
Raine Island National Park (Scientific) Management Statement 2006–2016

Cairns Marine District, Northern Region – effective December 2006

Vision Statement

Following dedication of Raine Island National Park (Scientific), the management of this protected area and the adjoining marine park areas will, to the extent permitted by law, be complementary and co-ordinated across relevant agencies, to control public access and to preserve and protect the area's outstanding biological diversity, cultural resources, and the significance of the area to Aboriginal and Torres Strait Islander people(s).

Indigenous cultural resources, values and practices will be recognised, respected and protected, and Aboriginal and Torres Strait Islanders, in particular those groups who assert that they are the holders of native title in relation to Raine Island National Park (Scientific) and the adjoining marine park areas, will be meaningfully involved in the planning for, and management of, these resources.



1 Introduction

Raine Island, MacLennan Cay and Moulter Cay are proposed to be dedicated as Raine Island National Park (Scientific). This proposed national park (scientific) and the surrounding waters are places of Aboriginal, Torres Strait Islander and European historical significance.

The State of Queensland (represented by the Environmental Protection Agency) has negotiated an Indigenous Land Use Agreement (Area Agreement) with the Wuthathi People and Erubam Le, Meriam Le and Ugarem Le, concerning the proposed Raine Island National Park (Scientific) and surrounding waters extending 3 nautical miles from the high water mark of Raine Island, MacLennan Cay and Moulter Cay ("the ILUA"). The area the subject of the ILUA is referred to as the "Agreement Area" in this Management Statement.

The Wuthathi People identify as the traditional owners and holders of native title rights and interests in the Agreement Area, including holding custodial rights to speak for, govern and manage native title rights in the Agreement Area. The Erubam Le, Meriam Le and Ugarem Le identify as holders of native title rights and interests in the Agreement Area.

Together, the Wuthathi People, Erubam Le, Meriam Le and Ugarem Le are identified as the "Indigenous Parties" for the purpose of this Management Statement.

This Management Statement and the ILUA are intended to facilitate the meaningful involvement of the Indigenous Parties in the management of the proposed national park (scientific) and adjacent marine parks, and to provide a management framework, within existing legislative frameworks, that is consistent with their aspirations and interests.

It is intended that Raine Island National Park (Scientific) will be dedicated under the *Nature Conservation Act 1992* incorporating three vegetated coral cays: Raine Island (21 hectares), Moulter Cay (8.6 hectares) and MacLennan Cay (2.4 hectares). This area is located in the East Cape York Marine Bioregion and within the Far Northern Management Area of the Great Barrier Reef Marine Park (GBRMP). This remote area of the Great Barrier Reef (GBR) was the site of numerous shipwrecks particularly during the 1800s, and remains poorly charted today. Contemporary visitation to the area is low due to the distance from mainland and Torres Strait island communities, generally rough seas, and poor vessel anchorages.

The proposed Raine Island National Park (Scientific) has very significant natural and cultural heritage values by supporting:

- a significant cultural and story place for the Indigenous Parties;
- the world's largest known rookery for the internationally endangered green turtle (*Chelonia mydas*);
- the most significant seabird rookery in the Great Barrier Reef World Heritage Area; and
- a stone beacon constructed on Raine Island in 1844, which is a landmark of national cultural significance (listed on the State Historic Inventory Record, and the Commonwealth National Estate Database).

Under the *Nature Conservation Act 1992* national parks (scientific) must be managed consistent with the management principles for national parks (scientific), which are stated at section 16 of that Act. It is intended that future access to Raine Island National Park (Scientific) will be restricted (by permit) to essential management-related scientific research, approved photography, filming and sound recording, and approved activities undertaken by the Indigenous Parties consistent with the ILUA, and assessed to be consistent with the management principles for national parks (scientific) and other legislative requirements, taking into account relevant policies and planning and the input of the Indigenous Parties (refer Section 3).

The waters surrounding the proposed Raine Island National Park (Scientific) are declared *Restricted Access Special Management Areas (RA-SMA)* under both the Great Barrier Reef Marine Park Authority (GBRMPA) *Great Barrier Reef Marine Park Regulations 1983*, and the Queensland Government *Marine Parks (Great Barrier Reef Coast) Zoning Plan 2004* (see Appendix 1). RA-SMAs generally must not be entered without written permission from the relevant agencies - the Environmental Protection Agency (through the Queensland Parks and Wildlife Service (QPWS)) and the Commonwealth Great Barrier Reef Marine Park Authority (GBRMPA). A Position Statement between the EPA and GBRMPA regarding the RA-SMA is provided in Appendix 2.¹

¹ The Position Statement may be amended from time to time with the agreement of GBRMPA.

2 Location and context

Raine Island (11°36'S, 144°01'E) is an outer barrier cay located on the western (leeward) end of a 210 hectare planar detached reef, approximately 170 kilometres south-east of the tip of Cape York Peninsula and 80 kilometres east-north-east of Cape Grenville. Nearby Moulter Cay and MacLennan Cay are smaller oceanic vegetated coral cays with related geomorphology and ecology. Scientific records from 1843 to 2003 have identified a total of 84 bird species including 16 breeding species, five of which are considered uncommon or rare in Queensland. Raine Island is also the world's largest remaining rookery for the internationally endangered green turtle (*Chelonia mydas*) and has been a nesting site for green turtles for more than 1000 years.

The proposed national park (scientific) sits within the boundaries of the Great Barrier Reef Marine Park (Commonwealth), the Great Barrier Reef World Heritage Area, and adjoins the Great Barrier Reef Coast Marine Park (Queensland). The islands' high conservation values are enhanced by coral reefs managed under both State and Commonwealth marine park legislation and related zoning plans. The reefs and waters surrounding the proposed national park (scientific) are zoned "Marine National Park Zone." The objectives of this zone are: "(a) to provide for the protection of the natural integrity and values of areas of the Marine Park, generally free from extractive activities; and (b) subject to the objective mentioned in paragraph (a), to provide opportunities for certain activities, including the presentation of the values of the Marine Park, to be undertaken in relatively undisturbed areas."

The area also falls within the boundaries of the GBRMP Far Northern Management Area – "Remote Natural Area". The objectives of a Remote Natural Area are: "(a) to ensure that the area remains in a state that is largely unaltered by works or facilities; and (b) to provide opportunities for quiet appreciation and enjoyment of the area."

The (Queensland) Great Barrier Reef Coast Marine Park includes the tidal lands and tidal waters around the islands from high water mark, seaward to three nautical miles offshore. The State and Commonwealth marine park boundaries overlap from the low water mark to three nautical miles from the high water mark. The remote nature of the proposed national park (scientific) and its significance for sea turtle and seabird nesting makes it appropriate to manage vulnerable island resources by controlling human access through the adjoining marine park(s). Complementary management provisions in the overlapping areas (reef, beach, and island foreshore) ensure seamless ecosystem-based management. Consistency of zoning and policy prescriptions (across tenure) also facilitates public understanding and voluntary compliance with management requirements.



3 Management intent

The Environmental Protection Agency, through the QPWS, is responsible for managing the proposed Raine Island National Park (Scientific). Rangers based at Cairns currently carry out day-to-day management of the area. This Management Statement indicates the way in which QPWS (in partnership), intends to manage the islands, and provides the context within which park managers will make decisions, within the relevant legislative frameworks.

