16.46135358	123.4376075		
	0	28.23	-14.55968362	125.4368039		
	1	28.17	-16.48036332	124.4414659		
	0	28.15	-14.85720959	128.8073846		
OLIVER ISLAND	0	28.11	-14.09135108	125.7395848		Montesquieu Islands
	1	28.01	-18.7182219	121.6718274		
WUWIRRIYA ISLAND	0	27.93	-14.55569586	125.280184		
	1	27.85	-14.64818861	125.3020675		
	0	27.66	-13.9598865	126.4529837		
	0	27.25	-16.51968198	123.446075		
	0	27.19	-16.1938867	123.8836287		
	0	27.19	-16.23303692	123.5519318		
WURAUWULLA ISLAND	0	27.08	-14.66194743	125.1317807		
KUNTJUMAL KUTANGARI ISLAND	0	27.06	-14.22793562	125.7978865		
	0	26.92	-14.67913659	125.1901571		
	0	26.51	-15.23629211	124.9201388		
	0	25.99	-15.00696867	125.106007		
	0	25.64	-16.17336123	123.4270315		Gagg Islands
BROWSE ISLAND	1	25.42	-14.1091829	123.547422		
	0	25.35	-15.1386244	125.4247553		
	0	25.29	-14.47332147	124.9853993		
DORIS ISLAND	0	25.16	-16.30249087	123.2945028		
	1	25.16	-18.71167397	121.6325551		
	0	25.08	-16.16521162	124.081773		
	0	25.04	-16.31031773	123.4301573		
PATRICIA ISLAND	0	24.93	-14.25908747	125.3092922		
QUEEN ISLAND	0	24.73	-14.59409417	125.0730382		
DOROTHY ISLAND	0	24.52	-16.1515376	123.5320958		
	0	24.38	-17.12364707	122.2418271		
	1	24.09	-15.18111384	125.0443501		
	1	24.08	-15.55877933	125.236296		
WATER ISLAND	0	23.84	-14.34973478	125.493953		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
MUIR ISLAND	0	23.80	-16.05828121	124.0367105		
	1	23.80	-15.93894535	124.5077665		
LAVOISIER ISLAND	0	23.74	-14.22180042	125.6420782		
	0	23.57	-16.40726511	123.4935092		
LEILA ISLAND	0	23.38	-16.50601066	123.3841577		
HAZEL ISLAND	0	23.30	-16.50966305	123.3787155		
	0	23.23	-16.14252297	123.8261209		
	0	23.23	-15.03419969	124.7490341		
HALE ISLAND	0	23.19	-14.38758853	125.4137461		
	0	23.12	-14.91706968	125.2109708		
	0	22.99	-16.29786543	123.9144803		
	0	22.80	-15.93278894	124.1973507		
	1	22.78	-15.14572774	125.3058288		
WICKHAM ISLAND	0	22.55	-15.00537701	124.78697		
	0	22.54	-15.96811719	124.4673724		
	0	22.44	-14.23514586	127.7136547		
YANKAWINGARRI ISLAND	0	22.41	-14.15552482	125.6581833		
	0	22.28	-15.39352765	124.4639535		
	0	22.22	-16.12175459	124.1005847		
	0	22.03	-15.27447478	124.6688456		
SWAN ISLAND	0	21.95	-16.35110268	123.0451933		
BISHOP ISLAND	0	21.95	-14.40725555	125.340514		
	0	21.82	-13.99905248	126.5417062		
	0	21.63	-14.83675936	125.176662		
	0	21.61	-14.61137122	125.2411504		
STEEP ISLAND	0	21.50	-16.05890609	124.470549		
	0	21.40	-16.21218107	123.8653083		
	0	21.28	-16.42736396	123.0938088		
SURVEY ISLAND	0	21.25	-16.09398873	123.4493331		
MACMAHON ISLAND	0	21.20	-16.49940247	123.3644896		
	1	21.05	-16.42417629	123.7106501		
ROBERTS ISLAND	0	20.95	-16.1100701	123.7685968		
	0	20.94	-14.55592229	125.3942586		
CORVISART ISLAND	0	20.86	-14.5327134	125.0118671		
	0	20.80	-16.27087158	124.1558345		
SOUTH WAILGWIN ISLAND	0	20.79	-15.54076185	124.4008486		Slate Islands
	0	20.70	-16.37270978	123.3990072		
ENA ISLAND	0	20.62	-14.96868101	125.0203529		
	0	20.39	-14.84907641	125.2026246		
DUGUESCLIN ISLAND	0	20.33	-15.11366642	124.5347466		D'Arcole Islands
	1	20.14	-15.77373411	124.7085423		
	0	20.11	-16.33187684	123.6260928		
	0	20.08	-15.18217037	124.9777943		
	0	20.05	-15.95814002	124.5942644		
	0	20.04	-16.36224538	123.5827085		
	0	19.98	-16.14876809	123.7072046		
	0	19.92	-15.02209296	124.8340583		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
	0	19.91	-16.28620175	124.2320261		
	1	19.86	-15.78692556	124.707191		
SLADE ISLAND	0	19.77	-15.49155064	124.5572236		
CAESAR ISLAND	0	19.70	-16.06555384	123.9344385		
	0	19.54	-15.31488729	124.780132		
	0	19.52	-16.08472619	124.0651183		
	0	19.49	-14.64751791	125.1631138		
HECLA ISLAND	0	19.44	-13.97803115	126.0005493		
PELICAN ISLAND	0	19.37	-14.76835158	128.7748538		
	0	19.26	-16.24588808	123.5537965		
	0	19.21	-15.32223549	124.2451787		
	1	19.13	-15.1534645	125.3236774		
	0	19.13	-14.89352366	124.8858348		Desaix Islands
	1	19.11	-13.99811159	126.815196		
JUSSIEU ISLAND	0	19.06	-14.71196465	124.9767846		
	0	18.99	-15.2672405	124.3476593		
HUMMOCK ISLAND	0	18.79	-15.32161297	124.6204017		
	0	18.54	-16.260945	123.8326188		
	0	18.46	-16.2321523	123.8590678		
	0	18.30	-15.02745839	125.283793		
	1	18.27	-14.89522883	125.3073884		
	0	18.24	-16.38111345	123.4421336		
	0	18.14	-15.38778353	124.4683886		
	0	18.13	-15.15523096	128.1291967		
	1	18.03	-15.10391592	125.374697		
	0	18.00	-14.58855885	125.4463747		
WIIRRA ISLAND	0	17.93	-14.58087494	125.225179		
	0	17.91	-16.26536272	123.5528716		
	0	17.81	-13.691145	126.916118		
JONES ISLAND	0	17.64	-13.75695209	126.3596635		
HELIPAD ISLAND	0	17.61	-16.27140763	124.1706967		
	0	17.60	-14.81366919	128.711686		
	0	17.55	-16.19702941	123.6033316		
	0	17.33	-14.34704288	126.0019259		
	1	17.26	-16.63664054	123.5429501		
MCINTYRE ISLAND	0	17.25	-15.98741873	123.5382993		
SAND ISLAND	0	17.05	-13.85108019	125.8053894		
	1	16.99	-15.46655302	125.0893458		
	1	16.92	-14.65387867	125.32152		
	0	16.48	-15.17020984	124.6529341		
	0	16.43	-15.94470567	124.4904993		
BONAPARTE ISLAND	0	16.43	-14.85529796	124.7690995		
	0	16.36	-16.26630941	123.5733285		
	0	16.30	-14.80392615	128.4481929		
THAIS ISLAND	0	16.03	-14.96018393	125.1605045		
HAWICK ISLAND	0	16.00	-14.33612827	125.3806252		
	1	15.81	-16.60152687	123.5545686		
WANGANIA ISLAND	0	15.79	-16.02659463	123.5427212		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
	0	15.71	-15.2258049	124.8271808		
	0	15.59	-14.49647034	124.9694621		
SCOTT ISLAND	0	15.56	-16.48550198	123.357659		
FROGGART ISLAND	0	15.52	-14.0926484	125.7262096		
	0	15.42	-15.07309496	124.9379605		
	0	15.37	-16.41557931	124.3045183		
USBORNE ISLAND	0	15.29	-16.10627032	123.6441656		
	0	15.22	-16.23353008	123.5072867		
	0	15.18	-16.23143637	123.9723066		
	1	15.06	-16.3012309	123.7932406		
	0	15.04	-14.60458974	125.2502252		
WALL ISLAND	0	15.04	-16.36924202	123.3753823		
	0	15.01	-16.3458575	123.4048075		
	0	14.96	-16.05675181	123.3496019		
	0	14.93	-16.34077958	124.2273767		
	0	14.91	-14.62802045	125.0903706		
LEONIE ISLAND	0	14.86	-16.41251246	123.0955224		
	0	14.84	-14.81972527	128.721169		
	0	14.76	-15.36325118	124.320181		
IREDALE ISLAND	0	14.64	-14.91209578	124.684072		
TARRANT ISLAND	0	14.64	-16.11018237	123.6785928		
	0	14.50	-15.25024424	124.5728608		
	0	14.37	-14.52831433	125.3173526		
	0	14.37	-16.7190861	123.6159852		Helpman Islands
SERENE ISLAND	0	14.32	-14.90699205	124.7204814		
UMIDA ISLAND	0	14.31	-16.25693626	123.5390682		
	0	14.24	-14.48277111	125.2668298		
	0	14.18	-16.43270618	123.0890268		Waterlow Islands
	0	14.18	-13.90054247	127.1141479		
DE FREYCINET ISLET	0	14.16	-14.98841231	124.5352019		
	0	14.14	-16.04177657	123.2732763		
	0	14.04	-16.2040284	123.8442069		
	0	13.89	-16.31460438	123.4229815		
	0	13.74	-17.23892037	122.2003875		
OKENIA ISLAND	0	13.67	-15.23027642	124.4845611		
	1	13.62	-16.4179317	124.2715998		
	0	13.57	-16.34144006	123.6290552		
	1	13.45	-16.19642717	123.7906186		
INA ISLAND	0	13.44	-15.00475539	128.1158068		
	0	13.41	-14.83941288	125.1698139		
GREENHALGH ISLAND	0	13.41	-16.46897083	123.4420348		
	0	13.33	-14.68336946	125.2021782		
	1	13.14	-15.54998639	125.2069782		
	0	13.11	-15.38948351	124.4547838		
	1	13.09	-16.37134122	123.9858197		
COMMERSON ISLAND	0	13.08	-15.15148589	124.6655454		
	0	13.04	-14.84644593	128.7897798		
SANDY ISLAND	0	13.03	-13.76481459	126.7916199		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
	0	13.01	-16.24096917	124.0421215		
FLAT ISLAND	0	12.95	-14.15203629	125.7002367		
DAMPIERS MONUMENT	0	12.95	-16.12602943	123.4405244		
	0	12.91	-16.57965785	123.5407061		
	0	12.89	-14.47234828	125.2004967		
	0	12.83	-15.15463203	124.6732662		
GREEN ISLAND	0	12.78	-15.4757367	124.6009425		
	0	12.77	-15.0310996	124.6080906		
STERNA ISLAND	0	12.76	-14.10718158	125.7485463		Montesquieu Islands
	0	12.75	-15.24266172	124.53724		
	0	12.68	-16.04180416	123.3615531		
	0	12.66	-16.26709431	124.1429678		
	0	12.65	-15.39372765	124.4698871		
	0	12.38	-15.08471507	125.261283		
	0	12.37	-14.21644225	126.5898879		
	1	12.31	-16.43007632	123.6748972		
	1	12.23	-16.40255677	124.4998432		
	0	12.23	-14.8899503	125.2512974		
	0	12.10	-16.31403954	123.2770204		Salier Islands
	0	12.05	-13.95553984	126.8156244		
	1	12.05	-16.50190487	124.4391973		
	0	12.02	-16.17059968	123.4197534		
	0	11.98	-16.34706977	123.8825695		
	0	11.95	-15.08603975	125.2570788		
	0	11.93	-15.93021111	124.2048481		
MIDDLE ISLAND	0	11.92	-16.44803393	123.0874595		
	1	11.86	-16.80879804	123.7712982		
	0	11.83	-14.56935963	125.4204405		
RED ISLAND	0	11.79	-15.21275865	124.2599933		
CENTRE ROCK	0	11.77	-14.32582319	125.943902		
	0	11.74	-16.06232699	123.3666618		
	0	11.62	-16.31037018	123.8526705		
	0	11.61	-15.16860579	125.0414413		
KANGGURRYU ISLAND	0	11.61	-14.72249753	128.6349431		
	0	11.57	-16.27489298	124.1634377		
	0	11.53	-15.26936589	128.089144		
	0	11.53	-16.17713327	123.808959		
	0	11.49	-15.05441419	125.2943611		
	0	11.48	-14.47502853	125.4030354		
	0	11.46	-16.30736822	124.3703841		
	0	11.42	-16.38526949	123.4452187		Muddle Islands
	0	11.36	-14.56417138	125.3149757		
	1	11.29	-14.63195012	125.2259463		
	1	11.27	-16.28138301	123.5501699		
	0	11.26	-16.26108748	123.5715046		
	0	11.16	-14.91594412	125.1409149		
	0	11.12	-16.15399067	123.8349429		
	0	11.08	-16.30504039	123.3079533		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
	0	11.05	-16.43702796	123.0923953		
ATRINA ISLAND	0	10.99	-15.22991534	124.4946349		
SUFFREN ISLAND	0	10.99	-14.541635	124.9287533		
	0	10.90	-14.4046671	125.5245087		
MCCULLOCH ISLAND	0	10.83	-14.93577936	124.6756101		
TREE ISLAND	0	10.82	-16.65591861	123.484016		
KOLGANU ISLAND	0	10.79	-16.39818626	123.1626757		
	0	10.77	-16.18246481	123.810011		
	0	10.69	-16.28213959	123.8238186		
	0	10.68	-14.9825682	125.2060742		
	0	10.63	-16.31297114	123.4148356		
	0	10.59	-16.23323711	123.8082448		
	0	10.54	-16.23683635	124.0544406		
	0	10.48	-16.39422622	124.2742424		
	0	10.46	-15.52957048	124.4602368		
	0	10.43	-16.45167409	123.5585978		Razor Islands
	0	10.41	-14.79396768	125.1735009		
	0	10.40	-16.36428281	123.4290755		
	0	10.39	-14.35699821	125.4261389		
	1	10.33	-16.60621906	123.5523361		
	0	10.29	-16.34012862	123.8730808		
	0	10.23	-14.77409667	125.146395		
	0	10.21	-15.29478354	124.5769967		
	0	10.14	-14.4977438	125.4960322		
	0	10.10	-16.13768117	123.4630604		Finch Islands
	0	10.10	-16.57469786	123.3175858		Fairway Islands
	0	10.07	-15.30831011	124.2561702		
	0	10.07	-16.1697491	123.4107687		
	0	10.05	-14.59378516	125.4258308		
GILL ISLAND	1	10.04	-15.76480616	124.7543867		
	0	10.03	-14.85722303	128.8222083		
	0	9.98	-16.30005511	124.1990482		
	0	9.95	-14.4648984	124.9806629		
	0	9.94	-16.09872751	123.4448749		
	0	9.91	-15.45235354	124.6099862		
	0	9.83	-15.3536708	124.3603358		
	0	9.82	-16.51891814	122.8594952		
	0	9.79	-16.3190011	123.8674427		
GABRIEL ISLAND	0	9.78	-14.09787086	125.7487302		
	1	9.77	-16.1990143	124.6129016		
	0	9.74	-14.2042754	125.640749		
	0	9.66	-14.82972749	125.1800151		
ROUND ISLAND	0	9.62	-16.16271572	123.7688685		
	0	9.60	-15.0305257	125.2531548		
	0	9.59	-14.76858614	128.5612411		
	0	9.59	-14.33472441	125.5888302		
LATIRUS ISLAND	0	9.52	-15.23018393	124.5246347		
	0	9.47	-14.59533744	125.0929026		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
	0	9.46	-16.03356378	123.5536125		
	0	9.43	-14.92016079	125.1489402		
	1	9.40	-15.1972914	125.0308065		
	0	9.34	-14.56522006	125.4213984		
RATHBUN ISLAND	0	9.31	-14.9313467	124.6796431		
TREE ISLAND	0	9.28	-16.38668996	123.3094748		
	0	9.27	-14.48704462	125.2451468		
	0	9.25	-14.14788641	126.5544682		
	0	9.24	-16.20071634	123.8902011		
COTTON ISLAND	0	9.23	-14.90611934	124.7255686		
	0	9.22	-14.69093944	125.1935271		
	0	9.16	-15.22722476	124.8143479		
	0	9.13	-13.95968678	127.1296934		
	1	9.04	-15.89075123	124.4765877		
KING ISLAND	0	9.02	-15.87238923	123.6366021		Macleay Islands
	0	9.00	-14.6422565	125.0652648		
	0	8.94	-16.15637849	124.0823668		
	0	8.93	-14.5362668	124.9343796		
WULAJARLU ISLAND	0	8.90	-15.95376614	124.3055426		
	0	8.88	-14.7866227	125.0180403		
	0	8.85	-16.22131559	123.4423757		
	0	8.77	-14.82307258	125.1810444		
	1	8.74	-14.57409276	125.4619559		
	0	8.73	-14.40405331	124.9564167		
	0	8.71	-14.8787524	128.9656565		
CLEFT ISLAND	0	8.70	-16.03599158	123.3516827		
	0	8.67	-14.49815797	125.3768983		
OTWAY ISLAND	0	8.66	-15.26991158	128.1046227		
	0	8.66	-16.19207409	123.4476163		
	1	8.65	-16.41711037	124.2646552		
	0	8.63	-14.78612317	128.569532		
	0	8.61	-16.29828663	123.9214878		
	0	8.57	-15.00305105	125.4704517		
CUSSEN ISLAND	0	8.56	-16.38954726	123.4679886		
	0	8.55	-16.40808583	123.6750465		
	0	8.53	-14.82601252	128.7258863		
POPE ISLAND	0	8.50	-16.49121522	123.3651745		
	0	8.46	-15.52147344	124.6216827		
	1	8.46	-16.61325615	123.5568446		
	0	8.45	-14.09167869	126.313942		
PASCAL ISLAND	0	8.39	-14.06726216	125.651795		
	0	8.34	-14.59380552	125.2112242		
	0	8.31	-16.33421655	123.8760038		
ROCKY ISLAND	0	8.27	-14.09479797	127.5489787		
	0	8.24	-16.32992047	123.8811821		
	1	8.23	-14.65141863	125.2475348		
	0	8.23	-14.57479274	125.3689408		
BAT ISLAND	0	8.22	-15.10389143	124.9077253		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
	1	8.22	-16.48970363	123.4799527		
TALBOYS ISLAND	0	8.20	-16.39422814	123.0691181		
	0	8.18	-15.23277378	124.3806334		
	1	8.18	-16.41767719	124.274788		
BERTHOUD ISLAND	0	8.17	-14.28086328	125.8382775		
	0	8.06	-16.03910607	123.3519502		
	0	8.05	-14.56146356	125.4139919		
	1	8.05	-16.09219379	124.5925989		
	0	8.05	-13.96522205	126.8730516		
	0	7.99	-15.46987559	124.6739676		
	0	7.96	-16.39427397	123.4822561		
SANDY ISLAND	0	7.94	-16.88155407	122.1697299		Lacepede Islands
	0	7.94	-16.16683433	123.7970269		
	0	7.83	-14.42077854	125.4043234		
	0	7.81	-14.87098671	125.2093313		
	0	7.76	-15.37224064	124.4377245		
	0	7.75	-15.42569405	124.6210324		
	0	7.74	-16.45847047	123.423292		
	0	7.72	-16.33160747	124.1994132		
	0	7.71	-14.90085862	124.8876499		
	1	7.69	-15.21607529	125.0201578		
FARR ISLAND	0	7.69	-16.45000601	123.4006355		Farr Islands
	0	7.66	-14.93466898	128.3053289		
	0	7.64	-16.07712976	124.0662497		
	1	7.59	-14.82807383	125.1827315		
	0	7.58	-15.11384774	125.1691669		
	0	7.56	-16.41524653	123.6769732		
RANDALL ISLAND	0	7.54	-14.14314647	125.5793178		Institut Islands
	0	7.53	-15.43280725	125.0573675		
	1	7.51	-16.17925425	123.7393979		
	0	7.48	-16.52688679	123.4273966		
	0	7.47	-14.92126997	124.9074827		
	0	7.46	-16.37933862	123.4340681		
	0	7.44	-14.61002499	125.2109212		
	0	7.42	-14.53751656	125.248212		
	0	7.42	-16.35285332	123.4040569		
	0	7.41	-16.18742549	123.4560697		
	0	7.40	-14.52423837	125.1417265		
	0	7.40	-14.51219019	124.9219796		
	0	7.37	-14.69442366	125.1992847		
	0	7.37	-15.23139743	124.4624755		
	0	7.32	-16.1702138	123.5713145		
	0	7.31	-15.28647897	124.2930545		
	1	7.30	-16.40824964	123.682478		
	0	7.29	-14.78313631	125.1524447		
	0	7.29	-14.98751454	125.0965255		
	0	7.28	-14.96122862	125.182713		
	0	7.26	-16.60744132	123.4971464		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
BIRD ISLAND	0	7.25	-14.0143858	126.5684066		
	0	7.24	-16.13556666	123.3019519		
	0	7.23	-16.35472994	123.5843582		
	0	7.16	-15.96426573	124.4713575		
	0	7.10	-14.5081047	125.2418576		
	0	7.09	-16.31204362	123.854908		
	0	7.08	-16.26483852	123.8029563		
CRABBE ISLAND	0	7.06	-15.97368374	123.6914072		
	0	7.05	-16.30489065	123.8420694		
	0	7.02	-14.62704725	125.2296241		
	1	6.98	-16.46703127	124.3037726		
	0	6.91	-15.25276015	124.4165004		
	0	6.82	-14.61142765	125.251252		
MARNDUNGUM ISLAND	0	6.82	-15.92752796	124.325868		
	0	6.81	-16.51664178	123.4366447		
	0	6.80	-14.65305344	125.2557257		
	0	6.80	-16.03741571	123.3584242		
	1	6.77	-14.17983473	126.2034166		
	0	6.75	-15.36698447	124.9470819		
	0	6.71	-16.07605462	124.0554147		
	0	6.68	-15.31870017	124.3336881		
RAT ISLAND	0	6.67	-16.40021954	123.1203715		
	0	6.67	-14.51450097	125.3169421		
SAND CAY	0	6.66	-14.24086251	125.3218406		
	0	6.63	-16.29186294	123.4482147		
	0	6.63	-15.01216202	124.8259066		
	0	6.62	-16.23594238	124.0622923		
ACASTA ISLAND	0	6.61	-14.17343728	125.6735959		
	0	6.54	-14.98936546	125.2756442		
	0	6.51	-15.86330672	124.4214419		
	0	6.49	-15.34882146	124.349755		
	0	6.49	-16.48978339	123.5247706		
GODSMARK ISLAND	0	6.47	-16.11869068	123.2951116		
	0	6.47	-16.60512187	123.5337989		
	0	6.47	-16.58702381	123.540109		
FORBIN ISLAND	0	6.43	-15.07561536	124.7200348		
	0	6.41	-14.40984947	125.2390374		
HOLTHAM ISLAND	0	6.41	-16.44659718	123.1087201		
	0	6.39	-16.30471314	123.3029084		
	1	6.35	-16.63798048	123.5482645		
	0	6.33	-16.27684164	123.4085746		
	0	6.31	-16.07620713	123.4434903		
	0	6.30	-14.29635215	125.308259		
	0	6.23	-16.28489755	123.3948396		Tyrer Islands
	0	6.23	-14.38311611	125.6791655		
	0	6.23	-16.37849747	122.9879368		
	0	6.19	-14.36211052	125.4179311		
	0	6.11	-15.47248443	124.6680346		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
	0	6.10	-15.95562618	124.1936032		
	0	6.10	-16.34312932	123.8769953		
	0	6.10	-16.31950596	123.2834924		
	0	6.07	-13.89925348	127.1928404		
	0	6.07	-16.39012723	124.2662384		
	0	6.04	-15.86078632	124.4548557		
MYRES ISLAND	0	6.01	-14.57356432	125.8885852		
	0	5.99	-16.36244715	123.4214185		
	0	5.99	-16.28618642	123.5254958		
	0	5.99	-15.33131272	124.9957805		
	0	5.99	-16.28438116	123.3982691		
	1	5.98	-14.99997176	125.2311575		
	0	5.98	-15.34292405	124.5911654		
	0	5.96	-14.50980538	125.3454988		
	0	5.93	-14.42421752	125.2787632		
	0	5.93	-15.31341848	124.8162728		
	0	5.91	-16.25359212	123.8399771		
	1	5.90	-14.05793941	121.776111		
	0	5.90	-15.12239386	125.350411		
	0	5.89	-16.2273294	123.620701		
	0	5.88	-15.20739422	124.4862416		
	1	5.86	-15.4658752	125.1096698		
	0	5.84	-16.27733029	123.4619108		
DEAN ISLAND	0	5.83	-16.38804175	123.2056034		
	0	5.81	-13.96392186	127.1308235		
	0	5.80	-14.20582288	125.6361358		
	0	5.80	-15.34397208	124.4754767		
	0	5.79	-14.98850231	124.5710933		
	0	5.77	-16.24005251	123.809401		
	0	5.74	-15.50894567	125.1536053		
	0	5.73	-16.15615736	124.0777414		
	0	5.72	-14.48221257	125.2484019		
	0	5.70	-14.59028788	125.273956		
	0	5.70	-14.80245753	125.0379281		
LEVEQUE ISLAND	0	5.69	-16.38513338	122.9244041		
	0	5.67	-14.66689915	125.1302053		
	0	5.64	-15.92364535	124.3411333		
	0	5.62	-16.28880699	123.8514528		
	0	5.62	-14.20637269	126.5893978		
	0	5.61	-15.33065151	124.3968772		
	0	5.60	-14.32195656	125.7277771		
	0	5.60	-14.93361037	128.3217524		
	0	5.56	-14.98642784	125.2751292		
	0	5.55	-13.95742746	126.833457		
	0	5.53	-14.34876098	126.0541009		
	0	5.52	-16.30770813	123.3158126		
	0	5.50	-13.6928542	126.8954836		Stewart Islands
MORRISEY ISLAND	0	5.49	-16.52845949	123.4104681		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
	0	5.47	-14.2694344	125.3134147		
	0	5.46	-16.03497569	123.2877143		
	0	5.45	-16.17076739	123.802556		
	0	5.44	-14.52840952	125.2109291		
	1	5.40	-16.20903093	123.573041		
	0	5.38	-16.15663844	123.6549206		
	0	5.37	-16.58898232	123.370167		
	0	5.37	-14.27922688	125.6780348		
	0	5.34	-13.90628286	126.5866322		
	0	5.34	-16.34735437	123.5579156		
	0	5.33	-15.97589585	124.0699104		
	0	5.32	-16.3940627	124.7257624		
	0	5.32	-14.53494548	125.4646525		
	0	5.30	-14.18273675	126.1474239		
	0	5.27	-14.49495005	125.207416		
	0	5.25	-14.40032884	125.3949893		
	0	5.25	-16.3268385	123.419377		
	0	5.24	-15.43740097	125.0015499		
LAMMAS ISLAND	0	5.21	-15.31375847	124.863111		
	1	5.20	-14.4304924	125.7282027		
	0	5.20	-13.76528844	126.9980718		
	0	5.18	-16.4953203	123.5807612		
	0	5.17	-15.07837742	125.3408992		
	0	5.16	-16.27698868	123.7841122		
	0	5.14	-14.40369182	125.4228948		
	0	5.13	-16.32782869	123.5613198		
	0	5.10	-16.28776064	123.4012559		
LOW ROCKS	0	5.09	-14.06267105	125.8750897		
	0	5.09	-16.078466	123.4494482		
RED ISLAND	0	5.08	-13.90044476	126.1055342		
	0	5.07	-16.15481417	123.4345908		
	0	5.06	-15.02057945	124.6009303		
	0	5.04	-16.32377777	123.8851066		
	0	5.01	-16.25058218	124.0993472		
	0	5.00	-14.64360851	125.1547537		
	0	4.99	-15.20285875	124.6972605		
	0	4.98	-15.31847396	125.0227233		
	0	4.97	-14.93723576	128.2989408		
	0	4.93	-16.23208324	123.8645677		
CHERITON ISLAND	0	4.93	-16.5047712	123.4144572		
	0	4.93	-14.42237298	125.6836295		
	0	4.90	-13.74346565	126.9293417		
	1	4.86	-16.39615902	124.0216468		
	0	4.85	-16.15690168	123.4597008		
	0	4.85	-15.16849886	124.6584297		
	0	4.83	-16.29129783	123.4799465		Packer Islands
LIZARD ISLAND	0	4.82	-15.93113854	124.4212001		
	0	4.82	-14.528445	125.4145113		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
ONE TREE ISLAND	0	4.81	-15.34055872	124.7489184		
	0	4.77	-16.13924492	123.45606		
	0	4.77	-16.23363602	123.5034776		
	0	4.77	-15.08344052	125.2719324		
	0	4.74	-14.46216225	125.1504733		
	0	4.74	-15.16617779	124.6549991		
	1	4.74	-15.80370548	124.779281		
	0	4.74	-14.88663794	125.3144004		
	0	4.73	-14.10714188	127.5642463		
	0	4.72	-16.35809649	123.5890773		
BRANCH ISLAND	0	4.70	-14.43144844	125.2869293		
CHAMPIONET ISLAND	0	4.69	-14.50120005	125.1052603		
	0	4.68	-13.90146164	126.5927064		
	0	4.68	-15.2777393	124.8713399		
	0	4.66	-16.13237515	123.4682108		
	0	4.65	-14.94790194	125.191889		
NUMANBU ISLAND	0	4.64	-15.33053243	124.212431		
	0	4.61	-14.93520438	128.1265852		
	0	4.61	-14.53295588	126.0442985		
	1	4.59	-16.41706423	123.7183147		
	0	4.57	-14.94232754	125.2185713		
	0	4.57	-16.23545461	123.4914232		
	0	4.57	-16.27836372	123.7723966		
	1	4.55	-18.72522339	121.684082		
	0	4.54	-14.19734401	125.6586032		
GADAYIM PYRAMID	0	4.54	-16.05163971	124.0397578		
	1	4.53	-16.45956227	124.2294442		
	0	4.49	-15.25592488	124.5889164		
	0	4.49	-14.22798109	126.1203363		
	0	4.49	-15.02661727	124.8369083		
	0	4.49	-14.4603473	125.3154611		
	0	4.47	-14.48199089	125.1301994		
	0	4.43	-16.27237337	123.8146008		
	0	4.42	-14.81781998	125.1855569		
	0	4.39	-16.14282083	123.4723389		
	0	4.37	-16.62730983	123.538968		
	0	4.37	-14.4208286	125.4754329		
	1	4.36	-16.18729612	124.5337704		
	0	4.30	-13.79566251	127.0326559		
	0	4.29	-14.92796285	128.3140254		
	1	4.28	-16.18480924	123.7820461		
	0	4.27	-16.33637076	123.5690927		
	0	4.26	-16.13214724	123.2902616		
	0	4.24	-16.34042699	123.4254616		
	0	4.24	-16.13897803	123.418367		
	0	4.23	-14.22108243	126.5967372		
	0	4.22	-15.28922844	124.8325294		
	0	4.22	-14.05620567	127.4955648		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
	1	4.22	-14.34419363	125.7064717		
	0	4.21	-15.02153895	124.6151945		
	0	4.20	-16.11209405	123.755332		
	0	4.19	-17.28901541	123.5396446		
CYMO ISLAND	0	4.18	-15.25182316	124.4250146		
	0	4.16	-16.29431846	124.2372741		
	0	4.15	-16.28262139	123.3978283		
	0	4.14	-15.15530123	124.6674544		
	0	4.14	-16.28124656	123.8590447		
	0	4.13	-16.26142019	123.5798771		
	0	4.12	-14.35396591	125.6759042		
	0	4.11	-14.14268003	125.6927513		
	0	4.07	-14.64396115	125.1300993		
	0	4.07	-14.13618528	127.5909187		
	0	4.07	-14.98210229	125.2516509		
	0	4.04	-14.01214292	126.0206547		
	1	4.04	-16.2346839	123.9256542		
	1	4.03	-16.46596834	124.3064279		
	0	4.03	-15.11745069	124.517845		
	0	4.01	-16.21363292	123.5369719		
	0	4.00	-16.33992153	123.4111246		
	0	3.94	-16.32035903	123.8610793		
	0	3.92	-16.48446796	123.0020907		
	0	3.91	-16.29456875	123.4831714		
	0	3.91	-15.30415391	124.4621581		
	0	3.90	-15.88444167	124.4536416		
	0	3.89	-15.43100036	125.0139616		
	0	3.86	-14.45754642	125.2114173		
	0	3.86	-16.13017745	123.4245164		
	0	3.84	-16.36202473	124.1991718		
	0	3.84	-15.30933058	124.4175199		
	0	3.83	-14.52939107	125.1468789		
	0	3.82	-15.50434145	123.5731046		
SHEEP ISLAND	0	3.80	-15.48840809	124.6139109		
	0	3.77	-16.44767695	123.0831628		
COMBE ISLAND	0	3.76	-14.43850927	125.0313108		
	0	3.76	-16.07597392	123.4304029		
	0	3.75	-14.20169185	126.581056		
	0	3.69	-16.33131286	123.5645887		
	0	3.68	-16.24825926	123.8390583		
	0	3.65	-14.45251986	125.2202121		
POPE ISLAND	0	3.64	-16.17774621	123.3404304		
	0	3.64	-17.24327522	122.1946323		
	0	3.64	-16.23813008	123.4658023		
WARN ISLAND	0	3.64	-14.33411647	125.3152469		
	0	3.63	-16.25683591	124.0267228		
	0	3.63	-16.19982749	123.5407631		
	0	3.62	-16.23990333	123.8398429		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
	0	3.60	-17.34316715	123.5857999		
	0	3.59	-16.9611374	122.4758743		
	0	3.59	-16.30426227	123.2631117		
	0	3.57	-16.28382298	123.4803782		
	0	3.52	-16.04015499	123.3654077		
	0	3.51	-15.51584358	125.1675224		
	0	3.51	-14.29439568	125.3130969		
	0	3.50	-16.57276266	123.3807801		
	0	3.49	-15.35318985	124.8607329		
EAST ISLAND	0	3.47	-16.90196651	122.1979427		
	0	3.46	-15.18830645	124.8776082		
	0	3.45	-16.44474705	123.0832006		
	0	3.44	-15.27825112	124.9270309		
	0	3.43	-14.29506007	125.3061014		
	0	3.41	-16.23391078	124.1080059		
	0	3.41	-14.60212167	125.4163973		
	0	3.38	-16.25748545	124.094189		
	0	3.36	-14.94951624	124.9256373		
	0	3.36	-14.01321449	126.5451907		
	0	3.36	-14.57511342	125.206211		
	0	3.36	-14.9792878	125.2613333		
WHIPP ISLAND	0	3.36	-16.49355234	123.3694458		
	0	3.35	-14.57269383	125.422915		
	1	3.35	-14.57067448	125.3919003		
	0	3.34	-14.35576433	125.5870127		
	0	3.33	-15.46654387	124.4835517		
	0	3.32	-15.20736424	125.0185356		
	0	3.31	-16.24092521	124.0132403		
	0	3.31	-16.35742631	123.6124578		
	0	3.31	-16.39690778	124.283955		
	0	3.31	-15.83190928	124.4573285		
AUNT ISLAND	0	3.31	-14.37211014	127.8411797		
	0	3.31	-16.39597387	123.3271855		Wood Islands
	0	3.30	-16.24060603	124.0275604		
	0	3.29	-15.26119726	124.6039172		
	0	3.29	-13.98639762	126.9049536		
	0	3.28	-14.44664225	125.7207068		
	1	3.28	-14.88516701	125.3225758		
MULGUDNA ISLAND	0	3.27	-16.05289566	124.3069367		
	1	3.27	-16.3901174	124.1968126		
	1	3.27	-16.56969621	123.5255629		
	0	3.26	-16.14063528	123.4632944		
	0	3.26	-14.54189375	125.4140071		
	0	3.25	-16.37390779	123.5122699		
	0	3.25	-16.2635912	123.7686881		
	0	3.25	-14.43727105	125.6639789		
	0	3.23	-14.46031143	125.1483435		
	0	3.23	-16.55927485	122.9915904		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
	0	3.22	-14.78835363	125.1641981		
	0	3.20	-14.42423832	125.6693535		
	0	3.20	-14.66945385	125.1286275		
	0	3.20	-14.79098615	125.1820802		
	0	3.19	-14.65165753	125.1609128		
BOOBY ISLAND	0	3.19	-15.06123973	124.3261183		
	1	3.18	-16.18633189	123.7843188		
	0	3.18	-14.50104426	125.4951267		
	0	3.18	-15.93559543	124.2886083		
CAREENING ISLAND	0	3.17	-15.49931581	124.5976253		
	0	3.17	-14.78466001	125.1825009		
	0	3.16	-14.87559901	125.2036213		
	0	3.16	-16.22870054	123.4525611		
	0	3.16	-15.14370374	125.3400831		
	0	3.15	-16.37822578	123.4109762		
	0	3.14	-14.8697264	128.9267606		
	0	3.13	-16.82799893	123.1607204		
	0	3.13	-14.77002204	125.1447715		
	0	3.11	-15.20302342	124.4470465		
	0	3.11	-14.97117422	125.1930312		
	0	3.10	-13.95897266	126.8574528		
BROWNE ISLAND	0	3.07	-15.13362879	124.5028537		D'Arcole Islands
	0	3.04	-15.11947138	125.1713289		
	0	3.03	-15.08305274	125.1254362		
	0	3.03	-18.65603204	121.7896099		
	0	3.01	-14.67077692	125.2102735		
	0	3.01	-15.65606267	124.4406727		
	0	2.99	-14.8803195	124.7139167		
	0	2.98	-15.07820431	124.9731263		
	0	2.98	-14.0973355	125.7135692		
	0	2.98	-15.50994653	124.5868102		
	0	2.97	-16.17842101	124.4251311		
	0	2.95	-15.92051692	124.340838		
	0	2.95	-16.34757695	123.3990662		
	0	2.95	-15.88921427	124.4558402		
	0	2.94	-15.05026934	125.3312998		
	0	2.93	-15.26709963	124.7222353		
	0	2.93	-15.26859463	128.109588		
	1	2.93	-16.20056928	124.5399138		
	0	2.92	-14.43626269	125.5114247		
	0	2.91	-15.94442607	124.1808581		
	0	2.90	-16.21466552	123.5540296		
	0	2.90	-15.29152215	124.2928044		
GAP ISLAND	0	2.89	-15.33042918	124.8712485		
	0	2.88	-16.34050235	123.5750017		
	0	2.88	-16.19274362	123.4498363		
	0	2.87	-16.11457194	124.1006724		
CLERK ISLAND	0	2.86	-14.39502408	125.3190262		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
	1	2.86	-14.4725682	127.8750335		
	0	2.86	-15.51825298	124.5837036		
	0	2.86	-16.33866988	123.5673158		
	0	2.84	-16.13598994	123.3053993		
	0	2.83	-14.94169433	125.2129448		
	1	2.83	-15.17128572	125.5160501		
	0	2.81	-16.31834474	123.8688454		
	0	2.81	-14.45915848	125.2158103		
	1	2.80	-17.2441831	122.1964704		
	0	2.80	-14.98520201	125.2508582		
	0	2.79	-16.23668417	123.83836		
	0	2.78	-14.48114171	125.4879804		
	0	2.78	-15.42860249	124.6401693		
	0	2.77	-14.78893341	128.5287826		
	1	2.75	-16.72364077	123.718589		
	0	2.75	-16.26815862	123.8098711		
	0	2.74	-15.96521396	123.68295		
	1	2.74	-15.60436754	125.2884982		
	0	2.74	-14.85169816	128.7986951		
	1	2.71	-15.14684516	125.3319588		
	1	2.71	-14.62007616	125.410598		
	0	2.70	-14.91743763	125.1390061		
	0	2.67	-16.21716079	123.5844233		
	0	2.67	-14.24055692	125.6365495		
SOUTH EAST TWIN ISLAND	0	2.66	-16.29346564	123.0921094		
	0	2.66	-15.3577415	124.3154969		
	0	2.65	-15.337673	124.8601302		
	0	2.63	-16.13373718	123.3941696		
	0	2.63	-16.03112865	123.5445362		
	1	2.63	-15.48051112	124.680805		
	1	2.61	-15.14734612	125.3031376		
	1	2.61	-16.41886929	123.7220637		
	0	2.61	-16.16039293	124.0788091		
	0	2.58	-15.93707754	124.2835478		
	0	2.58	-16.20955629	123.5530231		
	1	2.57	-16.7210083	123.7136104		
	0	2.55	-17.10946174	122.2520564		
	1	2.55	-16.46511786	124.2543107		
	1	2.55	-15.48445412	125.1339634		
	0	2.54	-14.82326617	128.7193863		
	0	2.54	-16.282	123.788		
	0	2.53	-14.52274996	125.2395817		
	0	2.51	-16.14069583	123.4591727		
	0	2.51	-14.98727883	125.2333261		
	0	2.50	-15.08363126	125.277266		
	0	2.49	-14.45872493	125.190799		
	0	2.49	-14.39224587	125.2560896		
	0	2.49	-14.53354952	125.3569612		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
	1	2.48	-16.37044159	124.1674697		
	0	2.47	-16.31460129	123.878654		
	0	2.46	-16.27012842	123.5701528		
	0	2.46	-16.27409321	124.084002		
	1	2.46	-14.55988227	125.5987375		
LIVINGSTONE ISLAND	0	2.44	-16.44136382	123.1107732		
LONGITUDE ISLAND	0	2.44	-16.05860134	123.4021711		
	0	2.44	-16.25353453	123.8091109		
	0	2.44	-14.62772813	125.2221207		
	0	2.43	-13.83795834	127.0490731		
	0	2.43	-13.97031809	126.8779695		
	0	2.43	-15.27436064	124.8629478		
	0	2.42	-16.49767486	123.5751066		
	0	2.42	-16.18226023	124.432108		
	1	2.42	-15.60325291	125.2845837		
	0	2.41	-14.11138426	125.7010965		
	0	2.39	-14.4650672	125.2101202		
	0	2.39	-14.38582642	125.6846708		
	0	2.38	-16.25813625	123.8398821		
	0	2.38	-14.37610099	125.4147442		
	0	2.38	-16.16185489	123.3284613		
	0	2.37	-15.12019874	125.1960763		
	0	2.37	-16.55904773	122.8055903		
HELBY ISLAND	0	2.37	-15.23284208	128.1099822		
	1	2.36	-15.52463546	124.6294646		
	0	2.36	-14.39959952	125.6639517		
	0	2.35	-16.34280093	123.4101118		
	0	2.35	-14.54255734	125.2017866		
	0	2.34	-15.35146241	124.3284953		
	0	2.34	-16.03158197	123.5601976		
	0	2.34	-16.07849344	124.0634519		
	0	2.33	-13.81033196	127.020411		
	0	2.32	-14.18089662	125.6780164		
	0	2.32	-14.46060483	125.6916435		
	0	2.32	-16.30716115	123.2676456		
	0	2.32	-16.30728833	124.1995352		
	0	2.31	-16.44466552	123.0882046		
	0	2.30	-16.18677559	123.8176615		
	0	2.30	-16.27770427	123.8131977		
PACK ISLAND	0	2.30	-16.51295962	123.4106096		
	0	2.29	-16.3444028	123.4217459		
	0	2.29	-14.63948922	125.1558142		
	0	2.29	-16.38158757	123.4963978		
	0	2.29	-14.9650537	124.8155659		
	0	2.28	-14.21112265	126.0308109		
	0	2.28	-14.46320575	125.1930368		
	0	2.28	-14.63106803	125.0930859		
	0	2.28	-15.19467879	124.7004351		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
	0	2.28	-16.25386658	124.0828546		
	0	2.28	-14.85630943	128.7953937		
	0	2.26	-16.15293749	123.3209757		
	0	2.25	-14.50465658	125.3767578		
	0	2.24	-14.99582116	124.8490141		
	0	2.23	-15.39562232	124.9599865		
	0	2.23	-14.8628706	128.8202666		
	0	2.23	-14.57319222	125.1338411		
	0	2.22	-14.99857126	125.2816725		
	0	2.21	-15.23914009	124.5265439		
	0	2.21	-15.35544699	124.3649506		
	0	2.21	-16.25431923	124.1172151		
	0	2.20	-14.426521	125.7504018		
	0	2.20	-15.30203404	124.364726		
	0	2.19	-13.9427091	126.7097596		
	1	2.19	-15.52575702	125.1953792		
	0	2.19	-14.46480177	125.7765966		
	0	2.18	-15.35468645	124.4897404		
	0	2.17	-14.77237646	128.7825126		
	0	2.16	-13.98120799	126.878665		
	0	2.16	-16.55937668	123.35225		
	0	2.16	-16.16715003	123.4637812		
	0	2.15	-16.44151936	123.3533171		
	0	2.15	-16.13218601	123.4610864		
	0	2.14	-14.54242427	125.2001697		
	0	2.14	-16.15520091	123.4305117		
	0	2.13	-14.86338341	128.8170904		
	0	2.13	-16.2403832	124.0368658		
	0	2.11	-14.63566945	125.0950674		
	0	2.10	-14.46477431	125.1909183		
TANNER ISLAND	0	2.08	-16.09409538	123.5296232		
	0	2.07	-14.46801746	125.1865653		
	0	2.07	-14.56656457	125.3876421		
	0	2.07	-13.90567845	126.5893089		
	0	2.07	-16.10546771	124.0913305		
	0	2.06	-16.49783476	123.4830123		
	1	2.04	-16.40763255	123.6866085		
	0	2.04	-14.67322033	125.1271872		
	0	2.04	-14.47431479	125.0086538		
	1	2.02	-16.09658232	124.603235		
	0	2.02	-14.33228231	125.3798714		
	0	2.01	-14.56999262	125.3237781		
	0	2.01	-16.1568936	123.5315087		
	0	2.00	-14.21610461	126.5864326		
	0	2.00	-16.39055279	123.13069		
	0	2.00	-14.67303898	125.1431989		
	0	2.00	-14.17895934	127.6495358		
	0	2.00	-17.10720477	122.2477571		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
	0	1.99	-15.48985942	125.126858		
	0	1.97	-16.41723404	123.6684166		
	0	1.97	-14.35940728	125.6801517		
	0	1.96	-14.21551384	126.1123893		
	0	1.96	-14.64314569	125.0946232		
CONWAY ISLAND	0	1.96	-15.86696275	123.6733386		Macleay Islands
	0	1.96	-16.18473108	123.5242523		
	0	1.95	-14.84460048	125.1737509		
	0	1.94	-16.30084039	123.3033565		Tide Rip Islands
	0	1.94	-14.91233856	125.2432508		
	0	1.93	-14.44955873	125.8634901		
	1	1.92	-15.17220577	125.5205849		
	0	1.91	-13.9004058	126.3163791		
	0	1.91	-14.56184207	125.4181777		
	0	1.91	-16.1226596	123.6196112		
	0	1.90	-16.27806618	123.8331314		
	0	1.90	-14.68788069	125.1950168		
	0	1.89	-16.56098856	122.8029306		
	0	1.89	-16.40358185	123.2054002		
	1	1.88	-14.56041442	125.5945872		
	1	1.88	-14.64588037	125.2437628		
	1	1.88	-15.1717619	125.5183491		
DOVE ISLAND	0	1.88	-16.49512371	123.3740296		
	0	1.87	-16.51055934	123.6055722		
	0	1.87	-14.53792241	124.9307944		
	0	1.87	-13.9263269	126.8183539		
	0	1.87	-15.1170113	125.1710278		
	0	1.86	-16.14323226	123.323121		
	0	1.86	-15.28014237	124.8719637		
	0	1.86	-15.91575465	124.343611		
	0	1.85	-16.17709554	123.3378979		
	0	1.85	-14.39701058	125.4053124		
	0	1.85	-16.37629671	123.4112956		
	0	1.84	-14.4766584	125.494623		
	0	1.84	-14.0597745	125.8705803		
	0	1.84	-13.95864084	126.867157		
	0	1.82	-14.07327	126.3176657		
	0	1.82	-15.12290009	124.5131992		Rocky Islands
	0	1.81	-15.12064647	124.9670306		
	0	1.80	-16.14834859	123.330581		
	0	1.79	-14.58698448	125.0933824		
	1	1.79	-16.29512613	124.0220783		
	0	1.79	-16.22201273	123.8011294		
	0	1.78	-15.27597116	124.4463076		
	0	1.77	-14.91828692	125.1316712		
	1	1.77	-13.99348931	126.8929605		
	1	1.76	-16.37172765	124.1703156		
	0	1.76	-16.39697081	123.5117847		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
	0	1.76	-16.42891641	123.0835841		
	0	1.74	-16.33099295	123.5489277		
	0	1.73	-14.92483941	125.2731025		
	0	1.73	-16.26689249	123.5673701		
	0	1.72	-15.89829596	124.3025947		
	0	1.71	-14.50964515	124.9198897		
	0	1.71	-14.40869592	125.4928036		
	0	1.70	-16.11295377	123.4419825		
	0	1.70	-16.26908817	123.7646241		
	0	1.70	-14.53051835	125.1441951		
	0	1.70	-16.10256667	124.0894835		
	0	1.70	-14.57226483	125.0737433		
	0	1.70	-13.98073981	126.8941067		
LALOWAN ISLAND	0	1.69	-16.43814456	123.1484217		
	0	1.68	-14.63647395	125.1549666		
	0	1.68	-14.49612068	125.9280288		
	0	1.68	-16.31880258	123.8787843		
	0	1.67	-14.85789179	128.7948498		
	0	1.66	-15.55012894	124.4156571		
	0	1.66	-14.14177331	125.5768414		
	0	1.65	-14.52011414	125.5829851		
	0	1.65	-15.2586763	124.6996508		
	0	1.65	-15.34783731	124.8589444		
	0	1.65	-14.7414441	125.1495446		
	0	1.65	-14.45556435	125.1495999		
	0	1.64	-16.35779661	123.5754677		
	0	1.64	-15.08114063	125.3435783		
	0	1.64	-14.19870505	126.5848305		
	0	1.64	-16.23511989	123.8738648		
	1	1.63	-14.98775018	125.2792203		
	0	1.63	-14.49600308	125.4985114		
	0	1.63	-14.64922015	125.1541573		
	0	1.62	-14.77149429	125.155837		
	0	1.62	-16.15968204	123.3218158		
	0	1.61	-14.44825861	125.5337514		
	0	1.61	-16.24095548	123.494427		
	0	1.61	-14.85803402	125.1864407		
	0	1.61	-15.211862	125.0202526		
	0	1.61	-16.07540762	123.9891334		
	0	1.60	-15.92582839	124.2135028		
	0	1.60	-14.32574735	125.7557461		
	0	1.60	-16.30318588	123.2610976		
	1	1.59	-18.71217945	121.6490329		
	0	1.59	-16.24119053	123.4714899		
	0	1.58	-16.49043823	123.5910357		
	0	1.58	-15.38365117	124.3716819		
	0	1.58	-14.64577157	125.1712652		
	0	1.58	-15.34809769	124.3360408		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
	0	1.58	-15.40224416	124.3736208		
	1	1.58	-16.54414141	124.448576		
	0	1.57	-14.64148337	125.2682954		
	0	1.57	-16.36820469	123.4818106		
	0	1.57	-14.86975926	125.217902		
	0	1.56	-15.13158528	124.5031839		
	0	1.56	-14.855137	128.7845894		
	0	1.56	-14.67181372	125.2420577		
	0	1.56	-16.4910087	123.6031049		
DEMPSEY ISLAND	0	1.56	-16.50513225	123.4201954		
	0	1.55	-14.53744424	125.1366409		
	0	1.54	-14.56409133	125.1889079		
	0	1.54	-14.5579292	125.4149588		
	0	1.54	-14.97398196	125.2694427		
	0	1.54	-15.32803595	124.2427056		
	1	1.53	-15.19050868	125.0489411		
	0	1.53	-16.0559589	123.3403627		
	0	1.52	-14.46138937	125.2086006		
	0	1.51	-16.50407272	123.5835987		
KENT ISLAND	0	1.50	-15.15681714	128.1149587		
	0	1.50	-16.27974716	123.828902		
	1	1.50	-14.47728904	125.7775199		
	0	1.50	-15.32752646	124.397265		
NORTH WEST TWIN ISLAND	0	1.49	-16.27757076	123.0615783		
	0	1.48	-14.85484457	128.8182813		
	0	1.47	-13.89749512	126.555451		
	0	1.46	-14.84162896	128.775946		
	0	1.46	-14.4268911	125.4918882		
	0	1.46	-16.05858651	124.4526653		
	0	1.45	-15.28392593	124.8433536		
	0	1.45	-14.64491352	125.1542128		
	0	1.45	-16.41344392	123.0792295		
	0	1.45	-16.50402459	123.5786364		
	0	1.45	-14.32926073	125.3801234		
	0	1.45	-16.23594032	123.8777123		
	0	1.44	-14.01325395	126.2130574		
	0	1.44	-14.92585897	125.2710484		
	0	1.44	-14.52479798	125.4130486		
	1	1.44	-16.38441486	124.204811		
	0	1.43	-14.41168477	125.2382664		
	0	1.43	-14.46177167	125.1873361		
	0	1.43	-16.46111111	124.3280636		
	0	1.43	-16.22185615	123.542299		
	0	1.43	-14.83450583	125.1792314		
	0	1.43	-14.44485302	125.7186987		
	0	1.43	-15.72060788	124.407007		
	0	1.42	-14.31103144	125.7230634		
	1	1.41	-16.57026261	123.5130227		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
	0	1.40	-15.34226753	124.748209		
	0	1.40	-14.53927669	127.9398966		
	0	1.39	-16.21959593	123.8142612		
	0	1.39	-15.29525462	124.4520304		
	0	1.39	-14.14688595	125.758855		
	0	1.39	-15.69317397	124.3824818		
	0	1.38	-14.34659742	125.6722696		
WHITE ISLAND	0	1.38	-14.19434631	125.8250492		
	0	1.38	-15.09197859	125.1612501		
	0	1.37	-16.26835808	123.5593713		
	0	1.37	-14.42086377	125.7193166		
	0	1.37	-16.15387034	123.4377723		
	0	1.37	-14.6571816	125.1481666		
	0	1.37	-15.4625883	124.6533941		
	0	1.37	-15.52285634	123.1600527		
ATTACK ISLAND	0	1.37	-15.80851404	124.7101321		
	0	1.36	-14.6493006	125.1655699		
	0	1.36	-16.86843221	122.1601596		
	0	1.35	-14.58802322	125.274615		
	0	1.35	-14.23411386	125.6078839		
	0	1.35	-14.54901178	125.1187779		
	0	1.34	-16.23431119	123.8715132		
	0	1.34	-16.73082372	123.6320561		
	1	1.33	-18.71532506	121.6524401		
	0	1.33	-16.01455927	123.5127945		
	0	1.33	-13.97906612	126.8937849		
	0	1.33	-14.0456707	127.4536389		
	0	1.33	-16.09171096	124.0743489		
	0	1.33	-16.40255081	123.9647828		
	0	1.32	-14.14090127	125.5830007		
	1	1.32	-15.15802134	124.8735198		
	0	1.32	-16.1686519	123.4002869		
	1	1.31	-16.42013101	123.7239447		
	0	1.30	-14.45950602	125.1885481		
	0	1.30	-14.7554784	125.1422016		
	0	1.30	-14.28501377	125.730196		
	0	1.30	-16.33191799	123.545474		
	0	1.29	-14.47638674	125.1332803		
	0	1.29	-14.4685269	125.150046		
	0	1.29	-14.19673887	125.8354241		
	0	1.29	-14.67223487	125.128768		
	0	1.28	-16.45719297	123.4183291		Herbert Islands
	1	1.28	-16.48451895	123.6536983		
	0	1.27	-16.39624857	124.2798037		
	1	1.27	-16.81042414	123.7760001		
	0	1.27	-14.46040953	125.2193764		
	0	1.26	-14.97219597	124.9076115		
	0	1.26	-14.9151951	124.9393608		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
	1	1.26	-14.57920637	125.3593313		
	0	1.26	-16.07011646	123.3902744		
	0	1.25	-14.58504592	125.4237542		
DIRECTION ISLAND	0	1.25	-16.42659869	123.1508422		
	0	1.25	-14.17164329	125.6668885		
	0	1.25	-14.47581798	125.1945648		
	0	1.25	-16.3509633	123.411593		
KESSEL ISLAND	0	1.24	-16.48924731	123.3623479		
	0	1.24	-14.94799029	124.9238703		
	0	1.23	-16.44445892	124.3921231		
	0	1.23	-14.57045549	125.2933115		
	0	1.23	-14.90485112	124.9285029		
	0	1.23	-14.53220713	125.144019		
	0	1.22	-14.01247509	126.420347		
	0	1.22	-16.41719367	123.1684439		
	1	1.22	-15.49699662	125.1468822		
	0	1.22	-16.17513338	123.3421733		
	0	1.21	-16.42034054	123.0889416		
	0	1.21	-14.24014428	127.714795		
	0	1.21	-16.23173229	123.5889556		
	0	1.21	-13.96838102	126.8734795		
	0	1.21	-13.96960459	126.2971675		
	0	1.20	-16.37056778	123.4799884		
	0	1.20	-16.56469008	122.8008565		
	0	1.20	-16.10862828	124.057287		
	0	1.20	-14.52949905	125.4799589		
	1	1.20	-15.73063878	124.6965677		
	1	1.20	-16.4155164	123.7134921		
	0	1.19	-16.32456931	123.5979467		
	0	1.19	-14.49892646	125.4939995		
	1	1.19	-14.43462894	125.7225501		
	0	1.19	-13.86971031	126.6352955		
	0	1.19	-16.60422035	123.0235578		
	0	1.19	-15.93791049	124.4998717		
	0	1.18	-14.63578747	125.1532238		
	0	1.18	-14.16168928	126.2360339		
	1	1.18	-14.86538464	125.2078576		
	0	1.18	-14.46999477	125.1497666		
	0	1.18	-16.26988062	123.5091467		
BUMPUS ISLAND	0	1.18	-15.50680663	124.4040217		
APEX ISLAND	0	1.18	-16.39650737	123.0563453		
	0	1.18	-16.2369567	123.8767258		
	0	1.17	-16.18026848	123.600817		
	0	1.17	-16.16453993	123.3558145		
GOAT ISLAND	0	1.17	-16.17127196	123.321411		
	0	1.17	-16.10360977	124.4797275		
	0	1.16	-14.46686595	125.1549881		
