

Fitzroy Island National Park and Marine Management Area

Management Plan
2011



Wet Tropical Coast Marine Bioregion
Planning Services Unit, Department of Environment and Science (DES)
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The Fitzroy Island National Park and Marine Management Area Management Plan 2011 has been extended in 2023 in line with the Queensland *Nature Conservation Act 1992* (s120G). Minor amendments have been made. There has been no change to the plan's original management intent and direction.

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Front cover photograph: Fitzroy Island looking across Welcome Bay to the mainland. Photo: DES. Top right photograph: Little Fitzroy Island showing the lighthouse. Photo: DES. Centre right photograph: Rainforest bracket fungus. Photo: DES. Bottom right photograph: Fitzroy Island looking east across Welcome Bay. Photo: DES.

June 2011

Vision statement

The Fitzroy Island National Park and surrounding Fitzroy Marine Management Area will be managed as a relatively undisturbed coastal landscape where visitors can enjoy a relaxed, quiet atmosphere and undertake a range of nature-based recreational activities.

The key focus of management will be to protect the natural, cultural and World Heritage values of the island and maintain the island's high scenic appeal through appropriate visitor management.



Photo: DES

Welcome Bay, Fitzroy Island National Park and Fitzroy Marine Management Area.

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1.0 Management intent

The Fitzroy Island National Park and Marine Management Area Management Plan provides direction and policy to assist and guide relevant planning and decision-making in the national park and marine management area with the aim of achieving ecologically sustainable use.

The primary purpose of management will be to:

- ensure the conservation of the natural, cultural and World Heritage values of the area
- manage, where possible, pest plants and animals with control methods that have no, or minimal, adverse impacts on the natural values of the area
- reflect Traditional Owners' knowledge and interests in the area's planning and management
- identify and protect Indigenous and shared-history cultural heritage places
- present the area's natural and cultural values by providing safe, sustainable, nature-based recreation opportunities
- provide an appropriate balance between public and commercial access opportunities in accordance with departmental commercial activities policy
- manage the Fitzroy Island National Park and the Fitzroy Marine Management Area in a coordinated and complementary manner.

2.0 Basis for management

This plan applies to Fitzroy Island National Park and the Fitzroy Marine Management Area (Appendix A, Map 1). The Fitzroy Marine Management Area consists of all areas of the Great Barrier Reef Coast Marine Park (Queensland) within the boundaries of the:

- coastal 500 m line around Fitzroy Island and Little Fitzroy Island
- landward boundary of the marine park surrounding Fitzroy Island and Little Fitzroy Island.

To avoid confusion, the Fitzroy Marine Management Area excludes any areas that are not part of the Great

Barrier Reef Coast Marine Park (Queensland).

The Queensland Parks and Wildlife Service (QPWS) is responsible for the day-to-day management of Fitzroy Island National Park and the Fitzroy Marine Management Area.

Fitzroy Island National Park is managed in accordance with the *Nature Conservation Act 1992* and regulations. Section 17 of the Nature Conservation Act specifies the management principles for national parks.

The Fitzroy Marine Management Area covers tidal lands and waters forming part of the Great Barrier Reef Coast Marine Park (Queensland). The national park and marine park share a common boundary at the mean high water springs tide line. The Great Barrier Reef Coast Marine Park (Queensland) is managed under the authority and provisions of the *Marine Parks Act 2004* and regulations, including the Marine Parks (Great Barrier Reef Coast) Zoning Plan 2004. Under the Marine Parks (Great Barrier Reef Coast) Zoning Plan 2004, the State waters surrounding Fitzroy Island are zoned as a conservation park, following the zoning boundaries in the adjacent Commonwealth marine park (see below).

The intertidal areas of island national parks are part of the State marine park and are an important area of influence for the adjacent national park. Activities occurring in this area typically extend into and impact on, adjacent national parks. Consequently, it is appropriate to develop management plans under both the Nature Conservation Act and the Marine Parks Act.

The waters below the mean low water tide line are part of the Great Barrier Reef Marine Park (Commonwealth) managed by the Great Barrier Reef Marine Park Authority under the *Great Barrier Reef Marine Park Act 1975* and regulations, including the Great Barrier Reef Marine Park Zoning Plan 2003. Under the Great Barrier Reef Marine Park Zoning Plan 2003, the Commonwealth waters are zoned conservation park, overlaid with a public appreciation area around the northern and western waters of the island, which restricts spearfishing and some commercial fishing activities.