The proposed national park (scientific) contains significant natural and cultural values, which will be protected under these management arrangements. While marine park zoning plans provide potential opportunities for nature-based recreation and tourism under permit, general public access to the *RA-SMA* and the Raine Island National Park (Scientific) will be restricted all year to afford protection to terrestrial and marine resources. Access may be provided by permit under special circumstances (e.g. management-related research). Where possible the co-operative involvement of the Indigenous Parties will be acknowledged and promoted. This Management Statement is not intended to "affect" any native title rights and interests, as defined by the *Native Title Act 1993 (Cth)*, within the Agreement Area.

In keeping with the marine park *Restricted Access Special Management Area* status, no public facilities are provided on these islands, and infrastructure that conflicts with the natural and or cultural values will not be permitted. Complementary management of both the adjoining Great Barrier Reef Coast Marine Park (Queensland), and adjacent Great Barrier Reef Marine Park (Commonwealth) is necessary to achieve sustainable management. Consistent management arrangements and close co-operation between QPWS, GBRMPA and the Indigenous Parties is intended to ensure that the special values of these islands, cays, and reefs are protected.

The primary purpose of management will be to ensure that:

1. species of critical conservation significance, particularly nesting seabirds including the "critically endangered" herald petrel (*Pterodroma arminjoniana*), "vulnerable" red-tailed tropicbird (*Phaethon rubricauda*), and the internationally endangered green turtle (*Chelonia mydas*) are protected from the impacts associated with human use;
2. the cultural and historical values of Raine Island including the tower (1844), gravestone, related relics, and cultural "fabric" are protected;
3. access to the proposed national park (scientific) is restricted to the following activities to the extent they are consistent with the management principles for national parks (scientific) and other relevant legislative requirements:



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- (a) approved scientific research, which cannot reasonably be conducted elsewhere and which has a direct benefit to the Raine Island National Park (Scientific);
 - (b) approved photography, filming and/or sound recording, which cannot reasonably be conducted elsewhere, and which provides an exceptional contribution to the public interest (including a significant contribution to the conservation of nature), and the advantages to the national park (scientific) and the public interest demonstrably outweigh any potential disturbance to the park;
 - (c) any other approved activity that operates in support of (a) or (b); and
 - (d) approved activities to be undertaken by the Indigenous Parties, consistent with the ILUA.
4. introduced plant or animal species are controlled and or eradicated;
 5. the rights and interests of the Indigenous Parties, including native title rights and interests, with traditional affiliations to the Agreement Area are recognised, respected, protected and presented (where appropriate) within the context of co-operative management arrangements; and
 6. to the extent possible, management of the adjacent marine park reflects the importance of the proposed Raine Island National Park (Scientific) and the vulnerability of the species that use the island/cays and surrounding waters.

3.1 Nature conservation

Raine Island, MacLennan Cay, and Moulter Cay combine elements of Great Barrier Reef islands and Pacific islands in their location, associated flora and fauna, and adjacent bathymetry. Raine Island is by far the largest of these oceanic cays and its significance as a seabird and turtle rookery is recognised internationally. The surrounding oceanic waters also have high values as feeding grounds for other marine animals that congregate in the area. Green turtles are known to have nested at Raine Island for more than 1000 years and stock populations at these rookeries have been found to be genetically different from southern GBR populations, and are known to travel as far as Indonesia, Papua New Guinea and the Solomon Islands in-between breeding cycles. This migration away from the relative protection of the GBR to neighbouring countries engaged in the harvest of turtles raises concern for the future stability of the Raine Island turtle rookery. Indeed there are biological indications that the northern GBR genetic stock of green turtles may already be in the early stages of population decline.

Unlike more southern cays, seabird nesting occurs throughout the year with winter and summer peaks. Scientific records from 1843 to 2003 have identified a total of 84 bird species, five of which are considered uncommon/rare in Queensland, and 16 breeding species, including:

- herald petrel, *Pterodroma arminjoniana hereldica* (endangered in Australia) — Raine Island is the only recorded nesting in the Great Barrier Reef World Heritage Area (GBRWHA);
- red-tailed tropicbird, *Phaethon rubricauda* (vulnerable in Australia) and the largest population in the GBRWHA;
- wedged-tailed shearwater, *Puffinus pacificus* as the most northern colony in the GBRWHA;
- masked booby, *Sula dactylatra* as the largest colony in the Coral Sea and GBRWHA;
- lesser frigatebird, *Fregata ariel* as the only colony on the GBRWHA and isolated from other colonies in Australia;
- brown booby, *Sula Leucogaster* as one of three main colonies in eastern Australia;
- common noddy, *Anous stolidus* as one of three principal colonies in the GBRWHA.



Population comparisons between 1979 and 1993, and between 1994 and 2003, indicate a significant decline in 13 out of the 16 nesting bird species over a 24-year period; however similar declines have been noted for some species throughout the GBRWHA (e.g. brown boobies at the Swain Reefs). Raine Island is also the site of a unique breeding and feeding association between the rufous night heron and the green sea turtle.

MacLennan Cay and Moulter Cay are small, vegetated cays, which support significant colonies of nesting boobies and terns during summer and winter and which provide additional habitat for green turtle nesting. Moulter Cay has a central phosphate rock platform similar to, but lower than, Raine Island, while MacLennan Cay is only 0.5 metres above high water spring tides and is frequently inundated by storm surges.

3.2 Cultural

Significantly, Raine Island is visible (on a clear day) from the top of Sir Charles Hardy Island to the west. There is information to suggest that in pre- and post-European times, maritime Aboriginal and Torres Strait Islander groups (including the predecessors of the Indigenous Parties) exercised rights of use, which included the Raine Island area. The Torres Strait Islanders from eastern Torres Strait, Murray, Darnley and Stephen Islands sailed large dugout canoes, which visited the area prior to European arrival. The Wuthathi People (and their predecessors) constructed seaworthy canoes, both single and double outriggers, and maintained cultural and social contacts with the Torres Strait Islanders in the far north. The Indigenous Parties (and their predecessors) used the islands, reefs, and waters of the outer barrier extensively from the 1840s in response to the growing commercial exploitation of turtles, pearls and trochus, and later also beche-de-mer. The eastern Torres Strait Islander names carved on the stone tower reflect the mobility and occupational habits of these people, both in co-operation with European ventures and Islander owned and crewed vessels.

European discovery of the island by Captain Thomas Raine in 1815 subsequently led to passing ships collecting seabirds, eggs and turtles for food. At least twenty-one 18th and 19th century sailing ships were shipwrecked in the Raine Island area. To date only three of these wrecks, including the *HMS Pandora*, have been located. As an aid to ships traversing this part of the reef, a stone beacon was constructed on Raine Island in 1844 by convict labourers. Ironically, timbers from the wreck of the *Martha Ridgeway* were used in the construction of the tower. This expedition included the first scientists to visit the island including geologist J. Beete Jukes who later published a drawing of the island.

The north-west area of the island (below the scarp), offers shelter from the prevailing south-easterly winds and was historically used as a camping area. Commercial ventures including guano miners (1890–1892) also used the leeward end of the island to load guano via a tramway and jetty. The grave and headstone of Annie Ellis, mother of the mine manager buried on the island in 1891, is a potent reminder of the hardships endured by the islands inhabitants. The stone beacon, which stands 14 metres tall, includes 900 legible carved or painted inscriptions including Erubam Le, Meriam Le, and Ugarem Le names and is a landmark of national cultural significance listed by the National Trust of Queensland.