	0	1.16	-14.52162562	124.9201187		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
	0	1.16	-16.59615796	123.5160025		
	0	1.16	-15.21047045	124.7008465		
	0	1.16	-17.23752208	122.1846804		
	0	1.16	-14.47401056	125.1542072		
	0	1.16	-14.10332192	125.6915038		
	0	1.15	-15.22048196	124.734374		
	0	1.15	-15.22739253	124.5388483		
	0	1.15	-16.15718994	123.4205436		
	0	1.15	-16.33134415	124.1949547		
	1	1.15	-16.84145493	122.5703087		
	0	1.15	-14.47121455	125.1941488		
	0	1.15	-16.26545819	123.765379		
	0	1.15	-14.06699697	127.5185896		
	0	1.14	-14.44860585	125.7172143		
	0	1.14	-14.65115041	125.6478779		
	0	1.14	-16.26997401	123.7745282		
	0	1.14	-16.2547683	124.0879296		
	0	1.13	-14.48974792	125.4969582		
	0	1.13	-14.62200076	125.0971836		
	0	1.13	-14.22927276	126.2969185		
	0	1.13	-16.27837269	123.4150643		
	0	1.12	-16.19516303	123.9755543		
	0	1.12	-16.25146605	123.9877726		
	0	1.12	-14.86940705	125.2804116		
	0	1.11	-16.03365936	123.5592165		
	0	1.11	-14.48506813	125.3643698		
	0	1.11	-15.4276013	124.6381617		
	0	1.10	-16.40780158	123.1420708		
	0	1.10	-14.87233312	128.952727		
	0	1.09	-16.09793497	124.0871159		
KID ISLAND	0	1.09	-15.66475234	124.4012808		
	0	1.09	-16.17450622	123.4192344		
	1	1.09	-15.47412237	125.1014719		
	1	1.09	-14.64051041	125.4484752		
	0	1.09	-16.38615007	123.1375249		
	0	1.09	-14.65061111	125.1552746		
	0	1.09	-14.64763835	125.0942996		
	0	1.09	-14.48925176	126.0418254		
	0	1.08	-14.08452105	127.512605		
	0	1.08	-15.06192992	128.1468747		
	0	1.08	-16.24733384	123.8373875		
	0	1.08	-14.64440015	125.1143525		
	0	1.07	-16.42482627	123.0973672		
	0	1.07	-16.22343456	123.444222		
	0	1.07	-14.91574142	125.2847014		
	0	1.06	-15.00921332	124.5966591		
	0	1.06	-15.30839806	124.8151571		
	0	1.06	-16.43666526	123.1291658		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
	0	1.06	-14.6235076	125.168696		
	0	1.06	-14.96581176	125.2300273		
	0	1.06	-14.41538824	125.6628716		
	0	1.06	-14.19437595	125.835185		
	0	1.05	-14.48408664	125.4965934		
	0	1.05	-16.23256707	123.5890707		
	0	1.04	-14.3537622	125.7195965		
	1	1.04	-14.50934617	125.3595057		
	0	1.04	-15.30366119	124.8238095		
	0	1.04	-14.47876167	125.1327579		
	0	1.04	-14.41858267	124.9749263		
	0	1.04	-14.87266893	128.9323119		
	0	1.03	-16.15043328	123.347753		
	0	1.03	-16.99954416	122.3611636		
	0	1.02	-14.21387599	126.5843172		
	0	1.02	-15.91644107	124.5814191		
	0	1.02	-16.21527451	123.5571935		
	0	1.02	-14.31760104	125.739358		
	0	1.02	-16.69129499	123.1334175		
	0	1.02	-16.36408123	123.4917033		
	0	1.01	-14.51761039	125.4886371		
	0	1.01	-14.63919143	125.265566		
	0	1.01	-15.14169609	128.1207045		
	0	1.01	-14.5697685	125.423991		
	0	1.01	-14.87622411	128.9813507		
	0	1.00	-16.11725233	123.4467434		
	0	1.00	-16.38068048	123.1339018		
	0	0.99	-16.17227591	124.4151191		
	1	0.99	-14.37698521	127.7555652		
	0	0.99	-16.42704047	123.3608905		
	0	0.99	-14.22251068	125.7969215		
	0	0.99	-14.48760059	124.9656109		
	0	0.99	-16.61714999	123.5326947		
	0	0.99	-14.37839368	125.6843112		
	0	0.99	-16.83308489	123.1610764		
	0	0.98	-16.21368006	123.6095176		
	0	0.98	-14.979487	124.55555		
	0	0.98	-13.94851267	126.8178255		
	1	0.98	-16.2922377	123.5571196		
	1	0.98	-14.63791924	125.2695801		
UNCLE ISLAND	0	0.98	-14.3730315	127.8383817		
	0	0.97	-14.46461743	125.1534994		
	0	0.96	-14.49428701	125.3775452		
	0	0.96	-16.38887894	123.3081832		
	0	0.96	-14.13972322	125.5751928		
	0	0.96	-16.16999107	123.5677535		
	0	0.96	-13.89701025	126.1021455		
	0	0.96	-16.12163985	123.372516		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
	0	0.95	-15.47740436	124.6738203		
	0	0.95	-14.52654885	125.3268817		
	0	0.95	-14.47052711	125.1430689		
	0	0.95	-16.25734797	123.4626194		
	0	0.95	-14.35714788	125.678042		
	0	0.94	-18.80553466	121.6387812		
	1	0.94	-16.20157938	123.7919776		
	1	0.94	-16.31309649	123.8856183		
	1	0.94	-16.20760402	123.5701935		
	0	0.94	-16.21395348	123.6162938		
	0	0.93	-16.12828431	123.2854715		
	0	0.93	-14.63313552	125.4357064		
	1	0.93	-16.25644722	123.7443845		
	0	0.93	-14.17469838	126.1477236		
	0	0.93	-16.40586264	123.2029931		
	1	0.93	-16.41180289	124.4476432		
	0	0.93	-14.51547606	125.9583284		
	0	0.93	-15.33221124	124.8732373		
	1	0.92	-14.85252887	125.2100043		
	1	0.92	-15.23024775	125.3600361		
	0	0.92	-14.77762055	128.5533033		
	0	0.92	-13.9680559	126.2983302		
	0	0.92	-14.42190399	125.5125794		
	0	0.92	-16.44469844	123.3522959		
	0	0.92	-16.19003554	123.4763779		
BIRD ISLAND	0	0.91	-14.08392792	125.7131667		
	0	0.91	-16.08168045	123.4003661		
	0	0.91	-14.0616716	125.8721769		
	0	0.91	-15.32326926	124.2101436		
	0	0.91	-16.15015402	123.6897898		
	0	0.90	-15.3362122	124.3112105		
	0	0.90	-16.44870605	123.3502049		
	0	0.90	-16.03461893	123.5570118		
	0	0.90	-14.57107545	125.3773587		
	0	0.89	-16.46156915	123.4322712		
	0	0.89	-16.2373997	124.1022992		
REES ISLAND	0	0.89	-16.38602011	123.106916		
	0	0.89	-14.63585202	125.2233479		
	0	0.89	-14.85233545	128.7820186		
	0	0.89	-14.19985674	125.643931		
	0	0.88	-14.6423866	125.0968193		
	0	0.88	-15.85315955	124.4518839		
	0	0.88	-16.12345089	123.4156891		
	0	0.88	-16.2263421	123.4797966		
	0	0.88	-16.42065822	123.1967633		
	0	0.88	-16.23208826	124.1032865		
	0	0.88	-13.88196463	126.5973897		
	0	0.88	-14.49207021	124.9671383		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
	0	0.87	-14.22413066	126.0165213		
	0	0.87	-16.50283071	123.3876862		
	0	0.87	-16.50148804	123.4460801		
	0	0.87	-16.43796754	123.3454865		
	0	0.87	-16.24070472	123.9972706		
	0	0.87	-16.56235923	122.8018865		
	0	0.86	-16.03567527	123.2950381		
	0	0.86	-15.0241945	125.1691943		
	0	0.86	-16.2445448	124.1339578		
	0	0.86	-16.53984854	123.3562488		
	0	0.86	-14.08864064	125.7033599		
	0	0.86	-15.43388951	124.6681866		
	1	0.85	-16.39649898	124.1972861		
	0	0.85	-14.38683615	125.4177506		
	0	0.85	-16.20289585	123.5330265		
	1	0.85	-16.32083556	123.8087908		
	0	0.85	-15.51945905	123.1580176		
	0	0.85	-14.95410592	124.6736446		
	0	0.85	-15.90650808	124.5993636		
	0	0.84	-15.88092875	124.6270194		
	0	0.84	-16.13250812	123.288235		
	0	0.84	-14.66605245	125.1287003		
	0	0.84	-15.12191738	125.1964772		
	0	0.83	-15.29955337	124.4102986		
	0	0.83	-14.31390777	125.7245801		
	0	0.83	-16.14296071	123.3143493		
	0	0.83	-15.32388346	123.5283814		
	1	0.83	-16.40777167	124.4708292		
	0	0.83	-14.81731994	128.7203413		
	0	0.83	-16.55086792	122.9865862		
	0	0.82	-14.64092399	125.1588267		
	0	0.82	-14.56737267	125.0935217		
	0	0.82	-16.50190433	123.4482981		
	0	0.82	-16.39239374	123.1431608		
	0	0.82	-16.5041306	124.4645325		
	0	0.82	-14.49559276	125.4968356		
	0	0.81	-16.63927397	123.0433131		
	0	0.81	-14.84156308	125.168133		
	1	0.81	-16.23150308	123.621036		
	1	0.81	-18.7196411	121.6532231		
	0	0.80	-14.17658275	126.2284981		
	0	0.80	-14.99153357	125.2744626		
	0	0.80	-14.38383454	124.9742993		
	0	0.80	-16.44870196	123.5470879		
SAVILLE ISLAND	0	0.80	-15.14843136	128.1026522		
	0	0.80	-16.39810799	123.9652076		
	1	0.80	-16.20819527	123.786326		
	0	0.79	-13.98388093	126.3491027		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
	0	0.79	-14.60396222	125.4153035		
	0	0.79	-14.50845848	125.1203622		
	0	0.79	-16.34752393	123.9700572		
	0	0.79	-13.97980158	126.8735024		
	0	0.79	-15.42417686	124.6680038		
	0	0.79	-16.47146029	123.4434994		
	0	0.79	-14.17785314	126.1479564		
	0	0.79	-16.19559094	123.4415051		
	0	0.79	-14.38457076	125.6800456		
	0	0.79	-16.5402149	123.3553457		
	1	0.78	-15.22297026	124.867752		
	0	0.78	-16.1528194	123.4674195		
	0	0.78	-14.31501171	125.7242253		
	1	0.78	-14.62865653	125.4496296		
	0	0.78	-16.36174964	123.3556655		
	0	0.78	-15.08927417	125.2400371		
	0	0.78	-16.28015765	123.4409931		
	1	0.78	-16.18619892	123.7836045		
	0	0.78	-16.36484016	123.4818386		
	0	0.78	-14.64037593	125.0913011		
	0	0.78	-16.32959756	124.1952931		
	1	0.77	-15.46170366	125.1087839		
	0	0.77	-15.22899998	124.3986333		
	0	0.77	-14.21446814	126.1305183		
	0	0.77	-16.0492616	123.4230901		
	0	0.76	-16.16558179	123.5932307		
	0	0.76	-14.64854378	125.2627839		
	0	0.76	-16.13608001	123.3286136		
	0	0.76	-16.5983619	123.5170534		
	0	0.76	-16.45847515	123.3407148		Wybron Islands
	0	0.76	-16.23360726	123.8380375		
	0	0.75	-15.02900028	125.2576838		
	0	0.75	-15.72592115	124.3951118		
	0	0.75	-14.4571303	125.5088957		
	0	0.75	-14.06958038	125.7723777		
	0	0.75	-16.45472327	124.3538748		
	0	0.75	-16.59233498	122.7700245		
	0	0.75	-16.49250138	123.5825116		
	0	0.75	-14.47939636	125.1308585		
	0	0.75	-13.98567986	126.8831297		
	0	0.74	-16.3175337	123.3213115		
	0	0.74	-14.0239184	126.11657		
	0	0.74	-16.41692077	124.3283542		
	0	0.74	-16.23188719	123.8736291		
	0	0.74	-14.91765014	125.1523345		
HUNT ISLAND	0	0.74	-16.39994433	123.2267526		
	1	0.74	-14.38693003	127.7504071		
	0	0.74	-14.48513405	125.3702303		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
	0	0.74	-16.23863648	124.3829788		
	0	0.73	-14.46801665	125.1560608		
	0	0.73	-14.32578185	125.7268208		
	0	0.73	-14.50311749	127.9159642		
	0	0.73	-17.23535252	122.1996604		
	0	0.73	-14.65141276	125.1628873		
	0	0.73	-14.93613873	124.658876		
	0	0.72	-16.44509074	123.112268		
	0	0.72	-16.29590171	124.3890644		
	0	0.72	-14.56484972	125.3899555		
	0	0.72	-16.28019044	123.4653748		
	0	0.72	-16.13521275	123.442932		
	1	0.72	-16.19969167	123.7960474		
	0	0.72	-16.16320991	123.6400061		
	0	0.72	-15.23467705	124.3692594		
	0	0.72	-14.91703131	125.2991501		
	0	0.72	-14.35653481	126.0622759		
	0	0.71	-14.78383031	128.5663835		
	1	0.71	-14.87030164	125.2726275		
	0	0.71	-16.3454738	123.8934034		
	0	0.71	-16.10152214	123.4481712		
	0	0.71	-14.58705664	125.4235882		
	1	0.71	-16.22702756	124.3790335		
	0	0.71	-14.18522186	126.1471453		
	0	0.71	-14.96937653	125.2310343		
	0	0.70	-16.04660275	123.280613		
	0	0.70	-16.42543421	124.3634572		
	1	0.70	-16.24056422	123.9340784		
	0	0.70	-14.95094368	124.9245541		
	0	0.69	-15.47280369	125.102908		
	0	0.69	-16.51946265	122.8459732		
	0	0.69	-14.89037664	125.2547426		
	0	0.69	-16.45098523	123.1310111		
	0	0.69	-14.53212592	125.1422716		
	0	0.69	-16.17705037	123.4439992		
	0	0.69	-13.9413316	126.816909		
	0	0.69	-14.06121142	127.5171143		
	0	0.69	-17.77061612	122.2166921		
	0	0.69	-16.4836677	123.4603495		
	0	0.69	-16.29781427	123.7935231		
	1	0.68	-16.31697136	123.8047141		
	0	0.68	-14.64566717	125.1531048		
	0	0.68	-13.94000881	126.6788375		
	0	0.68	-14.59913406	125.0952458		
	0	0.68	-15.27698994	124.5913857		
	0	0.67	-16.31061009	123.2717665		
	0	0.67	-14.45447842	125.5457008		
	0	0.67	-16.0527065	123.3719024		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
	0	0.67	-16.36165567	123.3588146		
	0	0.67	-16.15892627	123.5719723		
	0	0.67	-16.13657901	123.3273312		
	1	0.67	-16.39385103	124.1987159		
	0	0.67	-16.26099178	123.5538058		
	0	0.67	-16.19406288	123.4816219		
	0	0.66	-16.36175865	123.5947322		
BIGNELL ISLAND	0	0.66	-14.49275557	125.9272902		
	0	0.66	-16.57835419	123.5360154		
	1	0.66	-16.31871673	123.8067417		
	0	0.66	-14.55076337	125.1076792		
	0	0.66	-16.52145506	123.3813978		
	0	0.66	-14.28295732	125.7322838		
	0	0.65	-15.11177365	125.1436156		
	0	0.65	-15.34161132	124.7471038		
	0	0.65	-15.43712552	124.9997603		
	0	0.65	-16.1432824	123.3207531		
	0	0.65	-15.06599121	128.1490921		
	0	0.65	-14.456412	125.2156977		
	0	0.65	-16.10339796	123.4495253		
	0	0.65	-14.52983044	125.1451153		
	0	0.64	-15.36238449	124.3062007		
	0	0.64	-16.40577889	123.4641372		
	0	0.64	-13.97342494	126.8298544		
	0	0.64	-16.5766497	123.3803178		
	0	0.64	-14.49443172	125.5032332		
	0	0.64	-15.03029927	124.6032162		
	0	0.63	-14.84604473	125.1747811		
	0	0.63	-16.42529538	123.0895578		
	0	0.63	-14.95434291	125.2073495		
VICKERY ISLAND	0	0.63	-16.48436203	123.347454		
	0	0.63	-14.11989281	127.5749291		
	0	0.63	-16.29906981	123.4931372		
	0	0.62	-16.05321771	123.3738235		
	1	0.62	-15.78038809	124.7052469		
	0	0.62	-16.31633418	123.8570455		
	0	0.62	-13.78561895	127.0152419		
	0	0.62	-13.94623902	126.320357		
	0	0.62	-16.38544268	123.3026429		
	0	0.62	-14.17003829	125.6696816		
	0	0.62	-16.33506679	124.2017305		
	0	0.62	-16.92556117	123.1506151		
	0	0.61	-14.44851702	125.7191673		
	0	0.61	-16.05159901	123.5612684		
HOWARD ISLAND	0	0.61	-16.38641513	123.069552		
	0	0.61	-16.26915133	123.5677786		
	1	0.61	-13.94109718	126.863882		
	0	0.61	-15.05956896	128.1525901		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
	0	0.61	-13.96913518	126.3449817		
	0	0.61	-14.52636159	125.5801057		
	0	0.61	-15.52244342	123.158379		
	0	0.60	-14.4576241	125.1466775		
	0	0.60	-15.46049856	125.0748516		
	0	0.60	-16.06929028	123.9389032		
	1	0.60	-14.67470779	125.3315658		
	0	0.60	-14.64411988	125.0871832		
	0	0.59	-16.10411664	123.4421123		
	0	0.59	-16.15483114	123.6647469		
	0	0.59	-15.13100096	125.1744022		
	0	0.59	-16.46062255	123.3425365		
	0	0.59	-15.93328677	124.2091914		
	0	0.59	-14.5283587	125.1438807		
	0	0.59	-14.22008728	126.5895731		
	0	0.58	-15.10049133	125.1648349		
	0	0.58	-14.06533364	127.5190038		
	0	0.58	-16.13900921	123.3291794		
	0	0.58	-16.17807751	123.4177409		
	0	0.58	-15.06963214	128.1504945		
	0	0.58	-14.16044272	126.2432988		
	1	0.58	-16.20987591	124.5291116		
	0	0.58	-14.82075185	125.178593		
	0	0.58	-15.30421055	124.2576771		
	0	0.57	-15.8804246	124.4546568		
	0	0.57	-14.58048778	125.28035		
	1	0.57	-15.56016293	125.2135523		
	0	0.57	-16.36557507	123.4269101		
	0	0.57	-14.56780875	125.3866575		
	0	0.57	-14.51241863	125.4973747		
	0	0.57	-14.48754758	125.4991916		
	0	0.57	-16.36637786	123.479538		
	0	0.57	-14.7735231	125.0171365		
	0	0.57	-16.09554248	123.4367402		
	0	0.57	-14.66780786	125.1288403		
	0	0.56	-14.62848414	125.1877485		
	1	0.56	-15.80806348	124.7704904		
	0	0.56	-14.53018654	125.358266		
	0	0.56	-15.13479742	125.1480395		
	0	0.55	-16.14993757	123.4698057		
	0	0.55	-16.39541587	123.324394		
	1	0.55	-15.97869326	124.6022281		
	0	0.55	-14.213297	126.0306983		
	0	0.55	-16.27676369	123.8185392		
	0	0.55	-14.83613948	125.1736274		
	0	0.55	-14.17353176	125.6676283		
	0	0.55	-16.34965994	123.4114419		
	1	0.55	-15.79764576	124.7793022		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
	0	0.54	-14.46537884	125.2088359		
	0	0.54	-14.99268641	125.273511		
	0	0.54	-14.35816644	125.7199909		
	0	0.54	-13.8836742	126.5855344		
	0	0.54	-14.62903665	125.1703551		
	0	0.54	-15.06515707	128.1477771		
	0	0.54	-14.64868209	125.1608151		
	1	0.53	-14.64701892	125.2629862		
	0	0.53	-16.16438579	123.3536602		
	0	0.53	-14.9195481	125.1397742		
	0	0.53	-14.3928314	125.2524848		
	0	0.53	-16.17091756	123.3491709		
	0	0.53	-13.97690107	126.8923073		
	0	0.53	-15.88575164	124.4517525		
	0	0.53	-14.16847043	125.6681546		
	0	0.53	-16.57733066	123.5726601		
	0	0.53	-14.91748303	125.2312291		
	0	0.52	-16.4053639	123.2018964		
	0	0.52	-14.56995342	128.0119714		
	0	0.52	-14.39066954	125.9794496		
	0	0.52	-14.29858757	125.72595		
	0	0.52	-16.3022288	123.3067983		
	0	0.52	-14.58000514	125.3641505		
	0	0.52	-14.45512465	125.2179369		
	0	0.52	-16.32231991	123.3219935		
	0	0.52	-15.14204729	128.1216755		
	1	0.52	-14.98758777	125.2807662		
	0	0.52	-13.95217595	127.4294421		
	0	0.51	-16.26731725	123.7764363		
	0	0.51	-16.4098302	124.3401705		
	0	0.51	-14.80038597	128.4606423		
	0	0.51	-14.53155797	125.4408094		
	0	0.51	-16.13029468	123.4081533		
	1	0.51	-13.94044849	126.8645238		
	0	0.51	-16.33835877	123.4261645		
	0	0.51	-14.43073518	125.7527579		
	0	0.50	-13.97969986	126.870872		
	1	0.50	-16.29416861	124.0238427		
	0	0.50	-16.27372358	123.4245931		
	0	0.50	-14.7757409	128.552095		
	0	0.50	-16.40249794	123.2067459		
	0	0.50	-14.13433518	126.2052776		
	0	0.50	-16.27904879	123.461736		
	0	0.50	-14.13626867	126.2087133		
	0	0.50	-14.21591477	126.0295368		
	0	0.50	-14.3292873	125.9270279		
	0	0.50	-14.24035223	126.0695059		
	0	0.49	-14.52768514	125.5796619		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
ADVANCE ISLAND	0	0.49	-16.15398864	123.9313773		
	1	0.49	-15.20991836	125.3875083		
	1	0.49	-16.40707681	123.6881652		
	0	0.49	-14.5257566	125.1470434		
	0	0.49	-16.43054177	123.1653826		
	0	0.49	-16.42441793	123.0961454		
	0	0.49	-16.12182334	123.6175369		
	0	0.49	-16.19173674	123.5345645		
	0	0.49	-16.11955308	123.4529265		
	0	0.49	-14.91674955	125.2493047		
	0	0.49	-16.26847382	123.5075388		
	0	0.49	-15.37458078	124.9202933		
	0	0.49	-13.95597469	127.1324386		
	0	0.49	-16.14760018	123.7179523		
	0	0.48	-16.33349862	123.5674212		
	0	0.48	-14.98872099	125.2795087		
	0	0.48	-16.18413528	123.8836205		
	0	0.48	-16.06962529	123.392306		
	0	0.48	-16.19585901	123.5390241		
	0	0.48	-16.1207343	123.6339242		
	0	0.48	-14.3493655	125.9973493		
	0	0.47	-16.27140071	123.7631935		
	0	0.47	-14.56453948	125.557218		
	0	0.47	-15.1108823	125.1429385		
	0	0.47	-16.01065267	124.0167918		
	0	0.47	-16.30238827	123.3038528		
	0	0.47	-14.15917698	126.2324251		
	0	0.47	-16.32396513	124.3853016		
	0	0.47	-14.8495463	125.1834836		
	0	0.47	-15.97207425	124.4784892		
	0	0.47	-14.53243732	125.9379308		
	0	0.47	-14.98955034	125.2513048		
	0	0.47	-16.2408099	124.0217207		
	0	0.47	-14.64349363	125.1573283		
	0	0.47	-14.29794566	125.7255356		
	0	0.46	-16.1471766	123.3295912		
	1	0.46	-15.7685728	124.7115432		
	0	0.46	-13.93997889	126.8423057		
	0	0.46	-16.40046751	123.2088601		
	0	0.46	-16.3597429	123.4069629		
	0	0.46	-14.42943391	125.500209		
	0	0.46	-14.44763591	125.7688328		
	0	0.46	-15.31090719	124.8142671		
	1	0.46	-16.1992331	123.7987667		
	0	0.46	-16.35980228	123.4054453		
	0	0.46	-16.28914547	123.4573754		
	0	0.46	-16.42452275	123.192607		
	0	0.45	-14.23091397	125.8409107		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
	0	0.45	-14.43002762	125.7518828		
	0	0.45	-16.15500518	123.3136459		
	0	0.45	-15.4595676	124.6524312		
	0	0.45	-14.15074567	126.645604		
	0	0.45	-16.2417712	123.8813512		
	0	0.45	-16.20562196	123.5526242		
	0	0.45	-14.4575621	125.1496569		
	0	0.45	-16.32196373	123.3132647		
	0	0.45	-16.22212272	123.4387789		
	0	0.45	-16.30499251	123.3238399		
	0	0.44	-16.33187438	123.6228995		
	0	0.44	-16.44496195	123.5359152		
	0	0.44	-16.16998808	123.4167131		
	0	0.44	-14.59415811	125.0963201		
	1	0.44	-16.19156045	124.5413462		
	0	0.44	-16.36897776	124.3584679		
	0	0.44	-14.45636344	125.1904457		
	0	0.44	-16.25706949	123.5458944		
	0	0.44	-14.48985537	125.2110891		
	0	0.44	-16.12368782	123.380048		
	0	0.44	-14.33410543	125.318414		
	0	0.43	-14.20037615	126.1344386		
	0	0.43	-16.40540572	123.1420246		
	0	0.43	-14.07297267	127.5253242		
	0	0.43	-17.23778156	122.1988309		
	0	0.43	-14.60947683	125.414924		
	0	0.42	-16.17872279	123.8843928		
	0	0.42	-15.07836563	124.7207389		
	0	0.42	-16.10285581	124.0923163		
	0	0.42	-14.57046364	125.3986936		
	1	0.42	-16.77272458	122.5704341		
	0	0.42	-16.1444002	123.7336992		
	0	0.41	-16.42529319	123.094776		
	0	0.41	-16.03551986	123.2916454		
	0	0.41	-14.53881759	125.1411954		
	0	0.41	-16.20731316	123.8981615		
	1	0.41	-15.33510705	124.9087594		
	0	0.41	-14.64991878	125.0328424		
	1	0.41	-16.1812703	123.6046792		
	0	0.41	-13.9282111	126.8311706		
	0	0.41	-16.26978611	123.561438		
	1	0.41	-18.71354485	121.6504447		
	0	0.41	-15.49030784	124.6747462		
	0	0.41	-16.37416848	123.4830324		
	0	0.41	-16.27879361	123.4422444		
	0	0.41	-16.05226502	123.3700933		
	0	0.40	-16.6527681	123.049459		
	0	0.40	-14.35436182	126.0504632		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
	0	0.40	-16.17230898	123.350395		
	0	0.40	-16.41030381	123.6469443		
	0	0.40	-16.14548511	123.7479311		
MONGE ISLAND	0	0.40	-14.19674467	125.6075407		
	0	0.40	-16.24122917	124.0165977		
	0	0.40	-16.03171761	123.3397984		
	0	0.40	-14.22895432	126.2930054		
	0	0.40	-16.37981556	123.6163338		
	0	0.40	-16.30456582	123.299534		
	0	0.39	-16.13948583	124.080711		
	0	0.39	-14.61284188	125.4136723		
	0	0.39	-16.18929998	123.4775297		
	0	0.39	-16.48406963	123.0051158		
	0	0.38	-14.21167155	126.0288168		
	0	0.38	-16.18941983	123.8861498		
	1	0.38	-16.41072466	123.9785352		
	0	0.38	-14.29715967	125.7246934		
	0	0.38	-16.61259024	123.5137891		
	0	0.38	-15.05199852	128.1426283		
	0	0.38	-14.2338724	125.61023		
	0	0.38	-14.91762976	125.1531977		
	0	0.38	-14.12368388	127.5708578		
	0	0.37	-15.49102446	124.6753721		
	0	0.37	-16.38694676	123.3127057		
	0	0.37	-14.39046478	125.4100427		
	0	0.37	-16.45135738	123.4037499		
	0	0.37	-13.81134105	127.040455		
	1	0.37	-16.28808685	123.9971762		
	0	0.37	-16.21959912	123.4409234		
	0	0.37	-14.26610162	125.6706306		
	1	0.37	-16.3986799	124.0188573		
	0	0.37	-14.643881	125.2984042		
	0	0.37	-16.35050885	123.6458123		
	0	0.37	-16.3644321	123.2099896		
	0	0.37	-14.16314938	126.2359405		
	0	0.37	-14.64744353	125.1661211		
	1	0.37	-14.98113667	125.2493287		
	0	0.37	-16.17500449	124.420323		
	0	0.37	-15.20532345	124.9424832		
	0	0.36	-16.28774318	123.4504715		
	0	0.36	-16.24130447	124.0076147		
	0	0.36	-14.64482598	125.0597045		
	0	0.36	-14.39648856	125.2492049		
	0	0.36	-16.39290965	123.314297		Clarke Islands
	0	0.36	-13.955837	126.7018043		
	0	0.36	-14.07231265	127.5249426		
	0	0.36	-14.59089274	125.3601206		
	1	0.36	-14.291843	126.0704092		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
	0	0.36	-14.41981074	125.681122		
	0	0.36	-16.1939593	123.4468921		
	0	0.36	-14.33142509	125.7271771		
	0	0.36	-16.33422227	123.8704835		
	1	0.36	-14.85477119	125.2086802		
	0	0.36	-14.91960603	125.1289461		
	0	0.36	-16.62914456	123.53019		
	0	0.36	-16.15058665	123.3490765		
	0	0.36	-16.45374094	123.4006639		
	0	0.35	-14.20353069	125.6071626		
	0	0.35	-14.23376032	126.109593		
	0	0.35	-14.19970643	126.3184644		
	0	0.35	-16.14279277	123.7317111		
	0	0.35	-16.19399178	123.4434746		
	0	0.35	-16.57303207	123.3136677		
	0	0.35	-14.85368436	128.7862111		
	1	0.35	-16.40737642	123.9746228		
	1	0.34	-16.48599821	124.469815		
	0	0.34	-14.59590031	125.3555715		
	0	0.34	-16.34567484	123.4154593		
	0	0.34	-16.39662805	123.3295779		
	0	0.34	-14.23239782	126.2982551		
	0	0.34	-16.45093729	123.4020927		
	0	0.34	-16.05930345	123.4081731		
	0	0.34	-14.52975246	125.3593126		
	0	0.34	-13.94075074	126.8427868		
	0	0.34	-15.98482709	123.5403893		
	0	0.34	-16.28723091	123.4168118		
	0	0.34	-16.30904732	123.864543		
	0	0.34	-16.39056144	124.2395544		
	0	0.34	-15.93433298	124.5058893		
	0	0.33	-16.10139183	124.4801027		
	0	0.33	-16.25911271	123.7730761		
	0	0.33	-14.21736847	126.227532		
	0	0.33	-14.85908559	125.2358323		
	1	0.33	-18.72627874	121.6870805		
	1	0.33	-16.2307896	123.9166814		
	0	0.33	-13.90543552	126.5920627		
	0	0.33	-14.97984699	125.2073969		
	0	0.33	-16.19326412	123.4748379		
	0	0.33	-16.34620787	123.8955647		
	0	0.33	-16.42775237	123.0998433		
	0	0.33	-14.85769764	128.7969077		
	0	0.33	-16.19792926	123.5256797		
	0	0.33	-16.46068863	123.3405857		
	0	0.33	-15.02741418	125.1546647		
	0	0.33	-16.14497902	123.3216858		
	0	0.33	-14.02396885	126.1146708		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
	0	0.33	-15.35912559	124.3174149		
	0	0.33	-14.91779882	125.2056667		
	0	0.32	-14.50776563	125.5062005		
	0	0.32	-14.57645951	125.3699747		
	0	0.32	-14.45247842	125.1914253		
	0	0.32	-16.05909459	123.4070212		
	0	0.32	-14.46123708	125.1989087		
	0	0.32	-14.86839679	125.2636158		
	0	0.32	-16.03057375	123.3211166		
	0	0.32	-16.43450541	123.2131473		
	0	0.32	-16.36342271	123.2016132		
	0	0.32	-14.20722087	126.0328963		
	1	0.32	-14.86221654	125.2898025		
	0	0.32	-15.05612823	128.1453545		
	0	0.32	-16.18583618	123.5239142		
	0	0.32	-14.64657911	125.1722316		
	0	0.32	-14.19288999	125.8248446		
	0	0.32	-14.45627029	125.1846746		
	0	0.32	-15.1217612	125.1743625		
	0	0.31	-16.03845442	123.5574054		
	0	0.31	-16.45002507	123.3494994		
	0	0.31	-16.26152673	123.555167		
	1	0.31	-15.50058143	125.1571321		
	0	0.31	-14.51357313	125.957717		
	0	0.31	-16.42968956	123.1640422		
	0	0.31	-16.16492541	124.0676046		
	0	0.31	-14.84245791	125.1748858		
	0	0.31	-16.21147636	123.8209875		
	0	0.31	-16.33160858	123.5472976		
	0	0.31	-14.01348822	126.0240911		
	0	0.31	-15.34163836	124.3364996		
	0	0.31	-14.81182936	128.7111804		
	0	0.31	-15.01514067	124.6023705		
	0	0.31	-16.40231782	123.6683947		
	1	0.31	-16.33000647	123.8451751		
	0	0.30	-14.58961376	125.3603744		
	0	0.30	-14.85194332	125.1847204		
	0	0.30	-15.20720841	124.7003741		
	0	0.30	-14.83243583	125.1799432		
	0	0.30	-14.19836392	126.1358862		
	0	0.30	-15.11787093	125.1799745		
	0	0.30	-14.5685837	125.0936313		
	0	0.30	-16.45011273	123.1330226		
	0	0.30	-18.70813382	121.6291924		
	1	0.30	-16.35293896	123.7073003		
	0	0.30	-16.38749623	123.4695644		
	0	0.30	-15.01784834	124.6006877		
	0	0.30	-14.87574905	128.9832004		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
	0	0.30	-16.13666256	123.3005373		
	0	0.30	-16.44681497	123.5441762		
	0	0.30	-14.58812065	125.3603455		
	0	0.30	-14.31987691	125.7241918		
	0	0.30	-14.46220198	125.2044311		
	0	0.30	-14.58613088	125.2779555		
	0	0.29	-16.33827563	123.6208406		
	0	0.29	-16.33755613	124.204216		
	0	0.29	-16.34310463	123.890202		
	0	0.29	-14.4925616	125.3772711		
	0	0.29	-14.6417675	125.0941067		
	1	0.29	-16.63895279	123.5440973		
	0	0.29	-16.01045362	124.0006004		
	0	0.29	-14.4061958	125.4129421		
	1	0.29	-14.97319872	125.2453526		
	1	0.29	-16.24799515	123.9446002		
	0	0.29	-16.28706623	123.4149697		
	0	0.29	-16.30392018	123.3146866		
	1	0.29	-16.39204254	124.4440911		
	0	0.29	-16.39281638	123.3204465		
	0	0.29	-14.46849095	125.1928156		
	0	0.29	-14.54718603	125.9062132		
	0	0.29	-16.06418866	123.546678		
	0	0.29	-15.14716028	128.13606		
	0	0.29	-14.64655124	125.1729268		
	0	0.29	-16.1677386	123.5271139		
	0	0.28	-16.32758016	123.8847499		
	0	0.28	-16.15789848	123.3206158		
	1	0.28	-16.40945261	123.9812841		
	0	0.28	-16.18777656	123.5268667		
	0	0.28	-16.40639073	123.6769506		
	0	0.28	-16.48039874	123.0438331		
	0	0.28	-16.25805556	124.096691		
	0	0.28	-14.53375164	125.9391803		
	0	0.28	-16.23468715	123.8143152		
	0	0.28	-16.49711214	123.3661174		
	0	0.28	-13.94201158	127.1892541		
	0	0.28	-16.51019306	123.6120391		
	0	0.28	-14.49054206	125.3789398		
	0	0.28	-16.38921015	123.1310644		
	0	0.27	-15.50744702	124.6269165		
	0	0.27	-16.38121683	123.4006827		
	0	0.27	-14.51162523	125.5384993		
	0	0.27	-15.31009329	124.8166813		
	0	0.27	-14.34029979	125.9843173		
	1	0.27	-14.98568539	125.2795695		
	0	0.27	-16.57797513	123.3153923		
	0	0.27	-16.08833982	124.0721389		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
	0	0.27	-14.63693011	125.1588138		
	0	0.27	-14.15970187	125.6573902		
	1	0.27	-16.28854924	123.9956848		
	0	0.27	-14.20593389	125.6100209		
	0	0.27	-16.49199612	123.4022894		
	0	0.26	-16.40072671	123.0558888		
	0	0.26	-16.61154718	123.5389966		
	0	0.26	-16.42077019	123.1014683		
	0	0.26	-16.43915288	123.1100985		
	0	0.26	-14.47582749	125.197874		
	0	0.26	-13.89752472	126.5652824		
	0	0.26	-14.41834274	125.6845919		
	0	0.26	-16.26070154	124.395741		
	0	0.26	-14.64549632	125.1539278		
	0	0.26	-16.35991711	123.4152228		
	0	0.26	-14.49798615	125.497979		
	1	0.25	-16.19408128	124.5419261		
	0	0.25	-14.50014098	125.4942656		
	0	0.25	-16.37034243	123.3787341		
	0	0.25	-14.86832794	125.2177615		
	0	0.25	-15.08264744	125.3458403		
	0	0.25	-16.27351478	123.7671529		
	0	0.25	-14.47005812	125.1946266		
	0	0.25	-14.85668708	125.1857091		
	0	0.25	-16.04063493	123.305306		
	0	0.25	-16.58603804	123.3181795		
	0	0.25	-14.16791489	126.1928603		
	0	0.25	-14.10453463	125.692726		
	0	0.24	-16.29792948	123.9172979		
	0	0.24	-15.45487241	124.6106656		
	0	0.24	-15.98554832	124.4751872		
	0	0.24	-16.12369814	123.3748		
	0	0.24	-16.14515277	123.7978044		
	0	0.24	-14.56726524	125.3247662		
	0	0.24	-16.9264885	123.1494658		
	0	0.24	-16.56018604	123.348776		
	0	0.24	-16.38929325	123.9506652		
WHIRL ISLAND	0	0.24	-16.43353162	123.1301545		
	0	0.24	-14.59293585	125.0960494		
	0	0.24	-16.2875195	123.8269251		
	0	0.24	-13.98503025	126.3517434		
	0	0.24	-14.34661482	126.0552727		
	0	0.24	-14.53862431	125.1347796		
	0	0.24	-16.45786782	123.0591454		
	0	0.24	-16.10765121	123.696148		
	0	0.23	-16.45981193	124.3331354		
	0	0.23	-16.25782999	124.0890861		
	0	0.23	-16.2982162	124.2008085		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
	0	0.23	-16.49452121	123.3712196		
	0	0.23	-16.1939839	123.8695668		
	0	0.23	-16.61420325	123.5080559		
	0	0.23	-14.52498742	125.5792494		
	0	0.23	-14.86468463	125.1860766		
	0	0.23	-14.19544461	126.1384758		
	0	0.23	-16.34175898	123.4100731		
	0	0.23	-15.96304295	123.6913154		
	0	0.23	-14.64591379	125.1536745		
	0	0.23	-14.89886835	125.2254036		
	0	0.23	-15.68995229	124.3858173		
	0	0.23	-16.29370048	123.4791084		
	0	0.23	-16.401932	123.222206		
	0	0.23	-14.52281901	124.92763		
	0	0.23	-14.58686024	125.3617334		
	0	0.23	-14.20472242	126.5841067		
	0	0.23	-14.17776896	126.5678617		
	0	0.22	-16.19207841	123.9633712		
	0	0.22	-16.41534136	123.0857499		
	0	0.22	-14.86959187	125.207408		
	0	0.22	-14.20645484	125.6096054		
	0	0.22	-15.12467106	124.5114918		
	0	0.22	-13.7849229	126.5767423		
	0	0.22	-15.47921592	124.6759715		
	0	0.22	-16.34484189	123.4179662		
	0	0.22	-15.97447594	123.6890882		
	0	0.22	-16.33950848	124.2028992		
	0	0.22	-16.42814096	123.0824571		
	0	0.22	-16.03919109	123.346449		
	0	0.22	-14.17873102	125.6768503		
	0	0.22	-16.53288673	123.0101167		
	0	0.22	-14.47675486	125.1986395		
	0	0.21	-14.16492176	126.1874429		
	0	0.21	-16.27767448	123.8657505		
	0	0.21	-14.56252206	125.4168524		
	0	0.21	-16.52688528	123.4296582		
	0	0.21	-16.57461021	123.3582025		
	0	0.21	-15.13160228	125.1814218		
	0	0.21	-14.56431361	125.4182546		
	0	0.21	-16.57341396	123.3156261		
	0	0.21	-13.90647174	127.1328592		
	0	0.21	-16.40345139	123.4830628		
	0	0.21	-14.09034289	125.7245653		
	0	0.21	-16.42653324	123.194681		
	0	0.21	-16.40177343	123.0598554		
	0	0.21	-16.39313105	123.315145		
	0	0.21	-16.36705073	123.2167916		
	0	0.21	-15.1203815	125.1774816		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
	0	0.21	-14.91903197	125.1402269		
	0	0.20	-16.39565851	124.2725429		
	0	0.20	-16.46133159	124.3927365		
	0	0.20	-16.14688221	123.5829709		
	0	0.20	-16.12969657	123.7898758		
	0	0.20	-16.3274456	123.8643288		
	0	0.20	-16.31303204	123.8654142		
	0	0.20	-16.33310586	123.5632543		
	0	0.20	-16.15796508	123.6214049		
	0	0.20	-14.16342901	126.2390935		
	0	0.20	-16.41847683	123.1963517		
	0	0.20	-16.22774517	123.4493173		
	0	0.20	-16.50001984	123.4012605		
	0	0.20	-16.04949128	123.4248758		
	0	0.20	-16.18826386	123.8188019		
	0	0.20	-16.23608633	123.4655905		
	0	0.20	-15.11799776	125.1702083		
	0	0.20	-14.20641318	126.5850547		
	1	0.19	-15.82030248	124.7567309		
	1	0.19	-14.63914285	125.448667		
	0	0.19	-16.16490749	123.6497705		
	0	0.19	-16.44912849	123.1319295		
	0	0.19	-16.73749004	123.6491093		
	0	0.19	-16.20502293	123.8759879		
	0	0.19	-16.50331899	123.413508		
	0	0.19	-14.41179162	125.2401524		
	0	0.19	-15.12120583	125.1974207		
	0	0.19	-16.16114284	124.0950757		
	0	0.19	-16.14325405	123.7493504		
	0	0.19	-16.24071786	123.4758205		
	0	0.19	-14.85861005	125.2363867		
	0	0.19	-14.48334499	127.8860523		
	0	0.19	-16.13151953	123.2938422		
	0	0.19	-14.91707386	125.1358116		
	0	0.19	-14.45566665	125.5105864		
	0	0.19	-16.19843813	123.8118135		
	0	0.19	-16.1184856	123.4489617		
	0	0.19	-14.05033952	126.3862163		
	0	0.19	-14.52560196	125.3319392		
	0	0.18	-16.38600262	123.1390216		
	0	0.18	-15.2245105	124.539656		
	0	0.18	-16.56721157	123.3492788		
	0	0.18	-14.94912518	125.1934294		
	0	0.18	-16.21770775	123.4377551		
	0	0.18	-16.1690775	123.8038309		
	0	0.18	-16.39579117	123.9691025		
	0	0.18	-16.05154119	123.4238153		
	0	0.18	-14.51145587	125.498197		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
	0	0.18	-16.09482027	124.0735889		
	0	0.18	-16.12425998	123.3805239		
	0	0.18	-14.16694168	126.2376675		
	0	0.18	-16.16366627	123.699213		
	1	0.18	-16.23244926	123.9269715		
	0	0.18	-14.98111187	125.2636618		
	0	0.18	-15.13700978	124.4946553		
	0	0.18	-16.13911297	123.4615692		
	0	0.18	-16.42026242	123.1663583		
	0	0.18	-16.12266966	123.3687879		
	0	0.18	-16.60335678	123.3858808		
	0	0.18	-16.29958649	123.4918488		
	0	0.18	-16.156584	123.6336061		
	0	0.17	-16.61585093	123.5336119		
	0	0.17	-14.84026479	125.1761993		
	0	0.17	-16.59866865	123.5358436		
	0	0.17	-14.49784559	125.4939693		
	0	0.17	-16.20749712	123.8407604		
	0	0.17	-16.5014432	123.4439536		
	0	0.17	-15.49248126	125.1305624		
	0	0.17	-15.2343539	124.9183905		
	0	0.17	-14.51063667	125.5282467		
	0	0.17	-16.12971797	123.4668294		
	0	0.17	-16.35320292	123.4019789		
	0	0.17	-14.51282854	125.9581797		
	0	0.16	-16.16775785	123.7039401		
	0	0.16	-16.18860795	123.4797429		
	0	0.16	-17.05085992	122.3280318		
	1	0.16	-16.4091692	123.9817454		
	0	0.16	-14.23672691	126.3007379		
	0	0.16	-16.28729354	123.4141839		
	0	0.16	-16.61263059	123.5393607		
	0	0.16	-16.46833165	123.4475042		
	0	0.16	-16.13612199	123.3000399		
	0	0.16	-16.19891032	123.8113916		
	0	0.16	-14.53285781	125.9371355		
	0	0.16	-16.13661537	123.7940861		
	0	0.16	-14.84187337	125.1693486		
	0	0.16	-16.14607307	123.3218982		
	1	0.16	-15.17388409	125.3334147		
	0	0.16	-16.07866106	123.580308		
	1	0.16	-16.38511025	124.1972549		
	0	0.16	-16.32715566	123.8637808		
	0	0.16	-14.47729834	125.2007878		
	0	0.16	-16.40348447	123.2106738		
	0	0.15	-16.53097353	123.0107232		
	0	0.15	-14.23346589	126.2991143		
	0	0.15	-16.22368729	123.8135597		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
	0	0.15	-16.30830535	124.3672791		
	0	0.15	-16.22914852	123.4552483		
	0	0.15	-16.15406114	123.4474265		
	0	0.15	-15.46407065	124.6542916		
	0	0.15	-16.35105499	123.4082798		
	0	0.15	-15.02842198	125.1561674		
	0	0.15	-16.48017749	123.0448916		
	0	0.15	-16.44830992	123.4025153		
	0	0.15	-16.06291775	123.5402192		
	0	0.15	-16.23318641	124.3769208		
	0	0.15	-16.49161598	123.6176188		
	0	0.15	-16.17649827	123.4194515		
	0	0.15	-14.71248647	128.2335391		
	0	0.15	-16.36480126	123.2109159		
	0	0.15	-16.35139979	123.6484083		
	0	0.15	-16.12993916	123.392277		
	1	0.15	-14.47519362	125.7593084		
	0	0.15	-16.37592099	123.3911905		
	0	0.15	-15.02058367	124.61735		
	0	0.14	-16.36692504	123.480519		
	0	0.14	-15.98573453	124.4758368		
	0	0.14	-16.35397823	123.5870744		
	0	0.14	-16.58977741	123.529059		
	0	0.14	-16.14647185	123.7985306		
	0	0.14	-14.83293824	125.180057		
	0	0.14	-16.44864181	123.1054146		
	0	0.14	-16.39693439	123.9700583		
	0	0.14	-14.52224755	124.9306216		
	0	0.14	-16.27413361	123.4475284		
	0	0.14	-16.51998214	123.0088875		
	0	0.14	-16.48101004	123.0475163		
	0	0.14	-15.52363971	123.1613267		
	1	0.14	-15.22122399	124.8680494		
	0	0.14	-16.61525142	123.040862		
	1	0.14	-16.25707806	123.746795		
	0	0.14	-16.23077133	124.378668		
	0	0.14	-14.86886187	125.2077264		
	0	0.14	-16.15470743	123.4617826		
	0	0.14	-16.1232855	123.3805549		
	0	0.14	-13.89056471	126.5907389		
	0	0.14	-16.36386022	123.4193506		
	0	0.13	-16.50217449	123.4177187		
	0	0.13	-16.39337515	124.2723206		
	0	0.13	-16.32999513	123.5592335		
	0	0.13	-16.27072536	123.8807475		
	0	0.13	-15.25378944	124.4122793		
	0	0.13	-13.89916981	126.3091089		
	1	0.13	-16.25740428	123.7487344		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
	0	0.13	-16.05654541	123.3443824		
	0	0.13	-16.1125187	123.6804745		
	0	0.13	-16.49314293	123.367397		
	0	0.13	-14.23379333	126.0854364		
	0	0.13	-16.26468718	124.1483063		
	0	0.13	-16.27072298	123.7646521		
	0	0.13	-14.47680303	125.1997194		
	0	0.13	-16.36904352	123.4844882		
	0	0.13	-14.83471184	125.1734469		
	0	0.13	-16.15520523	123.4623861		
	0	0.13	-14.86611246	125.2091426		
	1	0.13	-16.35264063	124.1871862		
	0	0.12	-14.15331752	126.2302406		
	0	0.12	-16.37801451	123.4088596		
	0	0.12	-14.75441575	125.1427307		
	0	0.12	-14.17703024	126.56771		
	0	0.12	-16.41917387	124.334445		
	0	0.12	-16.20920865	123.5425409		
	0	0.12	-16.13024457	123.2858659		
	0	0.12	-16.11140641	124.1000612		
	0	0.12	-16.16042837	123.3305065		
	0	0.12	-16.40438945	123.6366037		
	0	0.12	-16.45042868	123.3491151		
	0	0.12	-16.38628232	123.3063436		
	0	0.12	-16.31350266	123.3074109		
	0	0.12	-16.38428751	124.2602915		
	0	0.12	-16.4687268	123.4479389		
	0	0.12	-14.0643819	127.5119812		
	0	0.12	-16.34353818	123.4058272		
	0	0.12	-14.496308	125.3755381		
	0	0.12	-16.25371805	123.8414343		
	0	0.12	-16.44766233	123.1055139		
	0	0.12	-16.16559648	124.0678506		
	0	0.12	-15.11509829	125.1711179		
	1	0.11	-16.38491735	123.997011		
	0	0.11	-16.30721372	123.3187381		
	0	0.11	-16.13343498	123.3170682		
	0	0.11	-16.39001555	123.9512336		
	0	0.11	-16.24030058	123.5692641		
	0	0.11	-16.42049425	123.1029927		
	0	0.11	-14.14530733	126.2363089		
	0	0.11	-16.42138887	123.6023409		
	0	0.11	-16.15986207	123.3282081		
	0	0.11	-16.4503737	123.4021244		
	0	0.11	-16.13881579	123.794914		
	0	0.11	-16.5743365	123.3149884		
	0	0.11	-14.78110791	125.1852436		
	0	0.11	-16.39365637	123.0649272		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
	0	0.11	-16.22821685	124.1135628		
	0	0.11	-15.223187	124.7257054		
	0	0.11	-16.47541602	123.6068122		
	0	0.11	-16.45716674	123.3407789		
	0	0.11	-14.71216068	128.2320816		
	0	0.11	-14.53058323	125.4121172		
	0	0.11	-16.16034201	123.5336547		
	0	0.10	-16.55494044	123.3533433		
	1	0.10	-16.30049133	124.0019666		
	0	0.10	-14.4944345	125.9266573		
	0	0.10	-16.25138271	123.9732543		
	0	0.10	-13.88890842	126.6053011		
	0	0.10	-13.89452802	126.5988488		
	0	0.10	-15.51855424	123.1576591		
	0	0.10	-16.08193339	123.520746		
	0	0.10	-16.16571963	123.6987706		
	0	0.10	-16.19248622	123.4448234		
	0	0.10	-16.12221544	123.3670527		
	0	0.10	-16.19298915	123.5406331		
	0	0.10	-16.33921901	124.2013097		
	0	0.10	-16.49569957	123.3804251		
	0	0.10	-16.19202681	123.5393742		
	0	0.10	-16.49030406	123.5988909		
	0	0.09	-16.49120911	123.5995335		
	0	0.09	-14.49699261	125.4938084		
	0	0.09	-15.12026919	125.1722764		
	0	0.09	-16.3308161	123.5590529		
	0	0.09	-16.18977678	123.4799984		
	0	0.09	-14.53452169	125.9402069		
	0	0.09	-16.28102737	123.415325		
	0	0.09	-16.36053509	123.4168933		
	0	0.09	-16.13049109	123.46748		
	0	0.09	-16.20296132	123.8119703		
	0	0.09	-16.26420969	123.5765651		
	0	0.09	-15.35522621	124.3046146		
	0	0.09	-16.35820522	123.3897656		
	0	0.09	-14.84940564	125.1841041		
	0	0.09	-16.17987328	123.8118727		
	1	0.08	-16.638395	123.5399042		
	0	0.08	-16.60280127	123.3862684		
	0	0.08	-14.84870655	125.1853936		
	0	0.08	-14.82027197	125.1805514		
	0	0.08	-16.3072727	123.3180426		
	0	0.08	-16.49182576	123.5999787		
	0	0.08	-16.39411871	123.0644163		
	0	0.08	-14.52446359	125.1444629		
	0	0.08	-16.39602608	123.2108152		
	0	0.08	-16.45038126	123.0911139		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
	0	0.08	-16.35115789	123.9694114		
	0	0.08	-16.42123663	123.0795126		
	0	0.08	-16.19836647	123.527406		
	0	0.08	-16.20330522	123.8748958		
	0	0.08	-16.27519437	123.7825947		
	0	0.08	-16.393382	123.320202		
	0	0.08	-16.36667433	123.4311393		
	0	0.08	-14.53369016	125.9399943		
	0	0.08	-16.50296167	123.4158108		
	0	0.08	-16.40516522	123.2224855		
	0	0.08	-16.35227428	123.4060783		
	0	0.08	-16.45014572	123.0904578		
	0	0.08	-16.11590543	123.4469747		
	0	0.07	-16.12992216	123.466068		
	0	0.07	-16.50565787	123.4193007		
	0	0.07	-16.26646727	123.7781035		
	0	0.07	-16.24552882	123.5469619		
	0	0.07	-16.56639923	123.5731489		
	0	0.07	-16.44228988	123.0830933		
	0	0.07	-14.84160831	125.1751505		
	1	0.07	-16.1541094	123.6906054		
	0	0.07	-16.53211248	123.3521031		
	0	0.07	-16.20066804	123.8393035		
	0	0.07	-16.079122	123.5804447		
	0	0.07	-16.42742791	124.3577058		
	0	0.07	-16.21843584	123.4443394		
	0	0.07	-16.21435847	123.5661836		
	0	0.07	-14.50945464	125.5281279		
	0	0.07	-16.34352497	123.4063606		
	0	0.07	-16.21844354	123.4436304		
	0	0.07	-16.62815476	123.5297492		
	0	0.07	-16.34922027	123.4124834		
	0	0.07	-16.36486954	123.4512625		
	0	0.07	-16.08248202	123.4004686		
	0	0.07	-16.12996757	123.3941494		
	0	0.06	-16.4939195	123.5867418		
	1	0.06	-16.14505929	123.7190272		
	0	0.06	-14.75651632	125.1430785		
	0	0.06	-16.15517661	123.6652993		
	0	0.06	-16.37140706	123.4800476		
	0	0.06	-16.2048941	123.4672972		
	0	0.06	-16.20375695	123.8729622		
	0	0.06	-14.83908448	125.1726381		
	0	0.06	-16.24557297	123.5706272		
	0	0.06	-16.5936142	123.3717369		
	0	0.06	-16.60921661	123.4567878		
	0	0.06	-16.22958431	123.869836		
	0	0.06	-16.07827608	123.5801722		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
	0	0.06	-16.40796375	123.633381		
	1	0.06	-15.79523909	124.7771362		
	0	0.06	-14.91915925	125.1409499		
	0	0.06	-16.19425322	123.5591271		
	0	0.06	-16.44179127	123.1221471		
	0	0.06	-16.1694841	123.8044085		
	0	0.06	-15.04863592	125.3303787		
	0	0.06	-16.39890224	123.1356953		
	0	0.06	-16.07865921	123.4463071		
	0	0.06	-16.26766395	123.8783681		
	0	0.05	-16.13384735	123.3173554		
	0	0.05	-16.13417691	123.7063925		
	0	0.05	-14.91623802	125.1350261		
	0	0.05	-16.49143964	123.606423		
	0	0.05	-16.30932155	123.2710027		
	0	0.05	-16.27375609	123.5639715		
	0	0.05	-16.38332973	123.1393225		
	0	0.05	-16.19012026	123.5319847		
	0	0.05	-14.71150654	128.2321524		
	0	0.05	-16.59411459	123.3724272		
	0	0.05	-16.44141767	123.082207		
	0	0.05	-14.92402008	125.1462767		
	0	0.05	-16.16409164	123.3542456		
	0	0.05	-16.2054889	123.4690203		
	0	0.05	-16.27023736	123.8794812		
	0	0.05	-16.60932445	123.4559999		
	0	0.05	-16.45101036	123.1326115		
	0	0.05	-16.19818778	123.5267729		
	0	0.05	-16.241495	124.0042037		
	1	0.05	-16.28690039	123.9934735		
	0	0.05	-16.36479815	123.4361642		
	0	0.05	-14.45547428	125.5456214		
	0	0.05	-16.497266	123.577166		
	0	0.05	-13.9422017	126.7135475		
	0	0.04	-14.8388704	125.1729379		
	0	0.04	-16.36761374	123.6007213		
	0	0.04	-16.04870845	123.5608753		
	0	0.04	-16.20360154	123.5416434		
	0	0.04	-16.28436941	123.7813589		
	0	0.04	-16.18298014	123.5902241		
	0	0.04	-16.30721627	123.8494055		
	0	0.04	-16.15405965	123.7248412		
	1	0.04	-16.22521611	123.5746299		
	0	0.04	-16.15407986	123.7132306		
	0	0.04	-16.42645703	123.0889145		
	0	0.04	-16.4505711	123.0884225		
	0	0.04	-16.59153248	123.3688794		
	0	0.04	-16.15446386	123.7247328		