Fitzroy Island National Park.

Photo: DES

The adjacent Little Fitzroy Island is a Commonwealth island zone to low water and is managed by the QPWS on behalf of the Great Barrier Reef Marine Park Authority.

Fitzroy Island Reef (reef ID 16-054) is excluded from the Commonwealth Cairns Area Plan of Management 1998. This management plan, where possible, incorporates key terms and principles to maintain consistency and provide complementary management with adjacent sites within the Cairns Area Plan of Management 1998.

The Fitzroy Island National Park and adjacent Fitzroy Marine Management Area support a range of species of conservation significance, including migratory species listed under the *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth). These species are further protected by international conventions such as the Bonn Convention, the China–Australia Migratory Bird Agreement (CAMBA), Japan–Australia Migratory Bird Agreement (JAMBA) and Republic of Korea–Australia Migratory Bird Agreement (ROKAMBA). Plant and animal species of conservation significance are listed as endangered, vulnerable and near threatened under the Nature Conservation (Wildlife) Regulation 2006.

Endangered and of concern regional ecosystems are described under the DES biodiversity status. QPWS is responsible under the *Land Protection (Pest and Stock Route Management) Act 2002* for controlling declared pest plants and animals on protected areas.

A native title claim has been lodged over the national park and waters. The State of Queensland acknowledges that nothing in this plan is intended to extinguish, regulate, control or otherwise impact on any native title that may be present in the land and sea areas subject to this plan. It is also acknowledged that the Gurabana Gunggandji Traditional Owners have ongoing commitments and cultural obligations to the management of the area and consideration will be given to culturally significant places, both known and yet to be identified. The involvement of the Gurabana Gunggandji people and recognition of traditional knowledge is an important component of park management.

Cultural heritage places are legislatively managed under the *Queensland Heritage Act 1992* and the *Aboriginal Cultural Heritage Act 2003*. Cultural resource management is in accordance with the Charter for the Protection and Management of Archaeological Heritage and the Burra Charter, which provides detailed guidelines for the management of cultural heritage places.

The Fitzroy Island National Park and Marine Management Area are part of the Great Barrier Reef World Heritage Area. The Great Barrier Reef World

Heritage Area was listed under the World Heritage Convention in 1981 and is currently the world's largest World Heritage area. As the world's extensive coral reef system and one of the world's richest in terms of biological diversity, it is amongst the best-known marine protected areas in the world.

Management of the Great Barrier Reef Coast Marine Park (Queensland) complements the Great Barrier Reef Marine Park (Commonwealth) through adopting similar zoning objectives and entry and use provisions.

3.0 Location and regional context

Fitzroy Island is a high continental island within the Cairns Regional Council area and is situated approximately 4.5 km (2.3 nautical miles) from the mainland and approximately 35 km (18 nautical miles) from Cairns (Appendix A, Map 1). Most of the island is national park with the remainder being other State lands leased for a variety of purposes.

The national park is approximately 290 ha and described as Lot 437 on Plan NPW716 in the County of Nares. It was gazetted in 1989 and is located around a central point of approximate latitude 16° 55.93' south and longitude 145° 59.67' east. Fitzroy Island Reef (reef ID 16-054) is an inner-shelf fringing reef, which surrounds Fitzroy Island in the Great Barrier Reef Marine Park (Commonwealth) and the Great Barrier Reef Coast Marine Park (Queensland). The reef is approximately 52 ha in area and represents marine bioregions RF1-D (northern open lagoon reefs), NB3 (inner shelf seagrass) and NA3 (high nutrients coastal strip).

The island and reef comprise part of the traditional homeland of the Gurabana Gunggandji people. For thousands of years the island was used, and continues to be used, by these people for hunting, fishing and gathering, or for ceremonial, totemic and cultural purposes.

The primary visitor area of Welcome Bay provides a protected anchorage as well as a local council campground, esplanade and tourist resort, currently with 99 rooms. The island attracts approximately 70 000 visitors annually (Boulton 1997) and its close proximity to Cairns provides an important recreational and educational resource for local residents.