The area's remoteness has contributed to unauthorised resource harvesting including clams (1984 reports). Several recent (2006) incursions of foreign fishing vessels in the far northern GBR suggest that illegal harvesting of marine resources may remain a potential threat to the proposed national park (scientific).



3.3 Recreation, tourism, education and science

Apart from historical periods of occupation, Raine Island, MacLennan Cay and Moulter Cay have generally experienced low human visitation due to the absence of adjacent population centres. Growth in the occurrence of private cruising vessels, increasing dive/cruise eco-tourism in the far northern GBR, and limited government patrol presence, suggests that the proposed national park (scientific) could experience some unauthorised visitation (in favourable weather).

Aside from reported historical illegal fishing/harvesting, visitors to the area have, in the past, been focussed upon opportunistic viewing of sea turtles, seabirds and the Raine Island tower, in what is an attractive maritime wilderness setting. Exposed reef anchorages often restrict vessel access to the reefs/cays. The area's high natural, scientific significance makes it a focus of ongoing research and filming proposals including high profile commercial natural history filming proposals depicting terrestrial and underwater marine life. Where appropriate, these activities have been authorised by the granting of special access permits to both the proponents and associated live-aboard vessel charter companies.



Early this century, Raine Island was the subject of sporadic scientific research mostly related to seabirds. W. MacGillivray, an ornithologist, visited the island in 1910 and 1913. Regular research has been conducted since the 1980s concentrating on the island's geomorphology and turtle and seabird populations. As the largest of the oceanic cays, Raine Island is the focus of an extensive body of scientific knowledge including the age and development of the present-day reef and island, and globally significant studies pertaining to the sea turtles, which visit the island each year. A number of research programs are ongoing as questions such as the long-term viability of the turtle rookery, and whether oceanic up-welling is responsible for providing atypical food conditions in the waters around Raine Island, remain unanswered.

Despite the extensive guano mining in the past, Raine Island has revealed an unusual geomorphology consisting of a hardened underlying layer trapping both rain and salt water, and which may contribute to turtle egg viability (hatchling mortality) by affecting sand moisture levels during nesting periods. Ecological interconnectedness is demonstrated by the unique breeding and feeding association between the rufous night heron and the green sea turtle. These interrelationships between the physical processes and the ecology of the area require further research to ensure that management arrangements will protect endangered species such as the Herald petrel from the effects of human intrusion.

3.4 Community partnerships

Several authorities/organisations have had shared responsibilities toward the management of Raine Island, including the Raine Island Corporation, QPWS, and GBRMPA. These organisations developed integrated arrangements including management policy, access/permit conditions, and guidelines for visitors. As the Raine Island Corporation was dissolved in 2005, the principal management agencies are now the QPWS and GBRMPA.

The Indigenous Parties have aspirations for meaningful involvement in management of their land and sea country including the proposed Raine Island National Park (Scientific). These management aspirations endeavour to link with the authorities/organisations, which also have shared responsibilities for the management of Raine Island and surrounds.

Currently, access to the waters surrounding the proposed national park (scientific) is managed by the joint Commonwealth/State RA-SMAs, which have been declared around Raine Island, Moulter Cay and MacLennan Cay. RA-SMAs generally must not be entered without written permission from the relevant agency (QPWS and GBRMPA). Under these arrangements it is intended that future requests for approval to access the proposed national park (scientific) for the purpose of scientific research, photography, filming, sound recording, and other related activities will be carefully assessed. Given the management principles for national parks (scientific) future requests for approval to access the proposed national park (scientific) for recreation and tourism purposes are unlikely to be granted.

4 Basis for management

Section 16 of the *Nature Conservation Act 1992 (NCA1992)* states that a national park (scientific) is to be managed to:

- a) *Protect the area's exceptional scientific values and, in particular –*
 - (i) *to ensure that the processes of nature continue unaffected in the area; and*
 - (ii) *to protect the area's biological diversity to the greatest possible extent; and*
- b) *Allow controlled scientific study and monitoring of the area's natural resources.*

Where there is insufficient scientific information, or reasonable doubt regarding the impact of a particular activity, the *precautionary principle*² will be applied to applications for permits to enter the national park (scientific) and to undertake the activity.

As previously stated, this Management Statement and the Raine Island National Park (Scientific) Indigenous Land Use Agreement are intended to facilitate meaningful involvement of the Indigenous Parties in the management of the Raine Island National Park (Scientific) following dedication, and to provide a management framework within the existing legislative frameworks that is consistent with their aspirations and interests.

² Section 25 (3) *Nature Conservation (Administration) Regulation 2006*.

5 Protecting and presenting the park

5.1 Landscape

The oceanic cays that are proposed to constitute the Raine Island National Park (Scientific) are believed to have been formed during the last 4700 years following the post-glacial sea level rise. Raine Island is a significant vegetated cay 830 metres long and 430 metres wide and consisting of four clearly defined concentric zones; the beach, phosphate rock cliff (derived from bird excrement), vegetated ridge, and central depression. The cay is subject to tidal and wave influence and long-term recession on the north-east shoreline threatens the stability of the beacon foundation. Vegetation consists of a low matt of grasses, herbs, and shrubs, comprising 13 species recorded since 1973. The various zones at Raine Island provide specialised habitat requirements such as earth mounds and cliff cavities for nesting seabirds such as wedge-tailed shearwaters, boobies, and red-tailed tropicbirds. Species interactions are not without conflict as the success of summer seabird breeding is greatly affected by the total foreshore disturbance (digging) resulting from mass turtle nesting. Notably the central depression at Raine Island (a remnant of guano mining) may have increased rainfall capture and altered the island's hydrological processes.

Moulter Cay (8.6 ha) is situated on the north-west tip of Pandora Reef on the outer GBR. The cay is composed of a wide coral sand beach adjoining a vegetated depression with a low (<1 metre in height), discontinuous cliff of loosely cemented coralline rock surrounding a raised central vegetated platform up to three metres above high water mark. The island's grasses and herbs are severely disrupted during peak turtle nesting seasons but recover during the latter part of the northern monsoon. Phosphate rock cliffs on Raine Island and Moulter Cay provide an important natural barrier that prevents turtles accessing the central vegetated seabird breeding areas. Without this geomorphologic feature, nesting turtles would traverse the entire islands and severely disrupt seabird nesting and associated habitat. MacLennan Cay is small (450 x 70 metres, 2.4 ha) situated on the western end of a small barrier reef. The cay consists of a coral sand and shingle beach with beach rock on the eastern side surrounding a central sparsely vegetated zone comprising three species of low herbs and grasses.