NAME	OCEAN MASK	Hectares	Decimal Latitude	Decimal Longitude	Joined to mainland at low tide?	Comments
	0	0.04	-16.39833141	123.6249189		
	0	0.04	-16.14363651	123.7970907		
	0	0.04	-16.40604691	123.4668551		
	0	0.04	-16.30506925	123.3151562		
	0	0.04	-14.92003715	125.1434041		
	0	0.04	-16.55079131	123.3489407		
	0	0.04	-14.91891758	125.1380919		
	0	0.04	-16.34521015	123.4177248		
	0	0.04	-14.70927156	124.972098		
	0	0.04	-16.41997076	123.1023184		
	0	0.03	-16.45043545	123.0898899		
	0	0.03	-16.22082015	123.4413727		
	0	0.03	-16.17927756	123.5933545		
	0	0.03	-14.83954368	125.1729582		
	0	0.03	-16.34465457	123.4184961		
	0	0.03	-16.40266458	123.4803484		
	0	0.03	-16.20514448	123.4682177		
	0	0.03	-16.44177644	123.0821359		
	0	0.03	-16.45047437	123.0871985		
	0	0.03	-16.27542625	123.8104835		
	0	0.03	-14.91806339	125.1545505		
	1	0.03	-16.1447725	123.7185768		
	0	0.03	-16.59859508	123.5143523		
	0	0.03	-16.1380053	123.7945056		
	0	0.03	-16.38990383	123.166159		
	0	0.03	-16.1686765	123.4109042		
	0	0.03	-16.17781168	123.8844738		
	0	0.03	-16.42609739	123.0893207		
	0	0.03	-16.24121718	124.0042848		
	0	0.02	-14.91770368	125.1541746		
	0	0.02	-16.18772501	123.8181496		
	0	0.02	-14.92197882	125.1239768		
	1	0.02	-16.17642625	123.7406096		
	0	0.02	-16.59131857	123.3710872		
	0	0.02	-14.91711201	125.1381739		
	0	0.02	-13.9425592	126.7131489		
	0	0.02	-16.37477473	123.4836829		
	0	0.02	-16.21837547	123.4440029		
	0	0.02	-16.44540783	123.0865933		
	0	0.02	-16.14569495	123.7978252		
	0	0.02	-16.58188759	123.3605815		
	0	0.02	-16.38883123	123.1668738		
	0	0.02	-16.54080667	123.3591133		
	0	0.01	-16.47637369	123.6088325		
	0	0.01	-16.15352807	123.724196		
	0	0.01	-16.42725964	123.0888345		
	0	0.01	-16.21892	123.5480647		
	0	0.01	-16.18643028	123.8116036		