Status and opportunities 2006	Desired outcome	Actions and guidelines
<p>The area proposed to be dedicated as national park (scientific) exhibits rare examples of oceanic cays on the northern GBR, which have high scenic, aesthetic and natural values.</p> <p>The geomorphology of Raine Island provides unique opportunities to study the structure and shape of the Pleistocene substrate on which the present (Holocene) reef has developed.</p> <p>Vessel patrol and surveillance activities in the area are infrequent and unauthorised access is difficult to prevent.</p>	<p>L1. Access to the Raine Island National Park (Scientific) is restricted to authorised groups.</p> <p>L2. There are no visible signs of contemporary human use on the islands' landscape values.</p>	<p>L1a. Permitted access and use is consistent with the management principles for national parks (scientific) under the <i>NCA1992</i>.</p> <p>L2a. Permanent structures will not be permitted on the islands.</p>

5.2 Plants and animals

Plants

Raine Island - Vegetation consists of a low matt of grasses, herbs and shrubs in which thirteen plant species have been recorded since 1973 (see Appendix 5). Notably the herb *Lepidium englerianum* was last recorded in 1973.

Moulter Cay - Seven plant species have been recorded; grasses *Lepturus repens* and *Dactyloctenium aegyptium*, herbs *Tribulus cistoides* and *Achyranthes aspera* and *Portulaca oleracea*, and shrubs *Boerhavia diffusa* and *Sesbania cannabina*.

MacLennan Cay - Vegetation is of variable density reflecting the island's narrow shape and exposure to weather and storm surge. The central vegetated zone contains three plant species; a tussock grass *Lepturus repens*, herb *Portulaca olerace*, and low shrub *Boerhavia diffusa*.

Status and opportunities 2006	Desired outcome 2016	Actions and guidelines
<p>The plant communities on the islands appear to be undisturbed.</p> <p>The successful breeding of the various bird species depends on the continuing viability of specific vegetation types on each island. The vegetation of the islands is not fire dependent or fire affected.</p> <p>Unauthorised access may lead to vegetation damage and the introduction of weed species.</p>	<p>P1. Effective surveillance and education programs ensure that unauthorised access to the national park (scientific) is negligible.</p> <p>P2. The vegetation integrity of the islands remains intact with any changes resulting from natural processes.</p>	<p>P1a. General public access is closed (all year) to the Raine Island National park (Scientific) and adjacent marine park Restricted Access Special Management Areas.</p> <p>P1b. Vessel and aircraft surveillance programs and publicly available management information effectively deter illegal access to the <i>Restricted Access Special Management Areas</i> and the Raine Island National Park (Scientific) and prevent human interference with plant communities.</p> <p>P1c. Utilising Indigenous Parties, where practicable, in the development of surveillance programs and publicly available management information.</p> <p>P1d. Access is restricted to essential management purposes and authorised activities (e.g. research), which has a direct benefit to the Raine Island National Park (Scientific). Permits should specify relevant seasonal conditions, restrictions on method (e.g. night access), research equipment (e.g. acceptable lighting) and may restrict access to sensitive areas (e.g. known seabird breeding areas).</p> <p>P2a. Island vegetation will be monitored to identify any changes that may be attributed to human use.</p> <p>P2b. Introduced weeds will be monitored, controlled and or eradicated by appropriate means.</p> <p>P2c. Fires are prohibited on the island/cays.</p>

Animals

The terrestrial fauna associated with the proposed Raine Island National Park (Scientific) is inextricably linked with the adjacent marine environment. The location of Raine Island in a major reef passage on the continental shelf slope and, exposure to strong tidal currents, suggests that it is an area of probable shelf edge up-welling of nutrients into the surrounding waters. While this remains speculative, the seasonal presence of dense nesting populations of turtles and birds on the island implies that trophic relations on the adjacent reef may be atypical. Observations of feeding of large seabird populations may also indicate that localised oceanographic conditions influence planktonic species and associated fish assemblages that form the diet of nesting seabirds. Large aggregations of oceanic sharks are another significant feature of Raine Island during turtle reproductive activity. Detailed fauna surveys of these islands have in the past been infrequent. Notably, Raine Island is the only known nesting site for critically endangered Herald petrels in Australian waters (See Appendices 3 and 4).

Status and opportunities 2006	Desired outcome 2016	Actions and guidelines
<p>Raine Island is recognised as the most significant rookery in the Great Barrier Reef Region for seabirds and represents the world's largest remaining rookery for the green turtle (<i>Chelonia mydas</i>). Comparison populations between 1979 and 1993, and between 1994 and 2003 indicate a decline in 13 out of the 16 bird species, with combined averages for all 16 species indicating a reduction in population by 16,347 birds or 69.7% over a 24 year period.</p> <p>Unauthorised access is difficult to manage and poses a threat to seabird breeding. Use of airspace above the Raine Island National Park (Scientific) is unrestricted and low-level aircraft pose a potentially significant threat to fauna (particularly seabirds).</p>	<p>A1. Effective surveillance and education programs ensure that unauthorised access to the Raine Island National Park (Scientific) is negligible.</p> <p>A2 Future access to Raine Island National Park (Scientific) is restricted to approved research, photography, filming and sound recording activities, and other activities that operate in support of the above-mentioned activities and approved activities to be undertaken by the Indigenous Parties, consistent with the ILUA. (refer Section 3 above)</p> <p>A3. Aircraft over flight of the cays is prohibited to protect vulnerable seabird nesting.</p>	<p>A1a. General public access is closed (all year) to the Raine Island National Park (Scientific) and adjacent <i>Marine Park Restricted Access Special Management Areas</i>.</p> <p>A1b. Vessel and aircraft surveillance programs and publicly available management information effectively deter illegal access to the <i>Restricted Access Special Management Areas</i> and the Raine Island National Park (Scientific) and prevent human interference with marine and terrestrial resources.</p> <p>A1c. Utilising Indigenous Parties, where practicable, in the development of surveillance programs and publicly available management information.</p> <p>A2a. Access is restricted to essential management purposes and authorised activities (e.g. research), which have a direct benefit to the Raine Island National Park (Scientific). Permits should specify relevant seasonal conditions, restrictions on method (e.g. night access), restrictions on equipment (e.g. noise/acceptable lighting) and may restrict access to sensitive areas (e.g. known seabird breeding areas).</p> <p>A3a. Appropriate legislative instruments are used to restrict aircraft over flight (all year) to a minimum of 3000 feet above sea level over the national park (scientific) and above the sea that is within three nautical miles from the boundary of the national park (scientific).</p>

5.3 Indigenous culture

The EPA (QPWS) and the Indigenous Parties have negotiated the Raine Island National Park (Scientific) Indigenous Land Use Agreement (Area Agreement) for the Agreement Area.

Status and opportunities 2006	Desired outcome 2016	Actions and guidelines
<p>The island and surrounding reef are of cultural significance to the Indigenous Parties. No systematic assessment of the island's indigenous cultural values has been undertaken and these values are not clearly understood.</p> <p>The Raine Island National Park (Scientific) Indigenous Land Use Agreement has been negotiated between the Indigenous Parties and the State of Queensland (represented by the Environmental Protection Agency).</p>	<p>C1. The cultural heritage of the islands is known and protected in continuing association with the Indigenous Parties</p>	<p>C1a. QPWS will collaborate on a regular basis with the Torres Strait Regional Authority (TSRA) and the Wuthathi Land Trust representatives in relation to emerging and current research/management initiatives affecting the Agreement Area to allow them to facilitate involvement of the Indigenous Parties and information dissemination to the respective groups.</p> <p>C1b. The cultural values of the islands are documented in conjunction with the Indigenous Parties.</p> <p>C1c. Manage sites/values under an agreement with Indigenous Parties and relevant partners according to current best practice.</p> <p>C1d. Implement the ILUA.</p>

5.4 Non-indigenous culture

Raine Island is a place of both indigenous and non-indigenous historical significance. From the first European sighting of the island by Captain Thomas Raine in 1815 well into the 1870s, Raine Island was used as a victualling stop by passing ships. Many vessels were wrecked on the nearby reefs, including the *Martha Ridgeway* 40km south of the island in 1841. As a result the colonial government constructed a beacon (unlit) to mark a safe passage through the reef. A 14 metre double-walled stone tower was completed in four months and today remains the oldest colonial stone building in the State of Queensland. Since construction, most of the internal walls have been covered with carved and painted historic names from passing European ships and Aboriginal and Torres Strait Islanders mostly working on pearling and Trochus luggers and other commercial fisheries.