APPENDIX 2. Methods used in developing a list of Kimberley islands

Tom Hughson and Andrew Burbidge

The north Kimberley coast has extreme tides, with more than an 11 metre range in places, and is heavily incised with many embayments, mangrove forests, narrow valleys and tidal rivers. Developing a list of Kimberley islands was not straightforward as some of the many features that show up on maps and digital coastal/island boundaries are close to the coast and may appear to be joined to it by mangroves or tidal flats. Available topographic and digitised maps are often unclear about what 'an island' is and what intertidal areas are. A set of rules was therefore developed to guide decisions about what features were included or excluded from the list. The basis for developing the rules was to identify islands as places where most terrestrial organisms would not be able to move between the island and the adjacent mainland, i.e., where there would be no or very limited gene flow.

Where doubt existed about whether a feature was an island the following rules were observed.

1. Above high water mark land masses separated from the mainland by mangrove-lined channels which fill at high tide but are dry at low tide were considered islands, but noted in the database as being joined to the mainland at low tide.
2. Above high water mark land masses joined to the mainland by supra-tidal flats (or supra-littoral zone, ie, not normally submerged by ocean water, but sea water penetrates during extreme spring tides or storm surges) were not considered islands. Such areas include low-lying areas surrounded by mangroves that remain dry most of the time, even if lightly vegetated by salt-tolerant plants.
3. Mangrove patches surrounded by ocean but with no land above high water mark were not considered to be islands.

Datasets used for the geographic analysis

The principal data layer which was used to derive the estimates of island size, location and number was the layer titled 'Polygonised Coast of Western Australia'. Its description provided in the metadata statement is:

> *This dataset consists of polygons delineating the coastline of Western Australia and includes the mainland, islands, intertidal and subtidal waters out to the limit of Coastal Waters of the state. Polygons were derived from the best available High Water (HWM), Low Water (LWM) and Mean High Water Mark (MHWM) linework from the WA Department of Land Information (DLI) as at August 2006, unioned with the latest Australian Maritime Boundaries (AMB) WA Coastal Waters extent. Polygons are attributed as Mainland (landward of the mainland HWM), Island (landward of island HWMs), Intertidal (between HWM and LWM) or Subtidal (seaward of the LWM, out to the limit of Coastal Waters of the state).* (The Department of Environment and Conservation (DEC) is listed as the custodian of its own corporate dataset)

A subset of the above dataset was extracted which included only the polygons described as 'Islands'. Part of the verification process involved closely analysing the polygons which were potentially connected to the mainland by tidal flats and/or mangroves. Near-shore islands were selected from the islands sub-set for analysis using another layer in the DEC corporate dataset which is titled 'ocean-mask'. This layer is highly stylised and is probably more often used for map production than analysis, however the general extent of the layer was broadly suitable for this task.

The near shore islands were remotely assessed on a Geographic Information System using the rule set described above. Imagery utilised in the decision-making process included satellite imagery and aerial photography where this was available. A number of additions and deletions were made to the base dataset to derive the final estimate of islands. A geographical centroid was calculated and then (due to the large extent of the geographical analysis) the dataset was projected using GDA_1994_Australia_Albers to derive an area estimate.

(Note on accuracy of area estimates: - Area figures for the islands which are vested in the Conservation Commission are presented in the planning section of this report. These figures were derived from DEC's tenure information system (TENIS) and from Appendix 1 (complete list of Kimberley islands), which were calculated from the shape file as described above. There is notable variation in the areas figures listed for these vested islands. Most of the area figures in Appendix 1 are considered more accurate than those listed in TENIS, with a few less accurate. A reconciliation of these vested island land area figures would be of benefit to future planning.)

A list of named islands was provided by Landgate with geographical coordinates. This listing was analysed for accuracy, with some locations adjusted and names removed where the island was not judged to meet the developed rule set. The names were then spatially joined to the polygon dataset to produce the final island list used to estimate island size, location and number.

Other datasets used for the analysis were:

- AUSLIG 250 000 geo-referenced mapsheet images - Mosaiced georeferenced images of the 1:250 000 scale map series of Australia's national mapping organisation which are distributed by GeoScience Australia under the title of NATMAP RASTER 250K 2002 (Version 3, 30 July 2002) (created by GeoScience Australia).
- Western Australian Coastline - Western Australian generalised coastline as collected by the Digital Acquisition Program (DAP) and AUSLIG (created by DEC).

APPENDIX 3. Archipelagos and major island groups in the Kimberley

Summarised from information provided by Landgate.

Archipelago	Origin of name	Boundaries	Includes	Does not include
Buccaneer Archipelago	Named by Philip Parker King in 1821 to commemorate visit of William Dampier in 1688	Lies in the N.E. approach to King Sound and comprises about 200 islands	Four separate groups. Bedford Islands forms the SW corner of Buccaneer Archipelago (Australia Pilot Vol. 5 6th Edition) **1. North East Group** includes Macleay Islands, Conway Island, King Island, Macleay Island, Crabbe Island. **2. South East Group** includes McIntyre Island, Bathurst Island, Irvine Island, Flora Island, Kathleen Island, Wangania Island, Tanner Island, Cockatoo Island, Black Rock, Usborne Island. **3. West Group** of Buccaneer Archipelago comprises numerous islands of moderate size, many of them being connected by coral reefs - Caffarelli Island, Cleft Island, Barrett Rock, Fraser, Admiral, Bruen and King Hall islands and several smaller islands connected by a coral reef, Longitude Island, Powerful Island, Sir Frederick Island, Lord Island, Byron Island, Finch Islands, Gagg Islands, Hidden Island (the largest in the Buccaneer Archipelago), Bayliss Islands, Chambers Island, Dunvert Island, Packer Islands, Survey Island and Umida Island. **4. South West Group** includes Bedford Islands, Godsmark Island, Asshlyn Islands, Goat Island, Pope Island.	Islands south of Bedford Islands and Hidden Island, including High, Sunday, Mermaid, Long and nearby islands and islands in southern end of King Sound
Bonaparte Archipelago	Named by Thomas Nicholas Baudin in 1801 after	All the islands, islets and rocks lying off	Champagny Islands, Heywood Islands, Coronation Islands, Bigge Island, Albert Islands, Maret Islands,	Islands within St George Basin and Prince

	Napoleon Bonaparte	Montague Sound, York Sound and Brunswick Bay	Prudhoe Islands, Montalivet Islands, Institut Islands, Montesquieu Islands	Frederick Harbour.
Champagny Islands (part of Bonaparte Archipelago)	Named by Thomas Nicholas Baudin after Jean Baptiste Nompere de Champagny, duc de Cadore (1756-1834), French statesman and diplomat	Seaward of Heywood Islands	Champagny, Djarumu, Numanbu and Degerando	
Heywood Islands (part of Bonaparte Archipelago)	Named by Philip Parker King in August 1821 after Capt Heywood on H.M.S. 'Vulcan' who was in these waters in 1801	Between Champagny Islands and Augustus Island	Heywood Island, Jungulu Island, Darcy Island and several unnamed islands	Byam Martin Island
Coronation Islands (part of Bonaparte Archipelago)	Named by Philip Parker King “on the occasion of the anniversary of the late King's coronation" – 22 September 1820	Off Port Nelson	Fontaines, Gale, Mably, Coronation, Grey, Glauert, Desfontaines, Waring, Bernoulli, Wickham and the island group of Desaix Islands	
Institut Islands (part of Bonaparte Archipelago)	Named by Thomas Nicholas Baudin; individual islands named after members of the Academy Institute of Sciences in France. Solem Islands named in 1995 after Dr Alan Solem. Monesquieu Islands named after Charles de Secondat, baron de la Brede et de	Entrance to Admiralty Gulf	Montesquieu Islands, Kingsmill Islands	Osborn Islands

	Montesquieu (1689-1755), magistrate, man of letters, philosopher and a former Member of the French Academy of Sciences.			
Osborn Islands	Named by Philip Parker King in 1819 after Sir John Osborn, one of the Lords of the Admiralty. (Aboriginal name: Pelaga)	Western side of Admiralty Gulf	Borda Island, Carlia Island, Middle Osborn Island, South West Osborn Island, Kidney Island, Centre Rock, West Rock and North Rock	
Eclipse Islands	Named by Philip Parker King after an eclipse that took place on 2 October 1819 (Aboriginal name: Nganguru)	Entrance to Vansittart Bay		
Sir Graham Moore Islands	Named by Philip Parker King in 1819 after Sir Graham Moore, then holding a seat on the English Admiralty Board	Entrance to Napier Broome Bay	Sir Graham Moore Island, Scorpion Island	Governor Islands

APPENDIX 4. Kimberley islands annotated bibliography and notes on unpublished data

1. Kimberley islands published papers and reports

Burbidge, A.A. and McKenzie, N.L. (eds) (1978). The islands of the north-west Kimberley, Western Australia. Wildlife Research Bulletin Western Australia No. 7. Department of Fisheries and Wildlife, Perth.

Data on vascular flora and vertebrate fauna of islands visited in 1971, 1972 and 1973 by Department of Fisheries and Wildlife expeditions accompanied by staff from the WA Museum and WA Herbarium. Islands visited (with varying amounts of data) were: Adele, Augustus, Bat, Bigge, Boongaree, Borda, Browse, Byam Martin, Carlia, Champagny, Commerson, Coronation, East Montalivet, Fenelon, Heywood, Jungulu (as Darcy), Katers, Kingfisher, Louis, Low Rocks, Melomys, Middle Osborn, North Eclipse, Saint Andrew, Sir Graham Moore, South Maret, South West Osborn, Uwins and Wollaston.

Burbidge, A.A. and Morris, K.D. (2002). Introduced mammal eradications for nature conservation on Western Australian islands: a review. *In*: Veitch, C. R.; Clout, M. N. (eds) *Turning the tide: the eradication of invasive species*. Auckland, IUCN SSC Invasive Species Specialist Group, pp. 64-70.

Summarises feral animal eradications on Western Australian islands, including the Lacepede Islands.

Burbidge, A.A., Fuller, P.J., Lane J.A.K. and Moore, S.A. (1978). Counts of nesting boobies and Lesser Frigate-birds in Western Australia. *Emu* **87**, 128-9.

Includes data on brown boobies and lesser frigatebirds on Adele Island and Lacepede Islands.

CALM (1998). Marine turtle recovery plan for Western Australia. Draft. Department of Conservation and Land Management, Perth.

States that the following Kimberley islands have important rookeries:
Green Turtle: Lacepede Islands, Sandy Island (Scott Reef), Browse Island, Cassini Island.
Flatback Turtle: Helpman Island, Troughton Island.

Coate, K. (1997). Adele Island, Western Australia. Seabird Island Series No. 236. *Corella* **21**(3): 124-128.

Detailed information on seabirds of Adele Island.

Coate, K. (2004). Booby Island (formerly White Island), Kimberley Region, Western Australia. *Corella* **28**(4): 110-111. Seabird Island Series No. 248.

Detailed information on seabirds of Booby Island

Coate, K. (2006). Rose-crowned Fruit-dove on Maret Island - a new location and food source. *Western Australian Naturalist* **25**, 191.

Information on birds of the Maret Islands.

Coate, K. (2008). Birds of Naturalists Island, Kimberley, Western Australia. *Western Australian Naturalist* **26**, 73-84.

Comprehensive summary of the birds of Naturalists Island.

Coate, K. (2008). Pied Imperial Pigeon and Red-tailed Black Cockatoo commuting to the Coronation Islands, Kimberley, Western Australia. *Western Australian Naturalist* **26**, 216-217.

Information on birds of the Coronation Islands.

Coate, K. (2005). Kimberley bird sightings from 1962. Unpublished. Author, Perth.

Comprehensive information on the birds of many Kimberley islands. Summarised in Appendix 5.

Coate, K. (2009). Kimberley bird sightings from 2005. Unpublished. Author, Perth.

Comprehensive information on the birds of many Kimberley islands. Summarised in Appendix 5.

Coate, K., Done, C. and Willing, T. (2004). Sterna Island, Kimberley Region, Western Australia. Seabird Island Series No. 249. *Corella* **28**(4): 112-114.

Summarises information on seabirds of Sterna Island.

Coate, K.H., Smith, L.A. and Fontanini, L. (1994). The birds of Adele Island, Western Australia, including notes on recently established breeding colonies of Red-footed Boobies *(Sula sula*) and Great Frigate Birds (*Fregata minor*). We*stern Australian Naturalist* **19**: 285-291.

Summarises information on the seabirds of Adele Island.

Cornell, C. (Translator) (1974). *The Journal of Post captain Nicholas Baudin*. Libraries Board of South Australia, Adelaide.

Narrative of the Baudin expedition, which traversed the Kimberley coast in July and August 1801.

Crawford, I.M. (1968). *The Art of the Wandjina. Aboriginal Cave Paintings in Kimberley, Western Australia*. Oxford University Press, Melbourne.

Documents Wandjina and Gwion Gwion Aboriginal art and culture of the Kimberley, including Bigge Island and some other islands. A few natural history collections made during expeditions are lodged in the WA Museum.

Environmental Protection Authority (1990). Application for a special lease on Cassini Island: BHP Petroleum Pty Ltd: Report and recommendations of the Environmental protection Authority. Bulletin 474. EPA, Perth.

Includes limited biodiversity data for Cassini Island. BHPP sought a special lease to build and operate an airstrip on the island. EPA concluded that the proposal was environmentally unacceptable. Notes that CALM had applied for the island to be reserved for nature conservation and that the island has a turtle rookery.

Hassell, C. (1999). Bird counts on the Lacepedes 09/10/1999. Report to CALM.

Reports counts of seabirds made on a visit to the Lacepede Islands in October 1999.

Hassell, C. (2003). A bird survey with the Australian Quarantine Inspection Service of some Kimberley islands and Ashmore Reef. 22nd to 26th february 2003. Unpublished Report to AQIS.

Reports observations of birds on Adele Island, East, West and Middle Islands (Ashmore Reef), one of the Albert Islands and Cassini Island.

Hassell, C. and Boyle, A. (2002). Breeding roseate terns in the Kimberley. Western Australian Bird Notes No 101, pp 12-13.

Reports large breeding colonies of roseate terns on Twin Islands, north of King Sound.

Hassell, C. and Sparrow, J. (1998). Trip Report – Lacepede Islands. Report to CALM.

Reports observations by 15 people made on a trip to the Lacepede islands in October, 1998. Detailed bird counts made on 1 September and 14 October provided separately.

Hassell, C. (1999). Bird counts on the Lacepedes 09/10/1999. Report to CALM.

Reports bird counts on the Lacepede islands made by Broome Bird Observatory staff and volunteers and a CALM officer on West and Middle Islands.

Hill, G.F. (1911). Field notes on birds of the Kimberley, North West Australia**.** *Emu* **10**, 258-90.

Notes are about birds of Napier Broome Bay and the Drysdale River near the old Pago Mission. However, Hill made 'several brief visits to islands and many points of the mainland between that bay (Napier Broome Bay) and Gibson Point (Parry Harbour) and on my return by lugger to Derby in July further opportunities were afforded for seeing much of the coast and adjacent islands of the Kimberley' (p. 259). Only islands mentioned by name are Hecla and Augustus.

How, R., Schmitt, L., Teale, R. and Cowan, M. (2006). Appraising vertebrate diversity of Bonaparte Islands, Kimberley, Western Australia. *Western Australian Naturalist* **25**, 92-110.

Documents biological collections and observations made on 35 islands in 2002 – 2005.Islands examined were: Berthier, Bigge, Bonaparte, Boongaree, Buffon, Capstan, Carlia, Cassini, Colbert, Corneille, Coronation, Descartes, Don, Fenelon, Glauert, Grey, Hedley, Keraudren, Kidney, Lafontaine, Low Rocks, Maret (as Maret North), South Maret, McCullouch, East Montalivet, West Montalivet, Middle Osborn, South West Osborn, Parry, Purrungku (East), Steep Head, unnamed (14º36'S, 125º14'E), Walker, Whitley and Woodward.

Keighery, G.K., Gibson, N. and Kenneally, K.F. (1995). Biological inventory of Koolan Island, Westen Australia. 1. Flora and vegetation. *Records of the Western Australian Museum* **17**, 237-248.

Detailed information on the flora and vegetation of Koolan Island, Buccaneer Archipelago.

Kenneally, K., Edinger, D. and Coate, K. (1996). Buccaneer Archipelago 1996. Landscope Expedition Report No. 15. Department of Conservation and Land Management, Bentley, and UWA Extension, Nedlands.

Narrative and data including visits to Lacepede Islands, Koolan Island, Cockatoo Island and Mulgudna Island.

Kimberley Land Council and Dept of Aboriginal Affairs. (2006). Solwoda Kantri. Final report to the Rangelands NRM Coordinating Group on the 'Saltwater Country Coastal Project, Northwest Kimberley', November 2004 - June 2006.

Documents indigenous values and assets of marine and coastal environments of the north Kimberley. Proposes management frameworks and policy directions.

King, P.P. (1827). *Narrative of a survey of the intertropical and western coasts of Australia performed between the years of 1818 and 1822*. John Murray, London.

Narrative of hydrographical survey of Kimberley coast and islands. Includes natural history observations.

Maryan, B. and Robinson, D. (1997). An insular population of *Lerista griffini* and and comments on the identity of *Lerista praefrontalis* (lacertilia: Scincidae). Western Australian Naturalist **21**.

Reports a visit to King Hall Island to search for *Lerista praefrontalis* and suggests that it is an aberrant *L. griffini*.

McKenzie, N.L., Fontanin, L., Lindus, N.V. and Williams, N.R. (1995). Biological inventory of Koolan Island, Westen Australia. 2. Zoological notes. *Records of the Western Australian Museum* **17**, 249-266.

Detailed information on the fauna of Koolan Island, Buccaneer Archipelago.

McKenzie, N.L., Johnston, R.B. and Kendrick, P.G. (Eds) (1991). *Kimberley Rainforests of Australia.* Surrey Beatty and Sons, Chipping Norton, New South Wales.

Detailed information on rainforest patches in the Kimberley, including those on Augustus, Bigge, Boongaree, Glauert, Middle Osborn, Saint Andrew and South West Osborn Islands.

Morgan, G.J. (Ed.) (1992). Survey of the Kimberley islands and reefs, Western Australia. Western Australian Museum, Perth.

Report on biological surveys of Kimberley islands in August 1991. Collections were made mainly of marine animals and plants, but includes some data on terrestrial molluscs and freshwater fishes and molluscs. Includes data from an unnamed island south of Fenelon Island at 14º09'S, 125º39'E and West Montalivet Island.

Serventy, D.L. (1952). Birds of islands of the Sahul Shelf. *Emu* **52**, 33-59.

Includes data on birds of Scott Reef, Seringapatam Reef, Sandy Island (Long Reef), Stewart Islands, Jones Island, Lesueur Island, Low Rocks, Browse Island, Booby Island (as White Island), Adele Island and the Lacepede Islands.

Söderberg, R. (1918). Results off Dr E. Mjöberg's Swedish Scientific Expeditions to Australia 1910-1913. *Kungl. Sv. Vet. Akademiens Handlingar* **52** No. 17, 1-116.

Includes observations of birds on Sunday Island.

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2. Unpublished data

Biological collections. The collections of the Western Australian Museum and Western Australian herbarium have specimens collected on Kimberley islands.

Buccaneer Archipelago expedition 1982. Department of Fisheries and Wildlife research scientists and other staff conducted a biological survey of islands in the Buccaneer Archipelago and adjacent islands in King Sound in 1982. Botanical collections were lodged in the WA Herbarium and zoological collections were lodged in the WA Museum. Islands examined were: Bathurst, Caffarelli, Conilurus, East Sunday, Gibbings, Hidden, Irvine, King Hall, Long, Lachlan, Macleay, Sir Frederick and Sunday.

Bamford Consulting for Inpex. Bamford Consulting conducted biological surveys of Maret and South Maret Islands, which at the time were the proposed site of a liquefied natural gas plant. For comparison the nearby Berthier, East and West Montalivet, Walker and the largest of the Albert Islands were also surveyed, and a brief visit was made to Bigge Island. Lists of

specimens collected were sent to DEC as a requirement of the company's scientific licence return. Full survey data are not currently available.

Kimberley islands Biological Survey. DEC scientists together with scientists from the WA Museum, are carrying out detailed biological surveys of 22 of the largest islands off the Kimberley. Field work commenced in the 2007 dry season and is programmed to finish in the 2009-10 wet season. Surveys are site-based and include mammals, birds (opportunistic data only), reptiles, frogs, terrestrial and aquatic molluscs and vascular plants. Islands surveyed are: Adolphus, Augustus, Bigge, Boongaree, Byam Martin, Coronation, Jungulu, Hidden, Katers, Kingfisher, Lachlan, Long, Middle Osborn, unnamed (16.2488ºS, 123.8208ºS, NW of Molema), Sir Graham Moore, St Andrew, Storr, Sunday, Uwins, unnamed (15.9367ºS, 124.4590ºE) and Wulalam. The results of the survey will be published.

APPENDIX 5. KEVIN COATE'S KIMBERLEY BIRD SIGHTINGS FROM 1962 – ISLANDS DATA ONLY

Orange-legged Scrubfowl - *Megapodius reinwardt*
Coronation Island: 18/7/1997 (two nest mounds).
Naturalists Island: 10/6/1984. 21-22/6/1984; 4/6/1985; 25/5/1987; 2/6/1992; 28-3/6/1993; 29/5/1996; 5/5/2002; 3/9/2004.
St Patrick Island: 8/6/1985; 28/5/1986; 14/6/1989; 22/6/2003; 23/6/2004. 8/8/2005 (several); 29/4/2006; 10/9/2006.
Crosse Island: 10/6/1992.
Lamarck Island: 3/6/1992.
West Montalivet Island: 4/6/1992.
Maret Islands (north island): 10/8/2005 (1).

Brown Quail - *Coturnix ypsilophora*
Adele Island: 28/51992; 30/7/2004 (2).
Lacepede Islands (Sand Island): 30/6/1996 (2).
Middle Lacepede Island: 18/5/1996; 9/8/2004 (6): 9/9/2004 (3). 26/4/2005 (1); 4/9/2006 (unusually large number, 60 + over about 300m); 4/5/2008 (12); 28/8/2008 (8).
Champagny Island (Loran site): 1/9/2008 (severe fire over the island in May. Breeding, an abandoned nest with 6 eggs, partly incubated and roasted).
Low Rocks (Montesquieu group)**:** 2/5/2005 (1).

Masked Booby - *Sula dactylatra*
Adele Island: 7/6/1989; 2/6/1990; 8/7/1990; 28/51992; 11/5/1993; 1/6/1993; 17/5/1995; 20/5/2002 (breeding in all stages); 18/5/2003 (breeding in all stages); 30/7/2004 (breeding - small to large young).
Middle Lacepede Island: 9/5/1987 (one flying over boat from islands); 28/5/1995 (two flying from islands); 18/5/1996 (2); 30/4/2002 (one seen from boat flying from Island); 28/6/2004 (breeding - 2 nests, each with a medium size downy young); 9/8/2004 (one flying near Middle Island); 9/9/2004 (breeding - one bird with a large young). 26/4/2005 (breeding – 3 nests); 15/5/2005; 4/5/2008 (breeding – one nest).

Red-footed Booby - *Sula sula*
Adele Island: 2/6/1990; 8/7/1990; 28/51992; 11/5/1993; 1/6/1993; 17/5/1995; 20/5/2002; 18/5/2003 (breeding - at least 6, there was probably more but didn't check out the full area due to presence of predatory Silver Gull); 30/7/2004 (7 nests with small young + one large chick almost fledged).

Brown Booby - *Sula leucogaster*
Adele Island: 7/6/1989 (breeding - all stages); 2/6/1990 (breeding - all stages); 8/7/1990 (breeding - all stages); 28/51992 (breeding - all stages); 11/5/1993 (breeding - all stages); 1/6/1993 (breeding - all stages); 17/5/1995 (breeding - all stages); 20/5/2002 (breeding - all stages); 18/5/2003 (breeding - all stages. At high tide many nests around lagoon were flooded). 30/7/2004 (breeding - mostly small to large young, an occasional nest with eggs – also an albino bird).
Lacepede Islands (Sand Island): 30/6/1996 (approx 300 breeding - all stages); 28/6/2004 (breeding northern side 300-400. Eggs and small to medium size downy young. One nest with 3 naked young. Spinifex dense and very green after cyclone in March).
Middle Lacepede Island: 9/5/1987 (breeding - all stages); 23/5/1987 (breeding - all stages); 12/5/1988 (breeding - all stages); 24/5/1990 (breeding - all stages). 28/5/1995 (breeding - all stages); 18/5/1996 (breeding - all stages); 28/6/2004 (breeding - eggs to small downy chicks, an occasional larger chick. Severe cyclone in March probably affected breeding); 9/8/2004 (breeding - mostly small downy chicks to fledged birds, only one set of eggs seen); 9/9/2004 (breeding - many immatures roosting on shore line or flying). 26/4/2005 (breeding – mainly on eggs, an occasional large downy chick); 15/5/2005; 24/4/2006 (breeding – almost all on eggs); 4/9/2006 (large downy young to fully fledged – one mature albino); 4/5/2008 (breeding – fresh eggs to large downy chicks); 28/8/2008 (large downy young to fully fledged).
West Lacepede Island: 14/5/1985; 10/5/1986 (breeding - all stages); 9/5/1987 (breeding - all stages but not as advanced as same time last year); 24/5/1990 (breeding - all stages); 19/7/1990 (breeding. large young); 24/5/1993 (breeding - all stages); 28/5/1995 (breeding - all stages); 18/5/1996 (breeding - all stages); 30/6/1996 (breeding - all stages); 30/4/2002 (breeding - all stages); 27/4/2004 (breeding - all birds on eggs which is unusual. Severe cyclone in March probably affected breeding); 28/6/2004 (breeding - eggs to small downy chicks, an occasional larger chick. Severe cyclone in March probably affected breeding); 9/8/2004 (breeding - chicks to fledged young); 9/9/2004 (breeding - medium to large downy chicks to fledged young). 26/4/2005 (breeding - eggs); 15/5/2005; 24/4/2006

(breeding – almost all on eggs); 4/5/2008 (breeding – almost all with eggs – an occasional downy chick); 28/8/2008 (large downy young to fully fledged).
Tide Rip Island: **1/6/1984.**

Darter - *Anhinga melanogaster*
Montgomery Island (beach at 15.55.25S 124.13.02E): 26/5/2002 (6). 8/9/2006.
Bigge Island (Boomerang Bay): 28/5/1987.
Bigge Island (Wary Bay): 6/5/2002 (1).
Reveley Island: 14/7/2005 (2).
Pelican Island (14-46-31S 128-46-49E): 14/7/2005 (4).

Wilson's Storm Petrel - *Oceanites oceanicus*
Lacepede Islands (in vicinity): 10/5/1986; 9/5/1987; 25/5/1987; 9/8/2004 (2); 9/9/2004 (4).
Sunday Island: 1/7/1996.
Napier Broome Bay: 28/5/2009 (one close to Bird Island.
Bigge Island: 2/6/2009 (one close inshore to SE end of island).

Pied Cormorant - *Phalacrocorax varius*
Adele Island: 2/6/1990; 28/51992; 11/5/1993; 1/6/1993; 17/5/1995; 20/5/2002; 18/5/2003 (common); 30/7/2004 (breeding).
Cockatoo Island: 11/5/1986**.**
Lacepede Islands (Sand Island): 30/6/1996 (15).
East Lacepede Island): 30/6/1996 (15).
Middle Lacepede Island: **9**/5/1987 (400); 23/5/1987 (breeding - north end of Island, about 180 nests with from one to four eggs, some freshly built nests not yet with eggs. An abandoned cormorant rookery of about a hundred nests was also found with the dried remains of three quarter grown chicks still in their nests); 24/5/1990 (breeding - 30 nests); 28/5/1995 (breeding - three rookeries totalling 150). 18/5/1996 (breeding 50); 28/6/2004 (breeding - about 40 in depression on *Abutilon indicum*. Most almost fully fledged but some adults sitting indicating eggs or small young); 9/8/2004 (breeding); 9/9/2004 (breeding - a few still with young in nest). 26/4/2005 (breeding – south east end); 15/5/2005; 24/4/2006 (breeding – could only see part of colony – counted 20 to 30 birds in nesting area); 4/5/2008 (breeding, south side – about 200 on nests); 15/5/2005; (about 200 nests - apart from 4 fully fledged young all others had departed nests).
West Lacepede Island: 10/5/1986; 28/5/1995; 30/6/1996 (12); 24/5/1993; 30/4/2002 (60); 27/4/2004. 26/4/2005 (30-40 roosting on shore line).
Montgomery Island: 26/5/2002 (40). 8/9/2006**.**
Montgomery Reef: 5/7/1996 (6); 3/5/2002.
High Cliffy Island (Montgomery Reef): 1/6/1990.
Naturalists Island: 10/9/2006.
Bigge Island (Wary Bay): 9/5/2005 (6).
Low Rocks (Montesquieu group): 2/5/2005 (300+ roosting on Island); 9/5/2005 (200-300 clustered on vegetation on island SE side, indicating they were preparing to breed); 11/8/2005 (About 300 well built nests made mainly with cane grass *sorghum sp.* About 20 still occupied, containing downy to almost fledged young. Several hundred immatures sitting on rocks close to rookery); 1/5/2006 (about 300 roosting on rocks. No sign of breeding. Cormorants were being harassed by two sea eagles); 12/5/2008 (1): 31/5/2009 200 – 300 on island - appeared to be breeding – did not go ashore to verify.
Oyster Rock (Montesquieu group): 9/5/2005 (3).
Woku Woku Island (Vansittart Bay). 12/5/2008 (8).
Aunt Island: 14/7/2005 (1).

Australian Pelican - *Pelecanus conspicillatus*
Adele Island: 7/6/1989; 2/6/1990; 8/7/1990; 28/51992; 11/5/1993; 1/6/1993; 17/5/1995; 20/5/2002; 18/5/2003 (breeding - 31 large young, possibly eggs and small young as well. About 60 birds flying or perched on sand bars); 30/7/2004 (breeding - about 40 adults and at least 12 half grown chicks). **Lacepede Islands** (Sand Island): 30/6/1996 (6).
West Lacepede Island: 10/5/1986; 24/5/1993; 30/4/2002 (3); 27/4/2004. **Middle Lacepede Island:** 9/5/1987 (breeding - 9 young); 23/5/1987 (breeding - 5 young. Many abandoned eggs, about 40 from a failed breeding attempt earlier, possibly the same time as the abandoned Pied Cormorant colony); 24/5/1990 (breeding - 13 almost fully fledged young); 24/5/1993 (breeding - 20); 28/5/1995 (breeding - 30); 18/5/1996 (breeding - 20-30); 28/6/2004 (breeding - from a distance, 3 almost fully fledged chicks. There may have been younger birds, most likely affected by severe cyclone in March); 9/8/2004; 9/9/2004 (!2). 26/4/2005 (about 12 in lagoon area, possibly breeding) 15/5/2005.

Middle Lacepede Island: 9/5/1987 (breeding - 9 young); 23/5/1987 (breeding - 5 young. Many abandoned eggs, about 40 from a failed breeding attempt earlier, possibly the same time as the abandoned Pied Cormorant colony); 24/5/1990 (breeding - 13 almost fully fledged young); 24/5/1993 (breeding - 20); 28/5/1995 (breeding - 30); 18/5/1996 (breeding - 20-30); 28/6/2004 (breeding - from a distance, 3 almost fully fledged chicks. There may have been younger birds, most likely affected by severe cyclone in March); 9/8/2004; 9/9/2004 (!2). 24/4/2006 (breeding – could only see part of colony – counted about 30 adult birds in nesting area); 3/5/2008 (breeding – 50 with eggs or small young); 28/8/2008 (4 almost fully fledged juveniles in rookery in middle of island).
Montgomery Reef and **Island:** 5/7/1996.
Montgomery Island: (beach at 15.55.25S 124.13.02E); 26/5/2002 (14). 8/9/2006 (30).
Naturalists Island: 25/5/1987.
Oyster Rock (Montesquieu group): 9/5/2005 (8).
Pelican Island (14-46-31S 128-46-49E): 14/7/2005 (30 resting on beach. Breeding, an abandoned rookery with about 30 nests, some containing up to three eggs).