Thousands of years of seabird occupation resulted in significant deposits of guano attracting commercial interest as early as 1865. J.T. Arundal Company commenced commercial mining (1890–1892), obtaining a lease over the entire island with construction of tram tracks, locomotive transport, a loading jetty and employment of 100 Chinese & Malay workers with European supervisors. It is estimated that tens of thousands of tonnes of fertiliser were dug and exported mostly to Europe, resulting in the central depression (still a major feature of the island

landscape today). Documented history indicates that Raine Island was inhabited for extended periods on three occasions: during the building of the navigation beacon, by the beche-de-mer fishery crews in the 1870s, and by guano miners for two years from 1890 to 1892. During these occupations, turtles, birds, and reef animals including giant clams formed the staple diet. A grave near the tower is that of the supervisor's mother, Annie Eliza, who died in 1891 aged 52 years. Today, surrounded by nature's own struggle for survival, her tombstone bears testament to the island's unforgiving conditions.

A number of significant archaeological investigations/works were undertaken at Raine Island in 1983, 1987 and 1995. The first expedition contracted by the Raine Island Corporation excavated trenches inside the tower and catalogued hundreds of small archaeological finds. Ashes recovered indicate that early beche-de-mer operations may have burned the tower's original timbers. A subsequent grant under the Australian Bicentennial Project enabled Scottish stonemason, Iain Watson, and crew to complete tower restoration and foundation repairs (1987) including, replacement block fabrication, sealing of the parapet top, and construction of an aluminium access ladder/viewing platform to enable future researcher observational possibilities. A related expedition in 1994 completed exterior pointing of stonework and the installation of lightning conductors. An archaeological investigation in 1995 by Austral Archaeology made recommendations for future guidelines in long-term management including the development of a Raine Island Cultural Sites Conservation Policy. The stone beacon remains protected as a landmark of national cultural significance and is listed by the National Trust of Queensland.

Status and opportunities 2006	Desired outcomes 2016	Actions and guidelines
<p>The proposed Raine Island National Park (Scientific) includes a landmark of national cultural significance (stone beacon) and other significant historical items and is listed by the National Trust of Queensland.</p> <p>Little or no cultural evidence remains of other significant historic events such as beche-de-mer fishing and the tramline and jetty constructed during guano mining.</p> <p>It is unlikely that significant new cultural items will be found within the proposed national park (scientific).</p>	<p>C2. The high value of cultural heritage of the islands is reflected within contemporary management arrangements and practices.</p> <p>C3. Cultural knowledge is retained and protected.</p>	<p>C2a. The status and preservation of non-indigenous cultural heritage is monitored and recorded.</p> <p>C2b. The stone beacon including foundations, gravesite and historic names inscribed on the walls are preserved and protected from human and environmental damage.</p> <p>C3a. Park management arrangements take account of and implement (where possible) existing cultural knowledge including results and recommendations of archaeological investigations and reports.</p>

5.5 Recreation and tourism

The importance of the proposed national park (scientific) is such that public recreation and tourism are not consistent with the area's conservation and cultural status, as reflected in the management principles for national parks (scientific). Recreation and tourism will remain unaffected in the marine park areas outside of the *Restricted Access Special Management Area* boundaries.

Status 2006	Desired outcome	Actions and guidelines
<p>Access to Raine Island, Moulter Cay, and MacLennan Cay is restricted via the marine park(s) <i>Restricted Access Special Management Area</i> and provisions under the <i>Nature Conservation Act 1992</i>.</p> <p>An amount of unauthorised human access to the area is believed to occur.</p> <p>Limited available information and signage may contribute to inappropriate visitor behaviours and impact upon key park values.</p>	<p>R1. The Raine Island National Park (Scientific) is free of human activity except for those matters addressed in section 3 above.</p>	<p>R1a. The Raine Island National Park (Scientific) is included as a high priority for Coastwatch aerial surveillance activities. (To protect nesting seabirds, Coastwatch surveillance protocols should exclude direct over flight of the Raine Island National Park (Scientific).)</p> <p>R1b. Public information is widely available to inform cruising vessels and commercial operators of the existing and future access restrictions.</p> <p>R1c. GBRMPA and QPWS management arrangements / policies are consistent and coordinated across tenure.</p>

5.6 Education and science

Status 2006	Desired outcome	Actions and guidelines
<p>Permit conditions require that an authorised QPWS officer accompanies permitted research and other activities.</p> <p>There is no visitor information sheet available for the Raine Island National Park (Scientific).</p> <p>Current signage and management information may not adequately indicate marine park and island access restrictions.</p>	<p>E1. Future research, monitoring, and education activities provide a basis for sustainable management of the Raine Island National Park (Scientific) centred on the island's seabird, turtle and Aboriginal and Torres Strait Islander cultural values.</p>	<p>E1a. Permits may be issued for appropriate activities (subject to detailed assessment) in accordance with legislative requirements and taking into account relevant policy, agreements and protocols.</p> <p>E1b. Off-park management information will inform visitors of seabird significance, access restrictions and appropriate behaviours.</p> <p>E1c. Scientific research into the fauna and flora of the island/cays and surrounding marine park waters continues.</p> <p>E1d. The Indigenous Parties will be involved in the assessment of permits for travel to the Agreement Area. This will enhance the Indigenous Parties' involvement in the management of the Agreement Area.</p>

<p>Contemporary cultural, turtle and seabird research has been ongoing since 1979 and continues to reveal the importance of conservation of the area.</p>		<p>E1e. It is proposed that a delegate from each of the Indigenous Parties (that is, a total of two (2) people) will be funded to accompany permitted vessels visiting the Agreement Area and that this cost will be borne by the permittee. This will enable indigenous delegates to witness research and/or other approved activities and provide advice and guidance to the permittee/s.</p>
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5.7 Community partnerships

Principal partners in the management of the Raine Island National Park (Scientific) are the QPWS and GBRMPA. As previously stated, this Management Statement and the ILUA are intended to facilitate the meaningful involvement of the Indigenous Parties in the management of the proposed national park (scientific) and adjacent marine parks, and to provide a management framework within the existing legislative frameworks that is consistent with their aspirations and interests. It is intended this will significantly enhance co-operative management between the State and the Indigenous Parties.