Greater Frigatebird - *Fregata minor*
Adele Island: **7/6/1989; 2/6/1990; 8/7/1990; 28/51992; 11/5/1993; 1/6/1993; 17/5/1995; 18/5/2003 (breeding - 20-30 on nests, more flying); 30/7/2004 (breeding - similar to last year, 20-30 on nests with small to medium chicks).**

Lesser Frigatebird - *Fregata ariel*
Adele Island: 7/6/1989; 2/6/1990; 8/7/1990; 28/51992; 11/5/1993; 1/6/1993; 17/5/1995; 20/5/2002; 18/5/2003 (breeding - all stages. Very numerous, numbers increasing. 7 colonies at different stages); 30/7/2004 (breeding - in large numbers over southern end).
West Lacepede Island: 10/5/1986; 9/5/1987 (breeding); 12/5/1988 (no breeding. There were no Frigate birds on the island and no indication of any nesting having taken place since the previous year); 24/5/1990 (breeding - all stages); 19/7/1990 (breeding - large young); 24/5/1993 (estimated about 2,000 - many with advanced young); 28/5/1995 (breeding - main colony has shifted further east of lagoon with a smaller concentration at the north end of the lagoon); 18/5/1996; 30/6/1996 (breeding - all stages. Diminished numbers. A count with volunteers using scopes from three positions resulted in no more than 450-480 nests); 30/4/2002 (breeding - all stages); 27/4/2004 (breeding - all on eggs which is unusual. Probably as a result of severe cyclone in March); 28/6/2004 (almost all birds sitting on eggs or small chicks, an occasional unattended larger chick. Late breeding probably reflects on severe cyclone in March); 9/9/2004 (breeding - about 2,000. Large nestlings to fledged). 26/4/2005 (3 colonies – several thousand); 15/5/2005; 24/4/2006 (breeding,- eggs to small downy young); 4/9/2006 (nests with large to almost fledged young – appears to be a higher rate of mortality than usual, noticed at least 12 almost fledged young dead in nest – all recent); 4/5/2008 (breeding – large number of nests containing eggs, concentrated in three areas – more than usual); 28/8/2008 (Several thousand - large almost fledged young in nests – in some areas a high mortality of almost fledged young).
Middle Lacepede Island: 9/7/1987**;** 23/5/1987; 24/5/1990; 9/8/2004.
Tide Rip Island: 1/6/1984.
Montgomery Island: 8/9/2006 (several flying over).

Great billed Heron - *Ardea sumatrana*
St Patrick Island: 22/7/1997.
Sterna Island: 1/5/2006 (1).
Sunday Island: 8/9/2004.

Eastern Reef Egret - *Egretta sacra*
Adele Island: 7/6/1989; 2/6/1990; 8/7/1990; 28/51992 (breeding - nest with 2 eggs); 11/5/1993 (breeding); 1/6/1993; 17/5/1995; 20/5/2002; 18/5/2003 (400 about 100 white); 30/7/2004 (200).
West Lacepede Island: 10/5/1986; 28/5/1995; 18/5/1996; 30/6/1996; 24/5/1993; 30/4/2002; 27/4/2004 (20); 28/6/2004 (15); 9/8/2004; 9/9/2004. 26/4/2005 (20 - 30); 15/5/2005; 24/4/2006 (moderately common); 4/9/2006.
Middle Lacepede Island: 9/7/1987; 23/5/1987; 24/5/1990; 28/5/1995; 18/5/1996; 28/6/2004 (10); 9/8/2004. 24/4/2006 (moderately common); 4/9/2006.
Lacepede Islands (Sand Island): 30/6/1996 (20); 28/6/2004 (20).
Montgomery Reef: 24/5/1987; 1/6/1990; 5/7/1996; 3/5/2002 (very common); 26/5/2002 (50 grey and 30 white). 29/4/2005 (common, both phases); 12/5/2005 (common); 31/8/2008 (common).
Montgomery Island: 8/9/2006 (common); 31/8/2008 (common).
High Cliffy Island (Montgomery Reef): 1/6/1990.
Mulgudna Island: 18/7/1990 (breeding - nest with 2 eggs); 5/7/1996.
Champagny Island: 2/6/2009 (several).
St Patrick Island: 8/6/1985; 14/5/1987; 12/5/1993.
Naturalists Island: 21-22/6/1984; 4/6/1985; 25/5/1987; 2/6/1992; 28-29/5/1996; 5/5/2002. 1/5/2005; 10/9/2006.

Lamarck Island: 3/6/1992.
Bigge Island (Wary Bay)**:** 6/5/2002; 3/5/2004. 2/5/2005; 9/5/2005.
East Montalivet Island: 3/5/2003.
Maret Islands (north island): 10/8/2005 (several).
Low Rocks (Montesquieu group)**:** 2/5/2005 (2); 9/5/2005 (2).
Oyster Rock (Montesquieu group): 8/5/2005 (4).
Carronade Island: 11/6/2003.
Randall Island (Institut Group – S14.10.11 E125. 34. 84): 31/5/2009 (2).
Jar Island: 29/5/2009 (3).
Pelican Island (14-46-31S 128-46-49E): 14/7/2005 (12 grey phase, 2 white phase).
Reveley Island: 15/8/2005.
Koolan Island: 3/6/1985.
Sunday Island: 8/9/2004.

Striated Heron - *Butorides striatus*
West Lacepede Island: 9/8/2004 (1).
Koolan Island: 3/6/1985.
Montgomery Island: 8/9/2006 (several).
St Patrick Island: 2/6/1984; 28/5/1986.
Bigge Island (Wary Bay)**:** 3/5/2004. 2/5/2005.
Bigge Island (Boomerang Bay)**:** 28/5/1987.
Reveley Island: 14/7/2005 (several); 15/8/2005 (several).
Pelican Island (14-46-31S 128-46-49E): 14/7/2005 (3).

White-faced Heron - *Ardea novaehollandiae*
Adele Island: 8/7/1990; 11/5/1993; 20/5/2002; 30/7/2004 (1).
West Lacepede Island: 30/4/2002 (several); 9/8/2004 (1).
Montgomery Reef: 24/5/1987; 5/7/1996.
Naturalists Island: 25/5/1987; 2/6/1992. 10/9/2006.
Bigge Island (Boomerang Bay)**:** 28/5/1987.
Bigge Island (Wary Bay): 6/5/2002.

Great Egret - *Ardea alba*
Adele Island: 8/7/1990; 11/5/1993; 1/6/1993; 18/5/2003 (15); 30/7/2004 (24).
West Lacepede Island: 15/5/2005 (1).
Montgomery Reef: 5/7/1996; 26/5/2002. 12/5/2005 (3).
Montgomery Island: 8/9/2006; 31/8/2008 (moderately common).
High Cliffy Island (Montgomery Reef): 1/6/1990.
Reveley Island: 15/8/2005 (2).
Lamarck Island: 3/6/1992.

Intermediate Egret - *Ardea intermedia*
Adele Island: **8/7/1990.**

Little Egret - *Egretta garzetta*
Adele Island: 2/6/1990; 8/7/1990.
Montgomery Island: 8/9/2006.

Rufous Night Heron - *Nycticorax caledonicus*
Adele Island: 7/6/1989; 2/6/1990; 8/7/1990.
West Lacepede Island: 30/6/1996 (3).
Montgomery Reef: 3/5/2002.
Montgomery Island: 8/9/2006 (common); 31/8/2008 (common).
High Cliffy Island (Montgomery Reef): 1/6/1990.
Pelican Island (14-46-31S 128-46-49E): 14/7/2005 (10).

Australian White Ibis - *Threskiornis aethiopicus moluccus*
Lacrosse Island: 6/5/2006 (1).

Osprey - *Pandion haliaetus*
West Lacepede Island: 10/5/1986.

Middle Lacepede Island: 18/5/1996.
Sunday Island: 8/9/2004.
Montgomery Reef: 3/5/2002.
High Cliffy Island (Montgomery Reef): 24/5/1987; 1/6/1990 (breeding - nest with one egg); 23/6/2004 (breeding - nest with small young).
Montgomery Island: 8/9/2006.
Steep Island (Doubtful Bay): 17/5/1986.
Mulgudna Island: 5/7/1996 (breeding - immature young).
St Patrick Island: 6/5/2006 (breeding, nest on cliff face above beach on eastern side); 12/9/2006 (breeding, carrying food to nest); 8/5/2008. 2/6/1984 (breeding); 8/6/1985; 28/5/1986; 14/5/1987; 13/6/1989 (breeding - 3 nests); 12/5/1993; 23/6/2004 (breeding - 2 nests. Bird sitting on one nest, nesting material being brought to other).
Keraudren Island: 18/7/1997 (breeding - nest with young).
Anderton Island: 18/7/1997. (breeding, small island close by, nest with almost fledged young).
Slate Islands: 30/5/1986; 13/7/1987. 3/6/2009 (pair on nest at S15.32.67 E124.24.01).
Naturalists Island: 21-22/6/1984; 4/6/1985; 25/5/1987; 28-29/5/1996.
Augustus Island: (breeding - nest 15.15.63S 124.31.51E).
Island west of **Traverse Island** (16.13.80S 123.57.80E): 7/9/1996 (breeding - nest containing 3 small downy chicks); 8/9/2004 (breeding).
Island east of **Traverse Island** (16.20.30S 124.04.50E): 7/9/1996 (breeding - nest on rock pillar protruding from cliff).
West Montalivet Island: 4/6/1992.
East Montalivet Island: 3/5/2003 (3).
Prince Frederick Harbour: 6/8/2005 (island with nest S15-05-63 E125-22-05).
Naturalists Island: 8/8/2005 (1); 10/9/2006.
Bigge Island (Wary Bay)**:** 2/5/2005.
Berthier Island: (breeding, nest with a large young S14-29-60 E124-58-07) 9/8/2005.
Maret Islands (north island): 10/8/2005 (1+ a nest).
Unnamed basalt island S14-29-45 E125-21-11: 10/5/2008 (pair on nest).
Woku Woku Island: 11/8/2005; 12/5/2008.
Jar Island: 29/5/2009 (nest on small island S14.09.56 E126.13.94).
Laplace Island: 4/6/1992.
Reveley Island: 14/7/2005 (2).
Lacrosse Island: 18/8/2005 (1).
The Needles (East of Cape Domett): 18/8/2005 (1+ nest).

Square-tailed Kite - *Hamirostra isura*
Naturalists Island: **25/5/1987.**

Black Kite - *Milvus migrans*
Koolan Island: **3/6/1985.**
Cockatoo Island: **11/5/1986.**

Whistling Kite - *Haliastur sphenurus*
St Patrick Island: **28/5/1986.**
Naturalists Island: **10/6/1984; 28-29/5/1996.**

Brahminy Kite - *Haliastur indus*
Sunday Island: 8/9/2004.
Montgomery Island: 8/9/2006.
St Patrick Island: 2/6/1984; 28/5/1986; 14/5/1987. 12/9/2006.
Slate Islands: 30/5/1986; 13/5/1987.
Naturalists Island: 21-22/6/1984; 25/5/1987; 28-29/5/1996. 8/8/2005 (2); 10/9/2006.
Bigge Island (Boomerang Bay)**:** 28/5/1987.
Bigge Island (Wary Bay): 6/5/2002; 22/6/2004. 2/5/2005.
Woku Woku Island (Cape Bougainville): 9/6/2003.
La Crosse Island: 10/6/1992.
Pelican Island (14-46-31S 128-46-49E): 14/7/2005 (2, also a nest in mangroves).

Grey Goshawk - *Accipiter novaehollandiae*
Naturalists Island: 2/6/1992.
Sheep Island: 31/5/1990.

Brown Goshawk - *Accipiter fasciatus*
Slate Islands: 30/5/1986.
Naturalists Island: 10/6/1984; 25/5/1987; 28-29/5/1996. 8/8/2005 (1).
Steep Island (Doubtful Bay): 17/5/1986.
Bigge Island (Wary Bay)**:** 6/5/2002 (3). 9/5/2005 (1).
Bigge Island (Boomerang Bay): **:** 28/5/1987.
Sterna Island: 8/6/2003 (1).
Bird Island (Napier Broome Bay - S14.00.87 E126.34.09. 29/5/2009 (one being attacted by breeding Roseate terns).

Little Eagle - ***Aquila morphnoides***
Naturalists Island: 4/6/1985; 25/5/1987; 28-29/5/1996.
Slate Islands: 13/5/1987.

Wedge-tailed Eagle - *Aquila audax*
Naturalists Island: 21-22/6/1984.
Bigge Island (Wary Bay): 3/5/2004.

White-bellied Sea-Eagle - *Haliaeetus leucogaster*
East Lacepede Island: 30/6/1996 (breeding - nest on light tower with one small chick).
West Lacepede Island: 10/5/1986.
Sunday Island: 8/9/2004.
Koolan Island: 3/6/1985; 9/1/1989 (37 at the rubbish tip 9/1/1989 and 45 on the 10/1/1989).
Cockatoo Island: 11/5/1986.
Montgomery Reef: 5/7/1996; 26/5/2002 (2).
Montgomery Island: 8/9/2006.
High Cliffy Island (Montgomery Reef): 24/5/1987.
St Patrick Island: 12/9/2006; 6/9/2008. 2/6/1984 (breeding); 8/6/1985 (up to 6 seen at one time); 28/5/1986.
St Andrew Island: 4/6/2003 (breeding - nest in boab tree with a large downy chick). 8/5/2008 (one sitting on a nest in a large boab tree); 6/9/2008 (adult bringing snake to nest in boab to feed one large vocal young).
Naturalists Island: 4/6/1985; 25/5/1987; 2/6/1992; 28-29/5/1996. 10/5/2005 (1).
Prince Frederick Harbour (Island – 15-03-196S 125-17-642E): 5/9/2008 (1).
Bigge Island (Wary Bay)**:** 6/5/2002 (3); 19/5/2003; 3/5/2004; 22/6/2004. 2/5/2005.
West Montalivet Island: 4/6/1992.
East Montalivet Island: 3/5/2003.
Sterna Island: 12/5/2008 (one present at breeding colony of terns).
Low Rocks (Montesquieu group)**:** 2/5/2005 (2 - harrassing breeding seabirds); 9/5/2005 (1); 11/8/2005 (A pair with nest and two downy chicks); 1/5/2006 (2 - harrassing pied cormorants); 12/5/2008 (a pair with a nest); 31/5/2009 (2 – did not go ashore to check whether they were breeding).
Randall Island (Institut Group – S14.10.11 E125. 34. 84): 31/5/2009 (a pair with nest containing 3 eggs).
Woku Woku Island: (Cape Bougainville, Vansittart Bay): 9/6/2003; 30/4/2006 (4 adult flying in close proximity to each other near pearl farm); 12/5/2008.
Jar Island: 12/8/2005 (1); 29/5/2009 (2).

Spotted Harrier - *Circus assimilis*
Koolan Island: 3/6/1985.
Steep Island (Doubtful Bay): 17/5/1986.

Swamp Harrier - *Circus approximans*
Adele Island: 28/51992.
West Lacepede Island: 19/7/1990 (1). 15/5/2005 (2).

Brown Falcon - *Falco berigora*
Adele Island: 2/6/1990.
Champagny Island: 2/6/2009 (1).
St Patrick Island: 28/5/1986.
Naturalists Island: 10/6/1984; 4/6/1985. 8/8/2005 (1).
East Montalivet Island: 10/8/2005 (1).

Australian Kestrel - *Falco cenchroides*
Adele Island: 2/6/1990; 8/7/1990 (2).
West Lacepede Island: 10/5/1986.

Pelican Island (14-46-31S 128-46-49E): 14/7/2005 (1).

Australian Hobby - *Falco longipennis*
Bigge Island **(Wary Bay): 6/5/2002 (1).**

Peregrine Falcon - *Falco peregrinus*
Doubtful Bay (Steep Island): 12/5/2005 (1).

Buff-banded Rail - *Gallirallus philippensis*
West Lacepede Island: **28/5/1995; 30/4/2002 (5); 27/4/2004 (several).**
Middle Lacepede Island: **26/4/2005 (1).**

Bar-Tailed Godwit - *Limosa lapponica*
Adele Island: 2/6/1990; 8/7/1990; 28/51992; 11/5/1993 (500); 1/6/1993; 18/5/2003 (20-30); 30/7/2004 (100+).
East Lacepede Island: 30/6/1996 (30).
West Lacepede Island: 10/5/1986; 24/5/1993; 28/5/1995 (4); 18/5/1996 (80-90); 30/6/1996 (20); 30/4/2002 (120); 27/4/2004 (300); 9/8/2004 (400). 26/4/2005 (30 - 40); 15/5/2005 (100+); 24/4/2006 (small numbers 15-20); 4/9/2006 (large number).
Middle Lacepede Island: 9/7/1987; 23/5/1987; 24/5/1990; 28/5/1995 (25).
Montgomery Reef: 24/5/1987; 5/7/1996 (15). 12/5/2005 (5).
Montgomery Island: 8/9/2006 (100-200).
High Cliffy Island (Montgomery Reef): 1/6/1990.

Eastern Curlew - *Numenius madagascariesis*
Adele Island: **11/5/1993; 1/6/1993; 18/5/2003 (4); 30/7/2004 (3).**
West Lacepede Island: **18/5/1996 (12); 24/5/1993 (13); 28/5/1995 (20); 30/6/1996 (15); 27/4/2004 (15); 9/8/2004 (3). 26/4/2005 (6); 15/5/2005 (18).**
Middle Lacepede Island: **24/5/1990.**
Sunday Island: **8/9/2004.**
Montgomery Reef: **5/7/1996.**
Montgomery Island: **8/9/2006 (15-20).**
Mulgudna Island: **5/7/1996 (27).**
Reveley Island: **9/6/1992. 14/7/2005 (1).**
Pelican Island **(14-46-31S 128-46-49E): 14/7/2005 (1).**

Whimbrel - *Numenius phaeopus*
Adele Island: 2/6/1990; 8/7/1990; 11/5/1993; 30/7/2004 (12).
West Lacepede Island: 24/5/1993; 28/5/1995 (5); 18/5/1996 (10); 30/6/1996 (8); 30/4/2002 (6); 27/4/2004 (4); 9/8/2004; 9/9/2004 (several). 26/4/2005 (3); 24/4/2006 (several); 3/5/2008 (several).
Middle Lacepede Island: 9/7/1987; 24/5/1990.
Sunday Island: 8/9/2004.
Montgomery Island: 8/9/2006 (20-30).
Montgomery Reef: 24/5/1987.
Montgomery Island (beach at 15.55.25S 124.13.02E): 26/5/2002 (10). **Champagny Islands**: 9/9/2006 (1).
St Patrick Island: 8/6/1985; 28/5/1986. 12/9/2006.
Naturalists Island: 25/5/1987; 28-29/5/1996.
Bigge Island (Wary Bay)**:** 2/5/2005 (6).
Bigge Island (Boomerang Bay): 28/5/1987.
Reveley Island: 9/6/1992. 14/7/2005 (2).

Common Greenshank - *Tringa nebularia*
Adele Island: 7/6/1989; 8/7/1990; 28/51992; 11/5/1993; 1/6/1993; 18/5/2003 (10); 30/7/2004 (2).
West Lacepede Island: 10/5/1986; 24/5/1993; 18/5/1996 (5); 30/6/1996 (1); 27/4/2004 (2); 9/8/2004 (2). 15/5/2005 (15).
Montgomery Reef: 12/5/2005 (1).
Naturalists Island: 2/6/1992.
Reveley Island: 15/8/2005 (3).
Pelican Island (14-46-31S 128-46-49E): 14/7/2005 (3).

Terek Sandpiper - *Xenus cinareus*
Adele Island: 1/6/1993; 30/7/2004 (1).

West Lacepede Island: 18/5/1996 (1); 30/6/1996 (1). 15/5/2005 (3).

Common Sandpiper - *Tringa hypoleucos*
Sunday Island: 8/9/2004.
Montgomery Island: 8/9/2006 Moderately common).
Mulgudna Island: 5/7/1996 (2).
Booby Island: 31/7/2004.
St Patrick Island: 12/9/2006.
Naturalists Island: 10/9/2006 (2-3).
Island: 12/8/2005 (1).
Pelican Island (14-46-31S 128-46-49E): 14/7/2005 (1).
Reveley Island: 15/8/2005 (3).

Grey tailed Tattler - *Heteroscelus brevipes*
Adele Island: 8/7/1990; 2/6/1990; 28/51992; 11/5/1993(10); 30/7/2004 (12).
East Lacepede Island: 30/6/1996 (100).
West Lacepede Island: 10/5/1986; 24/5/1993; 18/5/1996 (10); 30/6/1996 (30); 27/4/2004 (120); 9/8/2004 (20). 26/4/2005; 15/5/2005 (25).
Middle Lacepede Island: 9/7/1987**.**
Sunday Island: 8/9/2004.
Montgomery Reef: 3/5/2002 (several). 29/4/2005 (several); 12/5/2005 (4); 1/8/2005 (5).
Montgomery Island: (beach at 15.55.25S 124.13.02E): 26/5/2002 (60). 8/9/2006 (common).
Mulgudna Island: 5/7/1996 (1).
Slate Islands: 6/9/2004.
Woku Woku Island (Cape Bougainville): 9/6/2003 (1).
Pelican Island (14-46-31S 128-46-49E): 14/7/2005 (3).

Ruddy Turnstone - *Arenaria interpres*
Adele Island: **7/6/1989; 8/7/1990; 2/6/1990; 28/51992; 11/5/1993 (2000); 1/6/1993; 30/7/2004 (100+).**
Lacepede Islands **(Sand Island): 30/6/1996 (4).**
East Lacepede Island: **30/6/1996 (40).**
Middle Lacepede Island: **9/7/1987; 23/5/1987; 24/5/1990; 28/5/1995 (8); 18/5/1996 (30); 9/9/2004 (20). 26/4/2005 (8); 28/8/2008 (6).**
West Lacepede Island: **10/5/1986; 24/5/1993; 28/5/1995 (12); 18/5/1996 (20-30); 30/6/1996 (20); 30/4/2002 (common); 27/4/2004 (30); 9/8/2004 (100+). 26/4/2005 (20); 15/5/2005 (20); 24/4/2006 (50-60); 4/9/2006 (common); 3/5/2008 (several).**
Montgomery Reef: **29/4/2005 (several).**
Montgomery Island: **8/9/2006 (moderately common).**
Mulgudna Island: **5/7/1996 (10).**
East Montalivet Island: **3/5/2003 (5).**
Slate Islands: **30/5/1986.**
Low Rocks **(Montesquieu group)**: **2/5/2005 (5); 8/5/2005 (4); 31/5/2009 (flock of 12 flying from island).**
Pelican Island **(14-46-31S 128-46-49E): 14/7/2005 (7).**

Asian Dowitcher - *Limnodromus semipalmatus*
West Lacepede Island: **30/6/1996 (1); 27/4/2004 (1).**

Red Knot - *Calidris canutus*
Adele Island: **8/7/1990.**
Montgomery Reef: **24/5/1987.**
East Lacepede Island: **30/6/1996 (100).**
West Lacepede Island: **10/5/1986; 18/5/1996 (20); 30/6/1996 (20); 27/4/2004 (30). 15/5/2005 (1).**
Middle Lacepede Island: **9/7/1987**.

Great Knot - *Calidris tenuirostris*
Adele Island: **11/5/1993 (10).**
West Lacepede Island: **24/5/1993. 9/8/2004 (large number). 15/5/2005 (35); 24/4/2006 (several).**

Red-necked Stint - *Calidris ruficollis*
Adele Island: **11/5/1993(2000); 1/6/1993.**
East Lacepede Island: **30/6/1996 (4).**

West Lacepede Island: **10/5/1986; 24/5/1993; 28/5/1995 (8); 18/5/1996 (40); 30/6/1996 (25); 27/4/2004 (50); 9/8/2004 (60+). 15/5/2005 (8).**
Middle Lacepede Island: **9/7/1987.**
Montgomery Reef: **12/5/2005 (10).**
Mulgudna Island: **5/7/1996 (20).**
Slate Islands: **30/5/1986.**
East Montalivet Island: **10/8/2005 (5).**
Reveley Island: **15/8/2005 (30).**
Pelican Island **(14-46-31S 128-46-49E): 14/7/2005 (5).**

Sharp-tailed Sandpiper - *Calidris acuminata*
Adele Island: **1/6/1993.**
Montgomery Reef: **24/5/1987.**

Curlew Sandpiper - *Calidris ferruginea*
Adele Island: **30/7/2004 (2).**
Montgomery Reef: **24/5/1987.**
West Lacepede Island: **24/5/1993; 18/5/1996 (1); 27/4/2004 (2). 15/5/2005 (8).**
Middle Lacepede Island: **9/7/1987**.

Beach Stone-Curlew - *Esacus neglectus*
Middle Lacepede Island: **24/5/1990.**
Montgomery Island: **(beach at 15.55.25S 124.13.02E): 26/5/2002 (1). 8/9/2006 (2).**
High Cliffy Island: **24/6/2004.**
Sheep Island: **31/5/1992.**
Champagny Islands**: 9/9/2006 (1).**
Slate Islands (N): **6/5/2008 (3); 3/6/2009 (2 pair – lots of flatback turtles hatching).**
Naturalists Island: **28-29/5/1996; 5/5/2002; 1/8/2004. 8/8/2005 (2); 10/5/2008.**
Slate Islands: **13/5/1987.**
Prince Frederick Harbour **(Island – 15-03-196S 125-17-642E): 5/9/2008 (2).**
Bigge Island **(Wary Bay): 6/5/2002; 21/6/2004.**
Queen Island **(opposite Bigge Island)**: **3/9/2008 (2 on turtle beach).**
East Montalivet Island: **3/5/2003 (3).**
Carronade Island: **11/6/2003.**
Woku Woku Island **(Cape Bougainville): 9/6/2003 (3).**
Laplace Island: **4/6/1992.**
La Crosse Island: **10/6/1992.**
Woku Woku Island: **2/5/2006 (2- south end near maccassan site);**
Reveley Island: **14/7/2005 (2).**
Lacrosse Island: **18/8/2005 (2); 6/5/2006 (1).**
Pelican Island **(14-46-31S 128-46-49E): 14/7/2005 (2).**

Pied Oystercatcher - *Haematopus longirostris*
Adele Island: **7/6/1989; 8/7/1990; 28/51992; 11/5/1993; 18/5/2003; 30/7/2004 (6).**
Lacepede Islands **(Sand Island): 30/6/1996 (12).**
East Lacepede Island: **30/6/1996 (2).**
West Lacepede Island: **10/5/1986; 24/5/1993; 28/5/1995; 18/5/1996 (4); 30/6/1996. 30/4/2002 (4); 27/4/2004 (8); 9/8/2004 (6); 9/9/2004 (1). 26/4/2005 (5); 15/5/2005 (10); 24/4/2006 (9); 4/9/2006.**
Middle Lacepede Island: **9/7/1987; 23/5/1987; 24/5/1990; 28/5/1995; 18/5/1996 (4); 28/6/2004 (2). 4/9/2006; 28/8/2008 (2).**
Turtle Reef (**near northern entrance to Talbot Bay**): **6/6/2009 (several).**
Montgomery Reef: **24/5/1987; 5/7/1996 (4). 12/5/2005 (3); 31/8/2008 (several).**
Montgomery Island: **(beach at 15.55.25S 124.13.02E): 26/5/2002 (23). 8/9/2006 (about 10. – Breeding, one egg on beach); 31/8/2008 (two with a small fluffy chick).**
Naturalists Island: 21-22/6/1984; 4/6/1985; 25/5/1987; 2/6/1992.
Slate Islands: 30/5/1986; 6/9/2004.
Prince Frederick Harbour (Island – 15-03-196S 125-17-642E): 5/9/2008 (2).
Prince Frederick Harbour (Island – 15-04-767S 125-20-537E): 5/9/2008 (3).
Bigge Island (Boomerang Bay): 28/5/1987.
East Montalivet Island: 3/5/2003.
Maret Islands (north island): 10/8/2005 (3).
Palm Island (Swift Bay): 11/5/2008 (2).