Status and opportunities 2006	Desired outcome 2016	Actions and guidelines
<p>Management responsibilities are shared between GBRMPA (Commonwealth) and QPWS (Queensland) in partnership with the Indigenous Parties.</p>	<p>P1. To the extent permitted by law, management is co-ordinated and consistent across agencies, and with the Indigenous Parties.</p>	<p>P1a. New partnership/funding options should be explored by QPWS to continue long-term research programs formerly funded and coordinated by the Raine Island Corporation.</p> <p>P1b. To the extent permitted by law, permit processes and arrangements will be complementary and co-ordinated between GBRMPA, QPWS and the Indigenous Parties.</p> <p>P1c. The QPWS will collaborate with GBRMPA to maximise the Indigenous Parties' involvement in the Agreement Area.</p> <p>P1d. The QPWS will inform the Indigenous Parties about unlawful activities in the Agreement Area so that the Indigenous Parties are informed of the situation.</p>

6 Other key issues and responses

Key issue and status 2006	Desired outcomes	Actions and guidelines
<p>Raine Island Nature Refuge status currently protects the ecological and cultural values of Raine Island, Moulter and MacLennan cays.</p> <p>An Indigenous Land Use Agreement for the Agreement Area has been negotiated between the State of Queensland (represented by the Environmental Protection Agency) and the Indigenous Parties.</p>	<p>O1. The ILUA has been executed, registered and implemented.</p> <p>O2. The park is protected by national park (scientific) tenure status.</p>	<p>O1a. Register and implement the ILUA.</p> <p>O2a. Implement this Management Statement.</p>

7 Planning process

This Management Statement contains draft proposals for the management of Raine Island National Park (Scientific). This Management Statement provides the framework and guidelines concerning how the area will be managed. It sets out the considerations, outcomes and strategies that are proposed to form the basis of day-to-day management decisions. The outcomes have been approved by the Indigenous Parties and all relevant land managers. Comments may be sent to:

Team Leader Conservation Planning
Queensland Parks and Wildlife Service
PO Box 2066
Cairns QLD 4870

8 Acknowledgements

Queensland Parks and Wildlife Service staff prepared this Management Statement. Although the principal author is Gordon La Praik, the preparation of this document has been made possible only by the contributions of a great number of people. QPWS acknowledges and appreciates the involvement and support of individuals and organisations including the Indigenous Parties, relevant authorities, native title representative bodies, and their advisors whose knowledge, information, and input have contributed to this Management Statement.

9 Disclaimer

This Management Statement does not necessarily represent Queensland Government policy. The proposals under consideration are open for public discussion. However, this Management Statement will be used as an interim expression of policy and a basis for managing Raine Island National Park (Scientific) consistent with legislative requirements. The Queensland Government and the Indigenous Parties accept no liability for any actions taken by any other person on the basis of this document. This Management Statement is not intended to affect native title rights and interests in the Agreement Area.

Note that implementation of some management strategies might need to be phased in according to availability of resources.

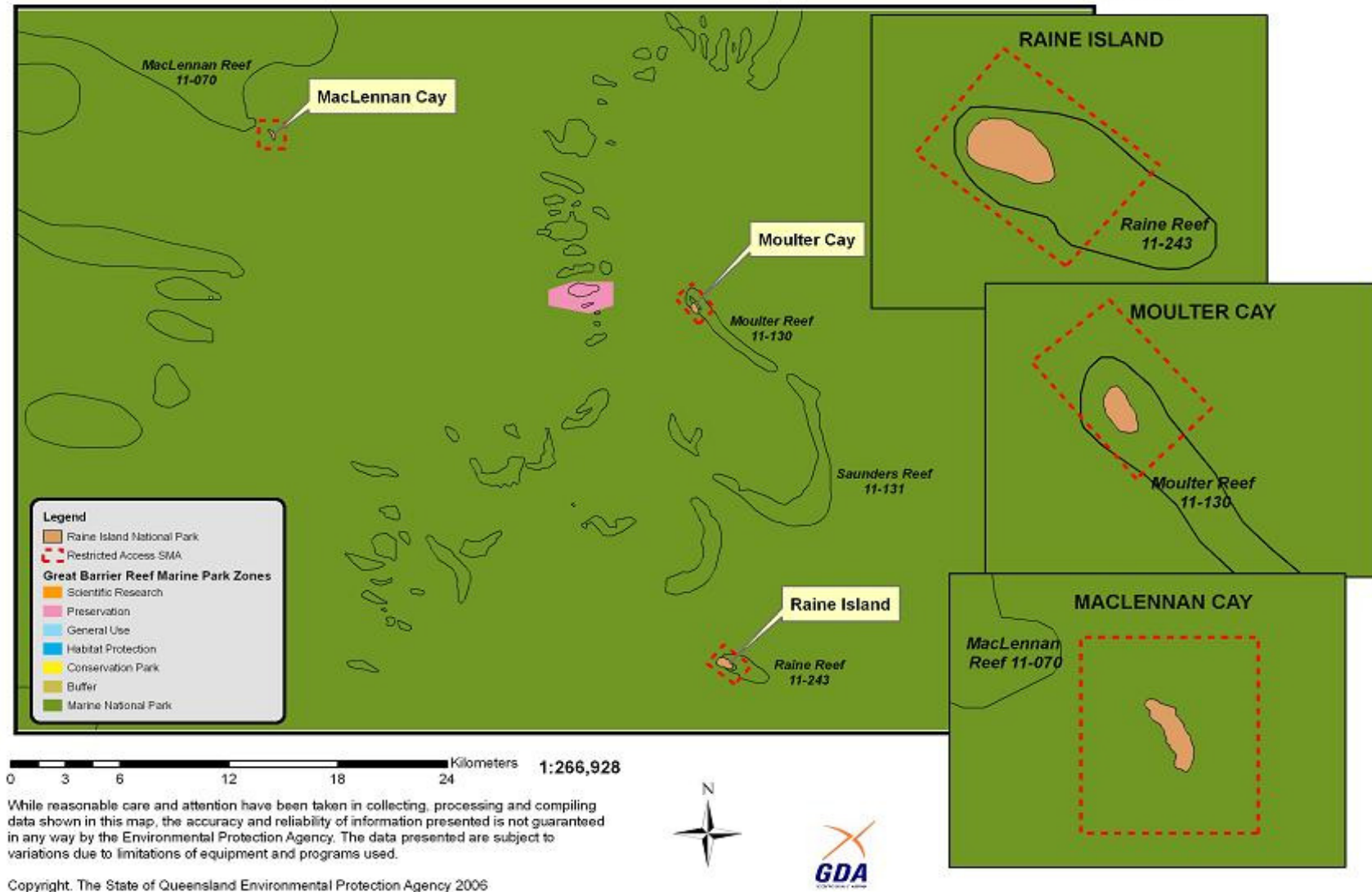
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Appendix 1: Raine Island National Park (Scientific) and Adjacent Marine Park Areas



Appendix 2: Position Statement between the EPA and the GBRMPA regarding the RA-SMA - Managing access to the Restricted Access Special Management Areas surrounding Raine Island, Moulter Cay and MacLennan Cay.

Raine Island, Moulter Cay and MacLennan Cay collectively make up the Raine Island National Park (Scientific). The Queensland Environmental Protection Agency (EPA) manages this area. The management intent of the Raine Island National Park (Scientific) is to allow for the following activities

- a) research that cannot reasonably be conducted elsewhere and which has a direct benefit to the Raine Island National Park (Scientific);
or
- b) commercial photography/filming which is in keeping with the management principles of the Raine Island National Park (Scientific) and where the advantages to the national park (scientific) and the public outweigh any potential disturbance.

The waters surrounding Raine Island, Moulter Cay and MacLennan Cay are declared Restricted Access Special Management Areas (RA-SMA)¹ under both the Queensland's *Great Barrier Reef (Coast) Marine Park Zoning Plan 2004* and the Great Barrier Reef Marine Park Authority (GBRMPA)'s *Great Barrier Reef Marine Park Zoning Plan 2003*.

The reason the two RA-SMAs was declared was to ensure the management of the waters surrounding the Raine Island National Park (Scientific) complements the management required for protection of the values of the national park, and in particular the seabirds and green turtles that nest on the cays.² The surrounding waters also have high values as feeding grounds for turtles and seabirds, interesting habitat for the breeding turtles, and for other marine animals that congregate in the area.

In recognition of the critical importance of this area and the vulnerability of the species that rely on it, the GBRMPA and the EPA are working together to ensure that necessary management strategies are put in place to protect these values. The need to protect the unique values of the Raine Island National Park (Scientific) and the RA-SMAs will be paramount in any decisions made in relation to applications to access the area.

Management intent of the RA-SMAs

Both the EPA's and the GBRMPA's management intent for their respective RA-SMAs is in keeping with that listed for the Raine Island National Park (Scientific). In addition, the GBRMPA would also consider benefits and advantages to the Great Barrier Reef Marine Park RA-SMA. The joint management position allows:

¹ RA-SMAs are designed to restrict activities in a way that zoning could not achieve.

² For more information about seabirds and marine turtles in this area, see: 1. Batianoff, G. and Cornelius, J. 2005, Birds of Raine Island: Population trends, breeding behaviour & nesting habitats, Proceedings of the Royal Society of Queensland, 112, 1-29. 2. Limpus, C.J., Miller, J.D., Limpus, C.J. and Parmenter, C.J. 2003. The green turtle, *Chelonia mydas*, population of Raine Island and the northern Great Barrier Reef: 1843-2001, Memoirs of the Queensland Museum, 49(1), 349-440.

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- a) research projects that cannot reasonably be conducted elsewhere and which have a direct benefit to the Raine Island National Park (Scientific) and/or the Great Barrier Reef Marine Park RA-SMA; or
 - b) commercial photography, filming or sound recording that cannot reasonably be conducted elsewhere and where the advantages to the national park (Scientific) and the Great Barrier Reef Marine Park RA-SMA outweigh any potential disturbance; or
 - c) any other program that operates in support of (a) or (b) above.

There are a limited number of existing tourism, research and filming activities that have been permitted to access these waters for a number of years and which are allowed to continue until 2008. The GBRMPA and the EPA will hold discussions with those permittees with regard to the most appropriate future access for those operations, taking into account all relevant management arrangements (e.g. guidelines, a strategic environmental assessment, relevant published research).

Considerations

In assessing applications to access the Great Barrier Reef Marine Park RA-SMA, consideration will be given to:

- guidelines outlining more specifically the types of research projects and commercial photography, filming or sound recording activities that will benefit the Raine Island National Park (Scientific) and the Marine Park RA-SMA; and
- the experience and expertise of the personnel involved to conduct the proposed activity.

Any permits granted for access to the Great Barrier Reef Marine Park RA-SMA will be for limited periods, generally not exceeding three years.

For further information:

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CAIRNS QLD 4870
(07) 4047 9615
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Great Barrier Reef Marine Park Authority
PO Box 1379
TOWNSVILLE QLD 4810
(07) 4750 0700
www.gbrmpa.gov.au

Appendix 3: Area proposed as Raine Island National Park (Scientific) – Summary of Seabird and Sea Turtle Significance

Location	Reef I.D.	Turtle significance	Seabird significance
Raine Island	11-243	<p>Internationally significant -</p> <p>Seasonal green turtle nesting peaks ranging from 4000 to 15,000 breeding females per night during the summer months.</p> <p>Published research data includes an estimated 35936 ± 4905 adult female green turtles aggregated at Raine Island reef in early December 2004 with more than 6000 females attempting to nest each night.</p>	<p>Nationally significant - A total of 81 species has been recorded from accumulated historical observations (1843 – present day) including;</p> <p>Herald petrel (Internationally endangered < 10 breeding pairs)</p> <p>red-footed booby (maximum 76 breeding pairs, 1654 individuals)</p> <p>wedge-tiled shearwater (5800 active nesting burrows recorded in 1982, subsequent estimates range from 1000 to 5000 birds.</p> <p>masked booby (1500 – 2500 pairs)</p> <p>brown booby (maximum 1386 nesting pairs and 9000 individuals observed)</p> <p>lesser frigatebird (1000 – 2500 breeding pairs).</p> <p>great frigatebird (< than 10 breeding pairs)</p> <p>Red-tailed tropicbird (Status vulnerable 20 – 100 nesting pairs)</p> <p>silver gull (5 nesting pairs with up to 100 individuals)</p> <p>black-naped tern (50 nesting pairs)</p> <p>sooty tern (500 breeding pairs to 2000 individuals)</p> <p>bridled tern (150 breeding pairs to 1000 individuals)</p> <p>common noddy (1000 to 17,000 breeding pairs, tens of thousands use the island as a roost).</p> <p>black noddy (roosting only tens of thousands).</p> <p>crested tern (70 nesting pairs)</p> <p>nankeen night heron (1000 breeding pairs)</p>
Moulter Cay	11-130	<p>Very High significance - Published research data includes a count of 3824 adult female green turtles attempting to nest on one night in December 2004.</p>	<p>High significance</p> <p>red-footed booby (maximum 20 nesting pairs and 108 individuals observed)</p> <p>masked booby (maximum 156 nesting pairs and 1500 individuals observed)</p> <p>brown booby (maximum 466 nesting pairs and 3000 individuals observed)</p> <p>sooty tern (maximum 575 nesting pairs and 1200 individuals observed)</p> <p>bridled tern (maximum 19 nesting pairs and 500 individuals observed)</p> <p>crested tern (maximum 81 nesting pairs and 160 individuals observed)</p> <p>common noddy (maximum 1000 nesting pairs and 5000 individuals observed).</p>
MacLennan Cay	11-070	<p>High</p>	<p>Moderate significance</p> <p>brown booby (maximum 900 nesting pairs and 2000 individuals observed)</p> <p>common noddy (maximum 300 nesting pairs).</p> <p>sooty tern (maximum 1000 nesting pairs and 5000 individuals observed)</p>

Appendix 4: Area proposed as Raine Island National Park (Scientific) - Complete Fauna List

(Please note that scientific collection of specimens dates from the 1980s but later species identification has not always been provided)

Reptiles

green turtle (*Chelonia mydas*)
hawksbill turtle (*Eretmochelys imbricate*), occur rarely
saltwater crocodile (*Crocodylus porosus*), one only sighting 1977