Woku Woku Island: 9/6/2003 (2). 11/8/2005 (breeding, nest with 2 freshly laid eggs); 12/5/2008 (2).
Carronade Island: **11/6/2003.**
Reveley Island: **9/6/1992. 15/8/2005 (3).**
Randall Island **(Institut Group – S14.10.11 E125. 34. 84): 31/5/2009 (4).**
Pelican Island **(14-46-31S 128-46-49E): 14/7/2005 (4).**

Sooty Oystercatcher - *Haematopus fuliginosus*
Middle Lacepede Island: **9/7/1987; 23/5/1987; 24/5/1990; 28/5/1995; 18/5/1996 (6); 28/6/2004 (4); 9/8/2004 (2). 4/9/2006.**
West Lacepede Island: **10/5/1986; 24/5/1993; 28/5/1995; 18/5/1996 (6); 30/6/1996; 30/4/2002 (12); 27/4/2004 (15).**
Lacepede Islands **(Sand Island): 30/6/1996 (12).**
Mulgudna Island: **5/7/1996 (3).**
Montgomery Reef: **24/5/1987; 5/6/1996 (6). 1/8/2005 (6).**
Montgomery Island: **8/9/2006 (5-6).**
Slate Islands: **6/5/2008 (2).**
Camden harbour **(Sheep Island): 7/5/2008 (2).**
Champagny Islands**: 9/9/2006 (1).**
Naturalists Island: **21-22/6/1984; 25/5/1987.**
Prince Frederick Harbour **(Island – 15-04-767S 125-20-537E): 5/9/2008 (1).**
Bigge Island (**Wary Bay)**: **6/5/2002; 21/6/2004. 2/5/2005 (1).**
Bigge Island (Boomerang Bay): 28/5/1987.
East Montilivet Island: 3/5/2003.
Carronade Island: 11/6/2003.
Woku Woku Island (Cape Bougainville): 9/6/2003 (1).
Laplace Island: 4/6/1992.
Steep Island (Doubtful Bay): 17/5/1986.
Slate Islands: 30/5/1986; 6/9/2004.
Jar Island: 29/5/2009 (2).
Reveley Island: **14/7/2005 (2).**
Pelican Island **(14-46-31S 128-46-49E): 14/7/2005 (2).**

Grey Plover - *Pluvialis squatarola*
Adele Island: **8/7/1990; 2/6/1990; 30/7/2004 (2).**
East Lacepede Island: **30/6/1996 (30).**
West Lacepede Island: **10/5/1986; 28/5/1995 (5); 18/5/1996 (10); 30/6/1996 (4); 9/8/2004 (2). 15/5/2005 (12); 24/4/2006 (30 - 40); 4/9/2006 (100+).**
Middle Lacepede Island: **18/5/1996.**
Montgomery Island: **8/9/2006 (flock of about 60).**
Reveley Island: **9/6/1992.**

Pacific Golden Plover - *Pluvialis fulva*
Adele Island: **7/6/1989.**
West Lacepede Island: **24/5/1993; 30/6/1996 (1); 30/4/2002 (20); 9/8/2004 (several). 26/4/2005; 15/5/2005 (4).**
Carronade Island: **11/6/2003**

Red-capped Plover - *Charadrius ruficapillus*
Adele Island: **7/6/1989; 8/7/1990; 11/5/1993 (5); 18/5/2003 (2).**
West Lacepede Island: **10/5/1986; 24/5/1993; 18/5/1996 (16); 30/6/1996 (2); 9/8/2004 (100+). 15/5/2005 (25); 3/5/2008 (8-10).**
Middle Lacepede Island**: 24/5/1990.**
Slate Islands: **30/5/1986; 6/9/2004 (breeding - one nest with 2 eggs and two adults with newly hatched young 1+2).**
Champagny Islands**: 9/9/2006 (2).**
East Montalivet Island: **10/8/2005 (5).**
West Montalivet Island: **4/6/1992.**
Sterna Island: **8/6/2003 (3).**
Woku Woku Island **(Cape Bougainville): 9/6/2003 (6).**
Carronade Island: **11/6/2003.**
Laplace Island**: 4/6/1992.**
Reveley Island: **9/6/1992. 14/7/2005 (3); 15/8/2005; (20).**
Lacrosse Island: **6/5/2006 (several).**
Pelican Island **(14-46-31S 128-46-49E): 14/7/2005 (15).**

Lesser Sand Plover - *Charadrius mongolus*
East Lacepede Island: **30/6/1996 (10).**
West Lacepede Island**: 10/5/1986; 24/5/1993; 28/5/1995 (4); 18/5/1996 (6); 30/6/1996 (3); 30/4/2002 (20); 27/4/2004 (40); 9/8/2004 (reasonably common). 24/5/1993; 18/5/1996 (4); 9/8/2004 (reasonably common).**
Middle Lacepede Island: **24/5/1990. 24/5/1990.**
Montgomery Reef: **5/7/1996 (30).**
Montgomery Island **(beach at 15.55.25S 124.13.02E): 26/5/2002 (12).**
Mulgudna Island: **5/7/1996 (200).**
Reveley Island: **15/8/2005; (25).**
Pelican Island **(14-46-31S 128-46-49E): 14/7/2005 (20).**

Greater Sand Plover - *Charadrius leschenaultii*
Adele Island: **11/5/1993 (10).**
West Lacepede Island: **3/5/2008 (5).**
Montgomery Reef: **7/8/2004. 12/5/2005 (4).**
Mulgudna Island: **5/7/1996 (200).**
Slate Islands: **6/9/2004.**
Reveley Island: **9/6/1992. 15/8/2005 (2).**
Pelican Island **(14-46-31S 128-46-49E): 14/7/2005 (54).**

Australian Pratincole - *Stiltia isabella*
Adele Island: 2/6/1990; 8/7/1990.
Naturalists Island: 21-22/6/1984; 28-29/5/1996.

Pacific Gull - *Larus pacificus*
West Lacepede Island: **10/5/1986 (unusual record).**

Silver Gull - *Larus novaehollandiae*
Adele Island: 7/6/1989; 8/7/1990; 2/6/1990; 28/51992; 11/5/1993; 1/6/1993; 17/5/1995; 20/5/2002 (26); 18/5/2003 (30); 30/7/2004 (30).
East Lacepede Island: 30/6/1996 (20).
Middle Lacepede Island: 9/5/1987; 23/5/1987; 28/5/1995; 18/5/1996; 28/6/2004 (40); 9/8/2004 (30); 9/9/2004 (30-40). 26/4/2005 (60-70 scattered through Brown Booby breeding area); 24/4/2006 (common – at two sites observed about 20 clustered around and feeding on emerging turtle hatchlings); 4/9/2006 (small number); 3/5/2008 (50-60, very little interest was shown in our presence which was unusual, it may have had something to do with the lateness of the day); 28/8/2008 (50-60).
West Lacepede Island: 10/5/1986; 9/5/1987; 19/7/1990; 24/5/1993; 28/5/1995 (breeding - immatures and runners); 18/5/1996 breeding - runners); 30/6/1996 (40); 30/4/2002 (1500-2000 - also breeding); 27/4/2004 (70); 28/6/2004 (50); 9/8/2004 (30); 9/9/2004 (30-40). 26/4/2005 (breeding – large runners and immature eastern end); 15/5/2005 (many recently fledged); 24/4/2006 (common); 4/9/2006 (small number); 3/5/2008 (50-60, as on Middle Island very little interest was shown in our presence which was unusual, it may have had something to do with the lateness of the day); 28/8/2008 (50-60).
Lacepede Islands (Sand Island): 30/6/1996 (20); 28/6/2004 (25 - not predating).
Sunday Island: 8/9/2004.
Cockatoo Island: 11/5/1986.
Montgomery Reef: 24/5/1987. 29/4/2005 (several).
Montgomery Island (beach at 15.55.25S 124.13.02E): 26/5/2002 (20).
Naturalists Island: 21-22/6/1984.
Low Rocks (Montesquieu group)**:** 2/5/2005 (4); 9/5/2005 (2).
Randall Island (Institut Group – S14.10.11 E125. 34. 84): 31/5/2009 (10).

Gull-billed Tern - *Sterna nilotica*
Adele Island: **2/6/1990; 20/5/2002 (6); 30/7/2004 (16).**
West Lacepede Island: **10/5/1986; 19/7/1990; 24/5/1993; 28/5/1995 (3); 30/6/1996 (20); 9/8/2004 (6). 15/5/2005 (15); 26/4/2006 (40–50).**
Middle Lacepede Island: **24/5/1990.**
Pelican Island **(14-46-31S 128-46-49E): 14/7/2005 (60).**

Caspian Tern - *Sterna caspia*

Adele Island: 7/6/1989; 2/6/1990; 8/7/1990; 28/51992; 11/5/1993; 1/6/1993; 17/5/1995; 20/5/2002; 18/5/2003; 30/7/2004 (10).
West Lacepede Island: 10/5/1986; 24/5/1990 (breeding - a tight group of 70 on eggs); 20/7/1990 (breeding); 24/5/1993 (breeding - 40 in two colonies of about 20. About 110 in breeding plumage nearby ready to go down); 28/5/1995 (breeding - 25); 18/5/1996 (breeding colony SW end of lagoon); 30/6/1996 (breeding - 25 nests + runners from previous hatchings in the vicinity); 30/4/2002 (a concentration of Roseate Tern and Caspian Tern could be seen at the western end of lagoon - possibly breeding); 30/4/2002 (10); 28/6/2004 (breeding - two colonies 50m apart on eggs [22 nests in one and 20 in the other]); 9/8/2004 (10-15); 27/4/2004 (30); 9/9/2004 (15 + several fledged young). 26/4/2005 (15 - 20); 15/5/2005 (40); 26/4/2006 (2); 3/5/2008 (breeding, about 20 on the western end of lagoon).
Middle Lacepede Island: 9/7/1987.
Montgomery Reef: 24/5/1987; 3/5/2002; 7/8/2004. 29/4/2005 (several); 12/5/2005.
Montgomery Island: (beach at 15.55.25S 124.13.02E): 26/5/2002 (40). 8/9/2006 (15-20).
High Cliffy Island (Montgomery Reef): 1/6/1990.
Mulgudna Island: 18/7/1990 (breeding - one pair with 2 eggs).

Crested Tern - *Sterna bergii*
Adele Island: 7/6/1989; 2/6/1990; 8/7/1990; 11/5/1993; 1/6/1993; 17/5/1995; 20/5/2002 (breeding - southern end of island); 18/5/2003; 30/7/2004 (100+).
West Lacepede Island: 10/5/1986; 24/5/1993 (75); 27/4/2004 (20); 28/6/2004 (breeding - 31 nests with eggs abutting a breeding colony of Caspian Tern); 9/8/2004 (100+); 9/9/2004 (several hundred). 26/4/2005 (10); 15/5/2005 (50); 26/4/2006 (common); 4/9/2006 (about 300); 3/5/2008 (several); 28/8/2008 (100+); 3/5/2009 (breeding 300 on eggs).
Middle Lacepede Island: 9/7/1987; 23/5/1987; 24/5/1990.
Sunday Island: 8/9/2004.
Montgomery Reef: 24/5/1987; 5/7/1996; 3/5/2002; 7/8/2004. 29/4/2005; 12/5/2005.
Montgomery Island: (beach at 15.55.25S 124.13.02E): 26/5/2002 (30). 8/9/2006 (common).
High Cliffy Island: 1/6/1990.
Mulgudna Island: 5/7/1996 (20).
St Patrick Island: 8/6/1985; 28/5/1986.
Slate Islands: 30/5/1986.
Naturalists Island: 8/6/1985; 31/5/1986. 10/9/2006 (several); 10/5/2008.
Bigge Island (Boomerang Bay): 28/5/1987.
Bigge Island (Wary Bay): 6/5/2002; 3/5/2004; 21/6/2004 (large number with Roseate Tern, southern end of island - may be a breeding island in vicinity).): 2/5/2005 (several); 9/5/2005.
East Montalivet Island: 3/5/2003 (6).
Low Rocks (Montesquieu group): 2/5/2005 (breeding, 50-100 on eggs, up from the beach amongst *Ipomaea macrantha*). 9/5/2005 (2500+ breeding on beach above high water on southern end, south west beach and in vegetation on island above south western beach and in vegetation on the northern end. All with one freshly laid egg. Many eggs on sand in front of cave containing a large crocodile; 11/8/2005 (Most birds had finished breeding and left, however there were still several thousand tern including 300-400 almost fledged runners on the island); 1/5/2006 (none breeding on Low Rocks).
Sterna Island: 1/5/2006 (breeding, about 1,500 on freshly laid eggs). Colony appeared to have only just become established and is in the process of expanding. Predation on about 14 freshly laid eggs, some of which had been brought to a central place, most likely by a heron. A great billed Heron was present on our arrival and flew to the beach of a nearby island. There was no sign of raptors or silver gulls; 12/5/2008 (breeding, about 3,000 on freshly laid eggs). 4 eggs freshly predated, possibly by heron. One white bellied sea-eagle at the breeding site but no evidence of silver gulls. Ashore at 6am.
Randall Island (Institut Group – S14.10.11 E125. 34. 84): 31/5/2009 (breeding, 4 colonies approx 2,000. Eggs freshly laid to several newly hatched chicks. Many (100s) old intact abandoned eggs from previous breeding. Nests with eggs on southern end and west side of main island. On east side a colony of about 300 with some newly hatched chicks. Nesting amongst Roseate Terns on western extension of island. Very heavy predation of hundreds of fresh eggs evident, most probably gulls, oystercatchers or herons. A pair of White bellied Sea eagles have a nest containing 3 eggs on the island.
Jar Island: 29/5/2009 (20-30 roosting).
Carronade Island: 11/6/2003.
Bird Island (Napier Broome Bay - S14.00.87 E126.34.09): 29/5/2009 (breeding on coral shingle with a few nests in beach spinifex, 40 nests with eggs + several small downy runners. Old eggs from previous breeding scattered over island. Three crocodiles at island.
Aunt Island: 14/7/2005 (breeding, 1000+); 17/8/2005 (several hundred immature birds roosting on rocks at northern end); 21/5/2009 (breeding).
Pelican Island (14-46-31S 128-46-49E): 14/7/2005 (one dead bird on beach).

Lesser Crested Tern - *Sterna bengalensis*
Adele Island: 7/6/1989; 2/6/1990; 28/51992; 11/5/1993; 1/6/1993; 17/5/1995; 18/5/2003.
West Lacepede Island: 24/5/1993; 18/5/1996.
Cockatoo Island: 11/5/1986.
Tide Rip Island: June 1984.
Low Rocks (Montesquieu group)**:** 9/5/2005 (breeding, several hundred all with one freshly laid egg, mixed amongst breeding Crested Tern); 11/8/2005 (Most birds had finished breeding and left, however there was a small number of dependent, almost fledged runners still on the island (about 7-10).
Sterna Island: 12/5/2008 (breeding, 800-1000 on freshly laid eggs in small groups amongst crested terns.
Randall Island (Institut Group – S14.10.11 E125. 34. 84): 31/5/2009 (breeding, approx 30 amongst Crested Terns.

Roseate Tern - *Sterna dougallii*
Adele Island: 2/6/1990; 20/5/2002; 30/7/2004 (20).
East Lacepede Island: 30/6/1996 (20).
Middle Lacepede Island: 26/4/2005 (several small flocks of about eight flying past).
West Lacepede Island: 19/7/1990 (several thousand roosting); 24/5/1993 (breeding); 28/5/1995; 4/5/1996 (flocks up to 200 feeding on bait fish between the Lacepede Islands and mainland); 18/5/1996 (2 - large flocks at sea close to island); 30/6/1996 (breeding - 20 nests + runners); 30/4/2002 (a concentration of Roseate Tern and Caspian Tern could be seen at the western end of lagoon - possibly breeding); 27/4/2004 (15); 9/8/2004 (many thousands flying to island to roost); 9/9/2004 (between 10,000 and 15,000 roosting in lagoon area). 26/4/2005 (several small flocks); 15/5/2005 (8); 26/4/2006 (3 to 4,000 roosting at sunset in lagoon area); 4/9/2006 (10,000 to 15,000 roosting on sand bar in lagoon area at sunset with many more flocks of 30-40 still arriving as we left): 3/5/2008 (1,000 +).
Sand Island (Lacepedes): 3/5/2008 (several thousand flying in flocks of 15 to 30 across West and Middle Lacepede islands towards Sand Island at sundown; 28/8/2008 (several thousand flying in flocks of 10 to 80 across West and Middle Lacepede islands towards Sand Island at sundown..
Sunday Island: 14/5/1996 (flocks of a 100 or more feeding); 1/7/1996 (small flocks flying in southerly direction); 8/9/2004.
Montgomery Reef: 29/4/2005 (several small flocks 6-8); 12/5/2005 (several small flocks).
Bigge Island (southern end); 21/6/2004 (many hundreds feeding on bait fish with Crested Tern. Possibly a breeding colony in vicinity).
Low Rocks (Montesquieu group): 2/5/2005 (breeding, 1000 to 1500, all with one newly laid egg, concentrated on sand just above high tide mark on south beach and on adjacent rock ledges); 9/5/2005 (breeding, estimated at about 4000 +. Nesting on rocks, amongst *Ipomoea macrantha* vines and amongst *Spinifex longifolius* over much of the island. Earlier nesting site on sand above high tide mark on south beach displaced by Crested Tern; 11/8/2005 (A small number still on island bringing food to about 20-30 dependent juveniles capable of flying short distances. In the breeding areas there were many dried out remains of young birds from freshly hatched to fledged); 1/5/2006 (no birds at Low Rocks, the colony has returned to Sterna Island); 31/5/2009 (several small flocks roosting on rocks and flying toward Long Reef – low tide. Water Temperature 28.7 degree).
Sterna Island: 1/5/2006 (breeding, 5,000 to 6,000 on freshly laid eggs (1-3). An area abutting the main colony had about 1,000 birds with no eggs as yet laid. Colony appeared to have only just established and is in the process of expanding with much courtship taking place. Many of the birds with roseate chests. Predation on some freshly laid eggs, most likely by a heron. A great billed Heron was present and flew to the beach on a nearby island. Unusual to see this bird which is usually associated more with tidal inlets and mangrove areas. There was no sign of raptors or silver gulls; 12/5/2008 (breeding, 1500-2000 on freshly laid eggs). Breeding just beginning, probably many more will arrive during the week.
Randall Island (Institut Group – S14.10.11 E125. 34. 84): 31/5/2009 (breeding, 5 colonies approx 6-8,000. Eggs freshly laid to several newly hatched chicks. Many old abandoned eggs from previous year. Nests amongst and on top of vines and grass and amongst beach spinifex in centre of island and on shell gritty openings amongst basalt rocks on western arms of the island. Nests contained one to three eggs. Some predation of fresh eggs but not much. Ten silver gulls on the beach on our arrival but they disappeared soon after and were not seen again. Water Temperature 30.4 degree).
Bird Island (Napier Broome Bay - S14.00.87 E126.34.09. The small sandy island which has a few low rocks of sandstone over it is of about two acres and apart from a small area of shrubbery on the east side is covered almost entirely with beach spinifex about half a metre in height which is not dense and easy to walk through): 29/5/2009 (breeding mainly in beach spinifex, 800-1000 with eggs + small downy young. Old eggs from previous breeding scattered over island. By their tracks the three crocodiles resident at island move through the colony. A large female Goshawk was present at time of landing and being attacked by the terns. A dead Roseate chick had been pecked around the head. Hermit crabs which are plentiful were feeding on another dead chick.

Common Tern - *Sterna hirundo*
West Lacepede Island: **30/6/1996 (1).**

Little Tern - *Sterna albifrons*
Adele Island: 30/7/2004 (2).
West Lacepede Island: 10/5/1986; 24/5/1993 (350); 28/5/1995 (50); 18/5/1996 (50); 30/6/1996 (200); 27/4/2004 (120); 9/8/2004 (2).
Middle Lacepede Island: 24/5/1990.
Sunday Island: 1/7/1996 (small numbers flying in southerly direction).
Montgomery Island: 8/9/2006 (flock of about 15).
Mulgudna Island: 5/7/1996 (breeding).

Bridled Tern - *Sterna anaethetus*
Middle Lacepede Island: 28/8/2008 (70-80 loafing on beach).
West Lacepede Island: 24/4/2006 (15-20).
Low Rocks (Montesquieu group)**:** 2/5/2005 (breeding, about 20-30). 9/5/2005 (breeding, about 20 observed flying into rock crevices).

Common Noddy - *Anous stolidus*
Adele Island: 7/6/1989; 28/51992; 11/5/1993; 20/5/2002; 30/7/2004 (240).
Lacepede Islands: 9/9/2004 (several close inshore to Middle Island flying in the direction of Sand Island).
Middle Lacepede Island: 9/7/1987; 23/5/1987 (breeding - eggs, apart from some small chicks. Colony estimated to cover more than an acre); 24/5/1990; 28/5/1995; 9/9/2004 (several thousand roosting here and on West Island). 26/4/2005 (several hundred roosting on beach); 24/4/2006 (at least 1,000 roosting at sunset); 3/5/2008 (about 400); 28/8/2008 (3-400 loafing on beach).
West Lacepede Island: 10/5/1986; 18/5/1996 (large flocks off shore); 30/4/2002 (100+); 31/5/2002 (three to four thousand roosting); 27/4/2004 (300); 9/8/2004 (several hundred with many more at sea coming in to roost); 9/9/2004 (several thousand roosting here and on Middle Island). 15/5/2005 (10); 24/4/2006 (at least 3,000 roosting in and around the lagoon area at sunset); 4/9/2006 (about 300); 3/5/2008 (about 600); 28/8/2008 (several hundred).
Sunday Island: 8/9/2004.

Emerald Dove - *Chalcophaps indica*
St Patrick Island: **28/5/1986; 14/5/1987; 12/5/1993; 6/6/1993.**
Storr Island: **17/7/1990**.
Naturalists Island: **21-22/6/1984; 25/5/1987; 24/6/2003. 10/9/2006; 4/9/2008.**

Common Bronzewing - *Phaps chalcoptera*
Koolan Island: **3/6/1985.**
Champagny Island: **2/6/2009 (2).**

White-quilled Rock Pigeon - *Petrophassa albipennis*
Koolan Island: **3/6/1985.**
Naturalists Island: **4/6/1985; 28-29/5/1996 (3). 10/5/2005.**

Diamond Dove - *Geopelia cuneata*
Cockatoo Island: **11/5/1986.**

Peaceful Dove - *Geopelia striata*
Sunday Island: 8/9/2004.
Slate Islands: 30/5/1986.
Champagny Island: 2/6/2009 (common).
St Patrick Island: 28/5/1986; 23/6/2004. 6/9/2008 (moderately common).
Bigge Island (Wary Bay)**:** 22/6/2004. 9/5/2005 (reasonably common around mangrove inlet).

Bar-shouldered Dove - *Geopelia humeralis*
Koolan Island: 3/6/1985.
Cockatoo Island: 11/5/1986.
Montgomery Island: 8/9/2006 (moderately common).
Storr Island: 17/7/1990.
Slate Islands: 13/5/1987.
Champagny Island (Loran site): 1/9/2008 (common); 2/6/2009 (common).
St Patrick Island: 28/5/1986; 12/5/1993; 23/6/2004. 3/8/2005 (moderately common); 6/5/2006 (common); 12/9/2006; 6/9/2008 (common).
Naturalists Island: 4/6/1985; 27/5/1987; 2/6/1992; 5/5/2002; 4/9/2004. 29/4/2006; 10/9/2006; 10/5/2008; 4/9/2008.

Bigge Island (Wary Bay)**:** 3/5/2004; 22/6/2004. 2/5/2005 (common around mangrove inlet).
Bigge Island (Boomerang Bay): 28/5/1987.
Carronade Island: 11/6/2003.
West Montalivet Island: 4/6/1992.
East Montalivet Island: 3/5/2004.
Sterna Island: 8/6/2004.
Laplace Island: 4/6/1992.
Coronation Island: 18/7/1997.
Reveley Island: 15/8/2005 (several).
Lacrosse Island: 10/6/1992. 18/8/2005 (several).

Pied Imperial Pigeon - *Ducula bicolor*
Montgomery Island: 8/9/2006 (several).
Storr Island: 17/7/1990.
Champagny Islands: 9/9/2006 (several).
St Patrick Island: 2/6/1984; 8/6/1985; 28/5/1986; 14/5/1987; 23/6/2004 (plentiful, feeding on *Aidia racemosa*). 3/8/2005 (20-30); 6/5/2006 (5-10); 6/9/2008 (15-20).
Careening Bay: 11/9/2006; 9/5/2008 (about 400 taking water from a seepage on the southern side of the bay at S15-06-30 E125-00-21). Counted two hundred and fifty one in flocks of up to 30 arriving from the Coronation Islands. After drinking some returned others went inland including a flock of more than 60.
Slate Islands: 14/7/1990.
St Andrew Island: 5/6/1993 (large flock 200-300).
Naturalists Island: 21-22/6/1984; 4/6/1985; 2/6/1992; 28-29/5/1996 (7); 5/5/2002; 4/9/2004. 29/4/2006; 10/9/2006; 4/9/2008.
Prince Frederick Harbour (Island – 15-03-196S 125-17-642E): 5/9/2008 (8).
Lamarck Island: 3/6/1992.
Bigge Island (Boomerang Bay): 28/5/1987(6).
Bigge Island (Wary Bay)**:** 6/5/2002 (reasonably common); 26/6/2003; 3/5/2004; 22/6/2004. 2/5/2005 (30+); 3/9/2008 (14).
Queen Island (opposite Bigge Island): 21/6/2004 (8).
Coronation Islands: 2/6/1993 (large flock with at least 250 birds).
Carronade Island: 11/6/2003.
Swift Bay (Small island south of Winyalkan Island less than a 5th of an acre S14.34.21 E125.25.42): 1/6/2009 (About 60 arriving just before dusk in small independent flocks to roost in *Rhizophora stylosa* mangroves surrounding the small island – I have noticed over the years that these birds often have a preference at night to roost on islands).

Rose-crowned Fruit-dove – *Ptilinopus regina*
Sunday Island: 8/9/2004.
Cockatoo Island: 13/6/1993; 9/7/1996.
High Cliffy Island (Montgomery Reef): 24/5/1987.
St Patrick Island**:** 2/6/1984; 8/6/1985; 28/5/1986; 14/5/1987; 5/6/1993; 12/5/1993.
Naturalists Island: 10/6/1984; 21-22/6/1984; 4/6/1985; 25/5/1987; 2/6/1992; 3/6/1993; 28-29/5/1996 (1); 5/5/2002 (heard); 24/6/2003 (heard). 8/8/2005 (several heard); 10/5/2008 (one heard); 4/9/2008.
Maret Islands (north island): 10/8/2005 (common, 15-20 feeding in small trees close to beach, on the fruit of *Scaevola taccada* and *Pittosporum molluccan*).
Lamark Island: 3/6/1992.
Laplace Island: 4/6/1992.

Red-tailed Black Cockatoo - *Calyptorhynchus banksii*
Koolan Island: 3/6/1985.
St Patrick Island: 28/5/1986; 23/6/2004.
Naturalists Island: 2/6/1992.
Prince Frederick Harbour (Island – 15-03-196S 125-17-642E): 5/9/2008 (6 flying over the island).
Bigge Island (Boomerang Bay): 28/5/1987.
Coronation Islands (hundreds crossing from mainland): 15/7/1997.

Little Corella - *Cacatua sanguinea*
Yampi Peninsula (Cone Bay): 3-4/7/1996 (Bald Rock a breeding island).
High Cliffy Island (Montgomery Reef): 1/6/1990.
St Patrick Island: 23/6/2004. 6/5/2006 (20-30); 12/9/2006.

Sulphur-crested Cockatoo - *Cacatua galerita*
Storr Island: 17/7/1990.
St Patrick Island: 14/5/1987; 12/5/1993; 23/6/2004.
Naturalists Island: 21-22/6/1984. 10/9/2006.
Bigge Island (Boomerang Bay): 28/5/1987.
Bigge Island (Wary Bay): 6/5/2002. 6/5/2002.

Rainbow Lorikeet - ***Trichoglossus haematodus***
Bigge Island (Wary Bay)**:** 2/5/2005 (30).

Varied Lorikeet - *Trichoglossus versicolor*
Bigge Island (Boomerang Bay): 28/5/1987.

Red-winged Parrot - *Aprosmictus erythropterus*
Koolan Island: 3/6/1985.
St Patrick Island: 2/6/1984; 8/6/1985; 28/5/1986; 14/5/1987. 12/9/2006.
Naturalists Island: 25/5/1987.
Bigge Island (Wary Bay)**:** 19/5/2003; 3/5/2004. 2/5/2005 (7); 9/5/2005 (reasonably common).
Lacrosse Island: 10/6/1992.

Northern Rosella - *Platycercus venustus*
Koolan Island: 3/6/1985.

Brush Cuckoo - *Cacomantis variolosus*
Naturalists Island: 8/8/2005 (heard).

Horsfield's Bronze-Cuckoo - *Chrysococcyx basalis*
Slate Islands: 3/5/1987; 14/7/1990.
Champagny Island: 2/6/2009 (1).
Naturalists Island: 25/5/1987; 2/6/1992; 28-29/5/1996. 21-22/6/1984.

Pheasant Coucal - *Centropus phasianinus*
Lacrosse Island: 15/8/2005 (1).
Prince Frederick Harbour (Island – 15-03-196S 125-17-642E): 5/9/2008 (1).

Barking Owl - *Ninox connivens*
Naturalists Island: 25/5/1987.

Boobook Owl - *Ninox novaeseelandiae*
Adele Island: 8/7/1990.
St Patrick Island: 19/6/1984; 22/6/2003 (3 calling). 12/9/2006.
Naturalists Island: 3/6/1993; 28-29/5/1996; 1/8/2004. 29/4/2006.

Barn Owl - *Tyto alba*
Reveley Island: 15/8/2005 (one, roosting in cliff).

Tawny Frogmouth - *Podargus strigoides*
Koolan Island: 10/1/1989 (2).
Naturalists Island: 4/6/1985.

Spotted Nightjar - *Eurostopodus argus*
Champagny Islands: 9/9/2006 (2).
Reveley Island: 9/6/1992.

Glossy Swiftlet – *Collocalia sp.*
Bigge Island **(**Wary Bay): 6/5/2002 (one bird flying above mangroves with Fairy Martins).

Azure Kingfisher - *Alcedo azurea*
Koolan Island: 3/6/1985.
St Patrick Island: 8/6/1985.

Blue-winged Kookaburra - *Dacelo leachii*
St Patrick Island: 12/5/1993; 23/6/2004.
Naturalists Island: 4/6/1985. 1/5/2005 (1); 7/8/2005 (2).
Bigge Island (Wary Bay): 19/5/2003.

Sacred Kingfisher - ***Todiramphus sanctus***
Adele Island: 1/6/1993; 18/5/2003.
West Lacepede Island: 24/5/1993.
St Patrick Island: 8/6/1985; 28/5/1986; 14/5/1987; 12/5/1993; 23/6/2004.
Naturalists Island: 21-22/6/1984; 27/5/1987. 10/9/2006.
Maret Islands (north island): 10/8/2005 (1).
East Montalivet Island: 3/5/2004.
Jar Island: 29/5/2009 (1).
Pelican Island (14-46-31S 128-46-49E): 14/7/2005 (1).

Collared Kingfisher - *Todiramphus chloris*
Montgomery Island: 8/9/2006 (1); 31/8/2008.
St Patrick Island: 14/5/1987.

Rainbow Bee-eater - *Merops ornatus*
Koolan Island: 3/6/1985.
Slate Islands: 6/9/2004 (breeding - nesting in burrows in sand banks up from beach):
Champagny Islands: 9/9/2006 (several).
St Patrick Island: 23/6/2004.
Naturalists Island: 10/6/1984; 21-22/6/1984; 4/6/1985; 25/5/1987.
Lacrosse Island: 10/6/1992. 6/5/2006 (common).

Rainbow Pitta - *Pitta iris*
St Patrick Island: **8**/6/1985; 28/5/1986; 14/5/1987; 12/5/1993; 12/5/1993.
Naturalists Island: 21-22/6/1984; 25/5/1987; 2/6/1992; 3/6/1993. 10/9/2006 (1); 4/9/2008 (2).

Variegated Fairy-wren - *Malurus lamberti*
Koolan Island: 3/6/1985.
Woku Woku Island **(Cape Bougainville):** 9/6/2003**.**

Striated Pardalote - *Pardalotus striatus*
Naturalists Island: 20/6/2004.
Woku Woku Island: 12/5/2008.

Weebill - *Smicrornis brevirostris*
St Patrick Island: 8/6/1985.
Naturalists Island: 25/5/1987; 4/9/2004.
Lamarck Island: 3/6/1992.

Green-backed Gerygone - *Gerygone chloronotus*
Naturalists Island: 21-22/6/1984.
St Patrick Island: 24/6/2004.

Mangrove Gerygone - *Gerygone levigaster*
Montgomery Island: (beach at 15.55.25S 124.13.02E): 26/5/2002 (14). 8/9/2006 (moderately common).
Reveley Island: 15/8/2005 (several).

Brown Honeyeater - ***Lichmera indistincta***
Sunday Island: 8/9/2004.
Koolan Island: 3/6/1985.
Cockatoo Island: 11/5/1986.
Montgomery Island: 8/9/2006.
Storr Island: 17/7/1990.
Steep Island (Doubtful Bay): 17/5/1986.
Sheep Island: 31/5/1992.
Champagny Islands: 9/9/2006 (several); 1/9/2008 (several); 2/6/2009 (common).
St Patrick Island: 28/5/1986; 23/6/2004. 12/9/2006; 6/9/2008.

Naturalists Island: 10/6/1984; 21-22/6/1984; 4/6/1985; 25/5/1987; 2/6/1992; 28-29/5/1996; 5/5/2002; 4/9/2004. 1/5/2005; 7/8/2005; 10/9/2006; 10/5/2008; 4/9/2008.
Bigge Island (Wary Bay)**:** 2/5/2005; 9/5/2005.
Bigge Island (Boomerang Bay): 28/5/1987.
Bigge Island: 6/5/2002; 19/5/2003; 3/5/2004.
Maret Islands (north island): 10/8/2005 (common).
Reveley Island: 9/6/1992. 15/8/2005.
Lacrosse Island: 18/8/2005; 6/5/2006 (common). 10/6/1992.

Red headed Honeyeater - ***Mysomela erythrocephala***
High Cliffy Island (Montgomery Reef): 24/5/1987.
Montgomery Island: 8/9/2006.
St Patrick Island: : 2/6/1984; 8/6/1985; 28/5/1986; 14/5/1987; 12/5/1993. 6/5/2006 (several).

White-lined Honeyeater - *Meliphaga albilineata*
Naturalists Island: 23/6/1984; 27/5/1987 (6).
Storr Island: 17/7/1990.

White-gaped Honeyeater - *Meliphaga unicolor*
Koolan Island: 3/6/1985.
Storr Island: 17/7/1990.
St Patrick Island: 23/6/2004.
Naturalists Island: 4/6/1985; 28-29/5/1996; 5/5/2002; 4/9/2004. 1/5/2005; 7/8/2005; 4/9/2008.
Bigge Island (Wary Bay)**:** 2/5/2005; 9/5/2005.
Bigge Island: 6/5/2002; 19/5/2003; 3/5/2004; 22/6/2004.
Woku Woku Island (Cape Bougainville): 9/6/2003. 11/8/2005 (moderately common).
Lacrosse Island: 18/8/2005.

Black-chinned Honeyeater - *Melithreptus gularis*
St Patrick Island: 12/5/1993; 23/6/2004.

White-throated Honeyeater - *Melithreptus albogularis*
St Patrick Island: 14/5/1987; 23/6/2004. 12/9/2006.
Naturalists Island: 21-22/6/1984; 4/6/1985; 25/5/1987; 28-29/5/1996. 8/8/2005 (moderately common on flowering *E. miniata*); 10/9/2006.

Little Friarbird - *Philemen citreogularis*
Sunday Island: 8/9/2004.
St Patrick Island: 23/6/2004.
Naturalists Island: 21-22/6/1984; 4/6/1985; 25/5/1987; 2/6/1992; 28-29/5/1996; 5/5/2002; 4/9/2004. 1/5/2005; 4/9/2008.
Bigge Island (Boomerang Bay): 28/5/1987.
Bigge Island (Wary Bay)**:** 6/5/2002; 19/5/2003; 3/5/2004. 2/5/2005; 9/5/2005.
Jar Island: 29/5/2009 (several attracted to *Xanthostemon paradoxus*).
Lacrosse Island: 10/6/1992.

Silver-crowned Friarbird - *Philemen argenticeps*
Storr Island: 17/7/1990.
Slate Islands: 13/5/1987.
St Patrick Island: 8/6/1985; 28/5/1986; 14/5/1987; 12/5/1993. 3/8/2005 (common, feeding on flowering *E. miniata*); 12/9/2006 (several).
Naturalists Island: 10/6/1984; 21-22/6/1984; 4/6/1985; 25/5/1987; 28-29/5/1996; 5/5/2002. 8/8/2005 (common on flowering *E. miniata*); 29/4/2006.
Bigge Island (Boomerang Bay): 28/5/1987.
Bigge Island (Wary Bay): 6/5/2002; 19/5/2003.
Woku Woku Island (Cape Bougainville): 9/6/2003.
Lacrosse Island: 10/6/1992.

Banded Honeyeater - *Cissomela pectoralis*
Naturalists Island: 25/5/1987.
Lacrosse Island: 10/6/1992.

Rufous-throated Honeyeater - *Conopophila rufogularis*
St Patrick Island: 12/5/1993.
Naturalists Island: 28-29/5/1996.

Yellow-throated Miner - *Manorina flavigula*
Koolan Island: 3/6/1985.

Lemon-breasted Flycatcher - *Microeca flavigaster*
St Patrick Island: 28/5.1986.

Mangrove Robin - *Eopsaltria pulverulenta*
St Patrick Island: 8/6/1985.

White-browed Robin - *Poecilodryas superciliosa*
Naturalists Island: 4/6/1985.

Mangrove Golden Whistler - *Pachycephala melanura*
Montgomery Island: 8/9/2006 (several).
Lamarck Island: 3/6/1992 (common).
Storr Island: 17/7/1990.
West Montalivet Island: 4/6/1992**.**
East Montalivet Island: 3/5/2004.

Rufous Whistler - *Pachycephala rufiventris*
Champagny Island: 2/6/2009 (1).
St Patrick Island: 8/6/1985; 28/5/1986.
Naturalists Island**:** 25/5/1987; 4/9/2004.

White-breasted Whistler - *Pachycephala lanioides*
Montgomery Island: 8/9/2006 (2).

Little Shrike-thrush - *Colluricincla megarhyncha*
St Patrick Island: 2/6/1984;. 8/6/1985; 12/5/1993. 12/9/2006.

Sandstone Shrike-thrush - *Colluricincla woodwardi*
Koolan Island: 3/6/1985.
Bigge Island (Wary Bay)**:** 9/5/2005.

Grey Shrike-thrush - *Colluricincla harmonica*
Champagny Island (Loran site): 1/9/2008 (1).

Broad billed Flycatcher - *Myiagra ruficollis*
St Patrick Island: 2/6/1984; 28/5/1986.
Sheep Island: 31/5/1992.
Naturalists Island: 28-29/5/1996.
East Montalivet Island: 10/8/2005 (1).

Leaden Flycatcher - *Myiagra rubecula*
Koolan Island: 3/6/1985.
High Cliffy Island (Montgomery Reef): 24/5/1987.
Storr Island: 17/7/1990.
Champagny Island (Loran site): 1/9/2008 (2).
St Patrick Island: 2/6/1984; 8/6/1985; 28/5/1986; 12/5/1993. 12/9/2006.
Naturalists Island: 21-22/6/1984; 4/6/1985; 25/5/1987; 2/6/1992; 28-29/5/1996; 4/9/2004. 8/8/2005; 10/9/2006.
Bigge Island (Boomerang Bay): 28/5/1987.

Restless Flycatcher - *Myiagra inquieta*
Cockatoo Island: 9/7/1996.

Shining Flycatcher - *Myiagra alecto*
Montgomery Island (beach at 15.55.25S 124.13.02E): 26/5/2002 (3). 8/9/2006.

St Patrick Island: 2/6/1984; 8/6/1985; 14/5/1987; 12/5/1993.
Naturalists Island: 29/4/2006.

Rufous Fantail - *Rhipidura dryas*
St Patrick Island: 8/6/1985; 14/5/1987.
Coronation Island: 18/7/1997.
Naturalists Island: 25/5/1987. 10/9/2006.

Willie Wagtail - ***Rhipidura leucophrys***
West Lacepede Island: 10/5/1986.
Sunday Island: 8/9/2004.
Koolan Island: 3/6/1985.
Cockatoo Island: 9/7/1996.
Champagny Islands: 9/9/2006 (1); 1/9/2008 (several); 2/6/2009 (very common – 20 +).
West Montalivet Island: 4/6/1992.
East Montalivet Island: 3/5/2004.
Maret Islands (north island): 10/8/2005 (2).
East Montalivet Island: 10/8/2005 (1).
Laplace Island: 4/6/1992.
Sterna Island: 1/5/2006 (2).
Lacrosse Island: 18/8/2005 (2).
Pelican Island (14-46-31S 128-46-49E): 14/7/2005 (1).

Northern Fantail - ***Rhipidura rufiventris***
Koolan Island: 3/6/1985.
Storr Island: 17/7/1990.
Lamarck Island: 3/6/1992.
Naturalists Island: 4/6/1985; 25/5/1987; 2/6/1992; 28-29/5/1996; 1/8/2004. 30/4/2006.
Bigge Island (Boomerang Bay): 28/5/1987.

Magpie Lark - *Grallina cyanoleuca*
Adele Island: 8/7/1990.
Middle Lacepede Island: 24/5/1990.
Koolan Island: 3/6/1985.
Slate Islands: 30/5/1986.
Lacrosse Island: 10/6/1992.

Spangled Drongo - *Dicrurus bracteatus*
St Patrick Island: 2/6/1984; 8/6/1985; 28/5/1986; 14/5/1987; 12/5/1993; 23/6/2004. 3/8/2005 (2).
Coronation Island: 18/7/1997.
Naturalists Island: 4/6/1985; 4/9/2004. 8/8/2005; 4/9/2008.
Bigge Island (Boomerang Bay): 28/5/1987.

Black-faced Cuckoo-shrike - *Coracina novaehollandiae*
Koolan Island: 3/6/1985.
Cockatoo Island: 11/5/1986.
Storr Island: 17/7/1990.
Champagny Island (Loran site): 1/9/2008 (1).
St Patrick Island: 8/6/1985; 28/5/1986; 23/6/2004.
Naturalists Island: -22/6/1984; 4/6/1985; 25/5/1987; 2/6/1992. 1/5/2005.
Bigge Island (Wary Bay)**:** 22/6/2004. 2/5/2005; 9/5/2005.
Maret Islands (north island): 10/8/2005 (several).
Reveley Island: 15/8/2005.
Lacrosse Island: 18/8/2005 (1).

White-breasted Cuckoo-shrike - *Coracina papuensis*
Cockatoo Island: 11/5/1986.
Storr Island: 17/7/1990.
St Patrick Island: 8/6/1985; 28/5/1986; 23/6/2004.
Naturalists Island: 21-22/6/1984; 4/6/1985; 25/5/1987; 28-29/5/1996.

Cicadabird - *Coracina tenuirostris*

St Patrick Island: **28/5/1985.**

White-winged Triller - *Lalage tricolor*
Patrick Island: 8/6/1985; 28/5/1986; 14/5/1987; 12/5/1993. 8/6/1985. 3/8/2005 (several).
Naturalists Island: 10/6/1984; 25/5/1987.

Varied Triller - *Lalage leucomela*
St Patrick Island: 8/6/1985; 28/5/1986; 14/5/1987; 12/5/1993. 6/5/2006 (several).
Naturalists Island: 21-22/6/1984; 4/6/1985; 25/5/1987; 3/6/1993 (breeding - a pair with a nest in the fork of a small *Lysiphyllum cunninghamii* tree in remnant rain forest just above our camp on the beach. Observed over two days); 4/9/2004. 1/5/2005 (several); 10/5/2005; 7/8/2005 (several); 29/4/2006.
Storr Island: 17/7/1990.
Bigge Island (Wary Bay): 22/6/2004.
Woku Woku Island (Cape Bougainville): 9/6/2003.

Yellow Oriole - *Oriolus flavocinctus*
Storr Island: 17/7/1990.
St Patrick Island: 8/6/1985; 28/5/1986; 14/5/1987; 12/5/1993.
Lamarck Island: 3/6/1992.
Coronation Island: 18/7/1997.

Olive-backed Oriole - *Oriolus saggitatus*
Storr Island: 17/7/1990.
St Patrick Island: 14/5/1987; 12/5/1993; 5/9/2004.
Bigge Island (Wary Bay): 19/5/2003.
Maret Islands (north island): 10/8/2005 (1).
Lacrosse Island: 10/6/1992.

Fig Bird - *Sphecotheres viridis*
St Patrick Island: 23/6/2004 (very vocal, some immatures, feeding on *Aidea racemosa*): 5/9/2004.

White-breasted Woodswallow - *Artamus leucorhynchus*
Koolan Island: 3/6/1985.
Montgomery Island: 8/9/2006 (moderately common).
High Cliffy Island (Montgomery Reef): 1/6/1990;
Storr Island: 17/7/1990.
Champagny Islands: 9/9/2006 (small flock); 1/9/2008 (several); 2/6/2009 (common).
Naturalists Island: 28-29/5/1996.

Black-faced Woodswallow - *Artamus cinereus*
Naturalists Island: 5/5/2002.

Little Woodswallow - ***Artamus minor***
Koolan Island: 3/6/1985.
Cockatoo Island: 11/5/1986.
St Patrick Island: 8/6/1985; 23/6/2004.
Naturalists Island: 21-22/6/1984; 4/6/1985; 25/5/1987; 5/5/2002. 8/8/2005 (moderately common above cliff).
Bigge Island: 6/5/2002.

Grey Butcherbird - *Cracticus torquatus*
Koolan Island: 3/6/1985.

Pied Butcherbird - *Cracticus nigrogularis*
Koolan Island: 3/6/1985.
Naturalists Island: 4/6/1985.

Great Bowerbird - *Ptilonorhynchus nuchalis*
Koolan Island: 3/6/1985.
Slate Islands: 13/5/1987.
Storr Island: 17/7/1990.
St Patrick Island: 2/6/1984; 8/6/1985; 28/5/1986; 14/5/1987; 23/6/2004. 12/9/2006; 6/9/2008 (working bower).

Naturalists Island: 10/6/1984; 4/6/1985; 21-22/6/1984; 25/5/1987; 28-29/5/1996; 4/9/2004. 10/9/2006.
Bigge Island: 6/5/2002; 3/5/2004; 22/6/2004.
Bigge Island (Boomerang Bay): 28/5/1987.
Bigge Island (Wary Bay)**:** 2/5/2005; 9/5/2005.
Jar Island: 29/5/2009 (2).

Mistletoebird - *Dicaeum hirundinaceum*
Cockatoo Island: 11/5/1986.
Montgomery Island: 8/9/2006 (1).
Storr Island: 17/7/1990.
St Patrick Island): 2/6/1984; 8/6/1985; 28/5/1986; 12/5/1993.
Naturalists Island: 10/6/1984; 21-22/6/1984; 25/5/1987; 2/6/1992. 1/5/2005 (1 pair).
Lacrosse Island: 10/6/1992.

Barn Swallow - *Hirundo rustica*
Bigge Island-Boomerang Bay: 28/5/1987 (unusual sighting).

Tree Martin - ***Hirundo nigricans***
Adele Island: 20/5/2002 (several - also resting on boat at sea).
Middle Lacepede Island: 24/5/1990.
West Lacepede Island: 24/5/1996 (one).
Montgomery Island: 8/9/2006 (several).
Slate Islands: 30/5/1986.
Champagny Island (Loran site): 1/9/2008 (several).
Naturalists Island: 25/5/1987; 28-29/5/1996.
Bigge Island (Boomerang Bay): 28/5/1987.

Fairy Martin - *Hirundo ariel*
Koolan Island: 3/6/1985.
Naturalists Island: 4/6/1985; 25/5/1987; 5/5/2002.
Bigge Island: 6/5/2002 (small flocks).

Yellow White-eye - *Zosterops luteus*
Montgomery Island (beach at 15.55.25S 124.13.02E): 26/5/2002 (several).
High Cliffy Island (Montgomery Reef): 24/51987.
Storr Island: 17/7/1990.
Sheep Island: 31/5/1992.
St Patrick Island: 2/6/1984; 8/6/1985; 28/5/1986; 14/5/1987. 6/9/2008 (moderately common).
Naturalists Island: 25/5/1987.
West Montalivet Island: 4/6/1992.
East Montalivet Island: 3/5/2004 (common).
Maret Islands (north island): 10/8/2005 (moderately common).
Woku Woku Island (Cape Bougainville): 9/6/2003.
Lamarck Island: 3/6/1992.
Carronade Island: 11/6/2003.

Tawny Grassbird - *Megalurus timoriensis*
Adele Island: 7/6/1989 (breeding - nest with 2 eggs); 2/6/1990; 8/7/1990; 28/51992; 11/5/1993; 1/6/1993 (breeding); 17/5/1995; 20/5/2002 (common in spinifex north end); 30/7/2004 (6).

Golden-headed Cisticola - *Cisticola exilis*
Slate Islands: 13/5/1987; 14/7/1990.
Naturalists Island: 21-22/6/1984; 25/5/1987.
Pelican Island (14-46-31S 128-46-49E): 14/7/2005 (5, unusual on such a small Island).

ADDENDUM (APPENDIX 5)

Bird sightings made During Landscope Expedition 2-15 June, 2003

St Patrick Island: Orange-footed Scrub Fowl, Eastern Reef Egret, Black Kite, Emerald Dove, Peaceful Dove, Bar-shouldered Dove, Rose-crowned fruit-Dove, Pied Imperial Pigeon, Sulphur-crested Cockatoo, Red-winded Parrot, Little Bronze Cuckoo, Peasant Coucal, Boobook Owl, Australian Owlet-Nightjar, Blue-winged Kookaburra, Sacred Kingfisher, Rainbow Bee-eater, Rainbow Pitta, White-throated Gerygone, Silver-crowned Friarbird, Little Friarbird, Brown Honeyeater, Singing Honeyeater, White-gaped Honeyeater, White-throated Honeyeater, Red-headed Honeyeater, Rufous Whistler, Little Shrike-thrush, Grey Shrike-thrush, Leaden Flycatcher, Restless Flycatcher, Shining Flycatcher, Willie Wagtail, Northern fantail, Spangled Drongo, Black-faced Cuckoo-Shrike, Varied Triller, Olive-backed Oriole, Little Woodswallow, Torresian Crow, Great Bowerbird, Mistletoebird, Yellow White-eye.

Bigge Island: Eastern Reef Egret, Osprey, Whimbrel, Beach Stone-Curlew, Crested Tern, Bar-shouldered Dove, Pied Imperial Pigeon, Sacred Kingfisher, Little Friarbird, Brown Honeyeater, White-gaped Honeyeater, Spangled Drongo, Black-faced Cuckoo-shrike, Varied Triller, Olive-backed Oriole, Great Bowerbird.

Maret Islands: Orange-footed Scrubfowl, Eastern Reef Egret, Osprey, Black-breasted Buzzard, White-bellied Sea-Eagle, Beach Stone Curlew, Pied Oystercatcher, Brown Honeyeater, Bar-breasted Honeyeater, Jacky Winter, Mangrove Golden Whistler, Olive-backed Oriole, Mistletoebird, Yellow White-eye.

Adolphus Island: Rufous Night Heron, Whistling Kite, Little Eagle, Brown Falcon, Whimbrel, Silver Gull, Crested Tern, Spinifex Pigeon, Peaceful Dove, Tawney Frogmouth, Sacred Kingfisher, rainbow Bee-eater, Weebill, Mangrove Gerygone, Brown Honeyeater, Rufous Whistler, Restless Flycatcher, Northern Fantail, Black-faced Cuckoo-Shrike, White-breasted Woodswallow, Black-faced Woodswallow, Pied Butcherbird, Torresian Crow, Great Bowerbird, Australian Pipit, Mistletoebird, Tree Martin.
Note: Agile Wallaby common on Adolphus Island.

DEPARTMENT OF ENVIRONMENT AND CONSERVATION RESPONSE TO *STATUS PERFORMANCE ASSESSMENT: BIODIVERSITY CONSERVATION ON WESTERN AUSTRALIAN ISLANDS PHASE II – KIMBERLEY ISLANDS DRAFT REPORT*

Responses to the specific recommendations follow.

SECTION 3.4: CONTEXT RECOMMENDATIONS

1. *DEC work with CSIRO Division of Entomology to develop biological control for the stinking passionflower Passiflora foetida.*

   Supported in principle. The development of a biological control agent is (often) a high-risk, expensive and long-term proposition. The stinking passionflower would have to be listed as a national priority for biological control to facilitate the development of such a program. This would involve a risk assessment to prioritise the threat in a national context. DEC does not have any research expertise in the development of biological control agents and any such research would be best undertaken by a specialist organisation. While stinking passionflower is probably the most significant weed present on Kimberley islands, there are also many other species of weeds that occur there.

2. *DEC prioritise and/or seek resources to undertake biosecurity surveillance on high priority biodiversity conservation islands.*

   Supported in part. DEC is supportive of pursuing the development of an island ranking system to prioritise biosecurity-related activities as indicated in our response to the Phase I Report. However, in the current financial environment, any call for the allocation of additional funds to a specific area needs to recognise and preferably identify compensating reductions elsewhere. There is also the matter of management authority for the islands. This is a matter that should be resolved together with implementing such a monitoring program.

   The Northern Australia Quarantine Strategy (NAQS), which was developed by the Australian Quarantine Inspection Service (AQIS), is also relevant here, with regard to new quarantine risk discoveries. NAQS operates along Australia's northern coastline from Broome to Cairns and was established in 1989 to help address the unique quarantine risks in this northern region. NAQS conducts surveys along the northern coastline of Australia and neighbouring countries for early signs of new pests or disease. It is the role of NAQS to:

   - manage the quarantine aspects of border movements through the Torres Strait;
   - identify and evaluate the unique quarantine risks facing northern Australia;
   - develop and implement measures for the early detection of targeted pests and diseases; and,
   - strengthen Australia's quarantine through collaborative capacity building activities in Papua New Guinea, Indonesia and Timor-Leste.

   These objectives are undertaken through a program of scientific surveys and monitoring, border activities, domestic and overseas capacity building, and public awareness activities (*i.e.* Quarantine Top Watch!).

3. *A public education program about island biosecurity be developed and implemented; the primary target should be commercial and private boat owners.*

Supported. Again, the matter of management responsibility needs to be addressed and at least a level of agreement reached on which organizations would have access to islands and some ability to undertake monitoring. This is an issue that needs to be addressed at the whole of Government level, with consultation with native title holders and claimants.

DEC already undertakes public education about biosecurity for offshore islands that are conservation reserves through a number of mechanisms. These information strategies vary with the nature of visitation, the values at risk, and threat evaluation. Information includes advice on restricted landing sites, prohibition on taking pets to islands and general biosecurity issues. Information may also be presented in a combined approach, including coastal, marine and island conservation issues, often associated with marine parks and reserves. Examples of information brochures which include biosecurity information are those pertaining to Bernier and Dorre Islands, the Montebello Islands Marine Park brochure and the Dampier Archipelago information sheet. Onsite fixed information panels with biosecurity information include those applying to Lancelin Island and Jurien Bay Marine Park. The production of a generic information pamphlet for biosecurity on conservation islands will be further considered.

Also, the NAQS referred to above has developed and is implementing a national public awareness campaign called "Quarantine Top Watch!". It is designed to:

- raise awareness of the importance of quarantine within key target groups in northern Australia (coastal area from Broome to Cairns including the Torres Strait), and
- encourage residents in those regions to 'keep a top watch' for exotic pests, weeds and diseases that could harm Australia's animal and plant life, and report sightings of unusual pests, weeds and diseases to AQIS.

4. *DEC work with the tourism industry (e.g. the Leading Travel Companies Conservation Foundation), the Sustainable Tourism Cooperative Research Centre, the Kimberley Land Council and traditional owners to develop an enforceable Kimberley islands and coast tourism and recreation management strategy that minimises impact on biodiversity and cultural values.*

Supported in part: While it would be worthwhile developing such a strategy in consultation with stakeholders, it is unlikely that such a strategy could ever be viewed as enforceable. As discussed above, DEC does not have any statutory authority to regulate visitation on the vast majority (>99%) of Kimberley islands given that they are not conservation reserves. Any strategy would need to be a voluntary and largely self-regulating. However, the feasibility of this approach is worth further consideration. The Kimberley Science and Conservation Strategy will hopefully be a significant step towards developing agreed approaches to tourism in high conservation value areas, including Kimberley islands.

5. *Research be conducted to identify Kimberley islands and species on islands that will be deleteriously affected by climate change, particularly islands with Kimberley endemics and islands with seabird and turtle breeding rookeries, and strategies be developed to minimise impact.*

Supported. DEC's Science Division sets research priorities at a statewide level and reviews these on a regular basis. Climate change has been recognised within DEC as a research and management issue, and potential issues arising from predicted climate change are considered in research planning. Specifically, climate change was identified as a threat to WA's island biodiversity at a science planning workshop organised by DEC's Science Division in 2008. Broad concept plans were developed, and the following issues were raised at the workshop: the direct impact on island biodiversity, particularly threatened mammal species; and the impact of rising sea levels on WA's islands, in particular for turtle species which use beaches for nesting.

A marine turtle recovery plan is being prepared by DEC. The marine turtle recovery team has committed to collect, collate and map information on important nesting sites; conduct surveys for further important nesting sites that are currently not well known; and develop a research plan for turtles in WA, including to predict, monitor, model and manage the effects of climate change on marine turtle biology, ecology and habitat. Major and minor nesting sites (where tagging has been undertaken) have been mapped for flatback, green, hawksbill and loggerhead turtles in the draft recovery plan.

SECTION 4.6: PLANNING RECOMMENDATIONS

1. *The Conservation Commission and DEC work towards including all Kimberley islands in the State's protected area system in a manner that takes account of the rights and aspirations of traditional owners.*

Requires evaluation and consideration. It is agreed that high priority and representative Kimberley islands should be included in the State's protected area system. However, the inclusion of all (2,633) Kimberley islands may not represent a practical example of good systematic conservation planning. Inclusion of all Kimberley islands would create redundancy in the conservation reserve system for the region and is likely to be strongly opposed by mining and development interests, and also possibly those with native title interests.

A more strategic approach that identifies high conservation value islands for reservation may be a better and more cost-effective option. The potential for joint management of islands with native title holders, taking a conservation focus, is an avenue that is worth pursuing, but is dependent in part on legislative change. There are also a number of models of conservation title that have been developed and are incorporated in *Australia's Strategy for the National Reserve System 2009-2030.* These include covenanted lands managed primarily for conservation and other options than traditional conservation reserves. It seems most likely that a network of formal and informal reserves, along with otherwise protected areas, as well as identified development areas, will be the logical outcome for the Kimberley islands in order to meet the aspirations of the range of competing interests.

SECTION 5.2: INPUTS RECOMMENDATIONS

1. *(DEC) Kimberley Region be provided with an identified budget for management of islands.*

   Supported in part, subject to clear identification of management responsibilities. A new budget for conservation management of high value Kimberley islands would be welcomed, but must be considered in terms of competing Government priorities.

2. *Visits to high priority islands be frequent and regular and include biosecurity surveillance. Staff visiting islands should be trained so that they can record and evaluate necessary information.*

   Supported in part. The frequency and scheduling of island visits will continue to be subject to resource availability, necessary approvals from land managers and native title owners and aspirants,

3. *The Kimberley Islands Biological Survey be extended so that the biodiversity of many other larger Kimberley islands can be documented, plus a random sample of small islands.*

   Not agreed. The Kimberley Islands Biological Survey has been a major undertaking that is several years off concluding. While further biological surveys will certainly be priorities in future, it is most appropriate to conclude the current survey before undertaking detailed future survey planning. It is anticipated that recommendations for further research will be indentified in the Kimberley Science and Conservation Strategy and the findings of the current survey when completed.

SECTION 6.2: MANAGEMENT SYSTEM RECOMMENDATIONS

1. *Commercial tourism operators and other visitors to Kimberley islands need better regulation and supervision. DEC work with tourism operators using Kimberley islands to develop and implement a biosecurity protocol.*

   Supported in part. Lead Government responsibility for biosecurity matters is through the Department of Agriculture and Food (DAF) under the *Biosecurity and Agriculture Management Act 2007*. DEC is willing to cooperate with DAF and other stakeholders within available resources to establish standard biosecurity protocols for island visits. Without specific regulations or a management responsibility for the islands, DEC would not be in a position to make such protocols enforceable. Another avenue for investigation would be the development, with DAF, of appropriate codes of practice and accreditation schemes, which can be recognised under the BAM Act. Given that some tour boats operating in this region travel between Broome and Darwin, there is also a cross-jurisdictional element to biosecurity issues. Therefore cross-jurisdictional codes of practice and accreditation schemes should also be considered.

2. *Populations of feral animals on Kimberley islands be eradicated (Adele Island (highest priority), Sunday Island, Browse Island).*

   Supported. Feral animal eradication programs will continue to be implemented in response to priority biodiversity conservation requirements as well as their likelihood of success. The first round of baiting for Adele Island is planned for late 2010. Sunday Island requires that neighbouring islands are first assessed for pest animals and

Browse Island presents some logistical difficulties that require further consideration before any control programs can be implemented.

3. *High biodiversity value islands be regularly surveyed for feral animals. Priorities for surveillance be developed as recommended in the Phase I Report.*

Supported in part. See responses to Recommendations 2 in Sections 3.4 and 5.2 above.

SECTION 8.2: OUTCOMES RECOMMENDATIONS

1. *The conservation of the biodiversity on Kimberley islands deserves a much higher priority by government than has been the case in the past. This can be achieved by protecting all Kimberley islands in a manner that respects the rights and aspirations of traditional owners. All Kimberley islands should be included in the national heritage list and most Kimberley islands and adjacent coast should be added to the World Heritage List.*

Not agreed. While much of the Kimberley region undoubtedly has nationally and internationally significant conservation values, it is premature to support such a recommendation in the absence of a formal assessment for National or World Heritage listing. An assessment for inclusion on the National Heritage List or nomination on the World Heritage Register is undertaken by the Commonwealth using set criteria. Furthermore, any listing would require the support of a broad range of stakeholders and the resolution of many competing, and likely conflicting, interests. The Commonwealth is currently evaluating a large portion of the Kimberley for National Heritage listing and the outcomes of this assessment are expected from about June 2010.

Department of Environment and Conservation
March 2010