Arachnids

spiders (6 spp. *Arahcnida* collected)
giant centipede (possibly *Ethmostigmus rubripes*)
mottled scorpion (possibly *Lychas variatus*)
soft tick (*Carios capensis*)
hard Ttick (*Amblyomma loculosum*)
hard tick (*Protogamasellus sp.*)
mite, introduced "starling mite" (*Ornithonyssus bursa*)
predatory mite (*Stratiolaelaps sp.*)
cloacarid mite (*Chelonacarus sp.*)
Also: members of families Phytoseiidae (*Neoseiulus cucmeris*),
Rhodacaridae (*Protogamasellopis sp.*), Uropodidae,
Bimichaelidae (*Petralycus sp.* and *Bimichaelia sp.*)
black mites, new for Australia (*Laminalloptes minor*, *L. phaeontis*, *L. simplex*)

Mammals

Dugongs (*Dugong dugon*),

Insects

grasshoppers (2 spp. *Orhoptera* collected)
earwigs (2 spp. *Dermaptera* collected)
webspinners (1 sp. *Embioptera* collected)
bugs (4 spp. *Hemiptera* collected)
butterflies (2 spp. *Lepidoptera* collected)
moth caterpillars (*Androlaelaps hermaphroditus*)
flies (5 spp. *Diptera* collected)
black fly (*Carios sp.*)
wasps (3 spp. *Hymenoptera* collected)
beetles (6 spp. *Coleoptera* collected)
isopods (*Cosmolaelaps*)

Crustaceans

ghost crab (*Ocypode cordimana*)
ghost crab (*Ocypode ceratophthalma*)
hermit crab, terrestrial (*Coenobita rugosus*)

Appendix 4: Area proposed as Raine Island National Park (Scientific) - Complete Fauna List (continued)

Birds

(* = main breeding species, remainder are non-breeding summer migrants, migrants breeding on mainland, land birds, vagrants or storm-driven single sightings)

providence petrel (*Pterodroma solandri*)
* herald petrel (*Pterodroma arminjoniana*)
* wedge-tailed shearwater (*Puffinus pacificus*)
short-tailed shearwater (*Puffinus tenuirostris*)
grey-headed albatross (*Diomedea chrysostoma*)
* red-tailed tropicbird (*Phaethon rubricauda*)
white-tailed tropicbird (*Phaethon lepturus*)
* masked booby (*Sula dactylatra*)
* red-footed booby (*Sula sula*)
* brown booby (*Sula leucogaster*)
little pied cormorant (*Phalacrocorax melanoleucos*)
Australian pelican (*Pelecanus conspicillatus*)
* great frigatebird (*Fregata minor*)
* lesser frigatebird (*Fregata arie*)
white-faced heron (*Egretta novaehollandiae*)
eastern reef Egret (*Egretta sacra*)
pied heron (*Ardea picata*)
great egret (*Ardea alba*)
* nankeen (Rufous) night heron (*Nycticorax caledonicus*)
black bittern (*Ixobrychus flavicollis*)
Australasian bittern (*Botaurus poiciloptilus*)
Australian white ibis (*Threskiornis molucca*)
osprey (*Pandion haliaetus*)
Pacific baza (*Aviceda subcristata*)
* buff-banded rail (*Rallus philippensis*)
purple swamphen (*Porphyrio porphyrio*)
bar-tailed godwit (*Limosa lapponica*)
whimbrel (*Numenius phaeopus*)
Eastern curlew (*Numenius madagascariensis*) Marsh Sandpiper (*Tringa stagnatilis*)
common greenshank (*Tringa nebularia*)
grey-tailed tattler (*Heteroscelus brevipes*)
ruddy turnstone (*Arenaria interpres*)
red-necked stint (*Calidris ruficollis*)
sharp-tailed sandpiper (*Calidris acuminata*)
curlew sandpiper (*Calidis ferruginea*)
beach stone-curlew (*Esacus neglectus*)
pied oystercatcher (*Haematopus longirostris*)
sooty oystercatcher (*Haematopus fuliginosus*)
black-winged stilt (*Himantopus himantopus*)
Pacific golden plover (*Pluvialis fulva*)
grey plover (*Pluvialis squatarola*)
greater sand plover (*Charadrius leschenaultia*)
black-fronted dotterel (*Elseyornis melanops*)
* silver gull (*Larus novaehollandiae*)
caspiian tern (*Sterna caspia*)
lesser crested tern (*Sterna bengalensis*)
*crested tern (*Sterna bergii*)
roseate tern (*Sterna dougallii*)
* black-naped tern (*Sterna sumatrana*)
little tern (*Sterna albifrons*)
* bridled tern (*Sterna anaethetus*)
* sooty tern (*Sterna fuscata*)
* common noddy (*Anous stolidus*)
black noddy (*Anous minutus*) first breeding record December 2006
grey ternlet (*Procelsterna cerulean*)
pied imperial-pigeon (*Ducula bicolour*)
brush cuckoo (*Cacomantis variolosus*)
fan-tailed cuckoo (*Cacomantis flabelliformis*)

Appendix 4: Complete Fauna List (continued)

Birds (continued)

shining bronze-cuckoo (*Chrysococcyx lucidus*)
white-throated nightjar (*Eurostopodus mystacalis*)
white-throated needletail (*Hirundapus caudacutus*)
fork-tailed swift (*Apus pacificus*)
common koel (*Eudynamis scolopacea*)
buff-breasted paradise-kingfisher (*Tanysiptera Sylvia*)
forest kingfisher (*Todiramphus macleayii*)
sacred kingfisher (*Todiramphus sanctus*)
collared kingfisher (*Todiramphus chloris*)
rainbow bee-eater (*Merops ornatus*)
dollarbird (*Eurystomus orientalis*)
varied honeyeater (*Lichenostomus versicolor*)
grey shrike-thrush (*Colluricincla harmonica*)
black-faced monarch (*Monarcha melanopsis*)
spectacled monarch (*Monarcha trivirgatus*)
broad-billed flycatcher (*Myiagra ruficollis*)
leaden flycatcher (*Myiagra rubecula*)
rufous fantail (*Rhipidura rufifrons*)
spangled drongo (*Dicrurus bracteatus*)
black-faced cuckoo-shrike (*Coracina novaehollandiae*)
white-winged triller (*Lalage sueurii*)
white-breasted woodswallow (*Artamus leucorhynchus*)
welcome swallow (*Hirundo neoxena*)
tree martin (*Hirundo nigricans*)
metallic starling (*Aplonis metallica*)

Appendix 5: Area proposed as Raine Island National Park (Scientific) - Complete Flora List

Raine Island complete flora list: 13 spp. recorded 1973-2005

(Please note that **(bolded) common names** follow and/or are adapted from Shepherd et al 2001. Plants of Importance to Australia – A checklist R.G. and F.J. Richardson Meredith Victoria.)

Grasses

Lepturus repens subsp. *repens* (**seashore stalky grass**)
Dactyloctenium aegyptium (**coast button grass**) (record 1982-1991, not in 2003 or 2005 and no type specimen held.)
Eleusine indica (crows Foot Grass)

Creepers/vine

Ipomea macrantha (Moonflower)
Tribulus cistoides= (**coast caltrop vine**)

Herbs

Boerhavia albiflora var. *albiflora* (**white flower tarvine**)
Portulaca oleracea (Pigweed)
Achyranthes aspera (**chaff flower**)
Amaranthus interruptus (**native amaranth**)
Cleome viscosa (**sticky spider flower**)
Lepidium englerianum (last recorded in 1973)
Sesbania cannabina var. *cannabina* (**sesbania pea**)

Shrubs

Abutilon asiaticum var. *australiense* (**coral lantern flower**)

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