Fitzroy and Green islands are the only two islands off-shore from Cairns, open to the public and easily accessible for local residents by ferry services or small private vessels. Of these two, only Fitzroy Island offers a public campground, providing the local community with an accessible, low cost opportunity to experience a reef destination.

4.0 Protecting and presenting the area's values

This section outlines the special natural and cultural values of the national park and marine management area, and policies, actions and guidelines to protect and present these values. The Gurabana Gunggandji people are connected to all elements of the natural environment through their long association with the island.

4.1 Landscape

4.1.1 Amenity and scenic coastal landscapes

The national park and marine management area have high scenic appeal and a relaxed and quiet atmosphere. The island is largely natural with rugged granite outcrops and a variety of vegetation types, including rainforest, open forest and heathland. The 360-degree views of the adjacent mainland and surrounding waters are primarily natural and free of infrastructure. Fitzroy Island and its adjacent waters are recognised as one of the highest scenic amenity locations in the region (EDAW 1996). The existing amenity and landscape values are part of the key attraction for visitors to the area and are of social and economic importance to the local community and the Traditional Owners. Present background noise levels are very low and mostly result from wave action on the foreshore and sounds of wildlife (Environmental Protection Agency 2005a). Aircraft and other noisy activities and equipment are rare in the area at present, but have the potential to impact on the area's amenity, visitor experiences and native biota.

Local scenic flights can be conducted without flying directly over the area and helicopters access the area in emergencies.



Nudey Beach, Fitzroy Island National Park.

Walking tracks provide access through the northern part of the island. Other visitor activities and infrastructure are concentrated in Welcome Bay and the lighthouse precinct, leaving the majority of the island largely wild and remote. With the exception of Welcome Bay, the intertidal areas of the island are currently undeveloped and the southerly and easterly facing shores are accessible only in favourable weather conditions for a limited time each year.

Landscape and amenity values for key visitor sites at Fitzroy Island were assessed in 2004 in accordance with the QPWS operational policy—Landscape Classification System for Visitor Management. These landscape classification settings were then grouped into three management zones (Appendix E).

Desired outcomes 2021	Actions and guidelines
The very high scenic coastal landscape values are maintained.	<p>A1. Management of the area, including activities and infrastructure, will be consistent with the aims and management characteristics of the zones described in Appendix A, Map 2 and Appendix E.</p> <p>A2. Ensure new infrastructure blends with the natural landscape as far as possible and is not visible from the sea or coastal lookouts unless essential for visitor safety or management.</p> <p>A3. Noisy activities and equipment will not be permitted within the national park and intertidal area, except for authorised management purposes and emergencies.</p> <p>Note: commercial vessel public address systems will be permitted only to provide essential information (e.g. safety briefs and arrival and departure information) but not for the broadcasting of music, entertainment or other advertising audible to other users in close proximity to the vessel.</p>



View from Boulder track, Fitzroy Island National Park.

4.1.2 Geology, dunes and coastal processes

Fitzroy Island is a high continental island that was originally part of the Murray Prior Range on the mainland. The island was once connected to the mainland by a grassy plain, which was submerged as the sea level rose some 6000 years ago.

Geological formations are a significant part of Indigenous culture and the Gurabana Gunggandji Traditional Owners relate landscape values with traditional storylines and totems.

Soils are mainly shallow granite colluviums, with near-shore calcareous rubble and soils.

Alluvial soils, granite-derived clays and soils with humic A horizons are generally limited to the heavily vegetated lower island slopes. The foreshore boundary of the park is a combination of sand and coral rubble beaches and rocky foreshore. Therefore, it is subject to the natural processes of erosion and accretion in variable degrees. Although much of the foreshore is rocky, the park contains active dune systems, particularly at Nudey Beach.

Existing activities, such as barge operations, trampling, camping, fires, development and tendering of vessels, have the potential to impact the integrity of the dune systems.

Desired outcomes 2021	Actions and guidelines
<p>The natural integrity of the dune systems is conserved.</p> <p>Natural coastal processes occur with minimal human intervention.</p> <p>Park operations, commercial and recreation activities are not adversely impacting on the health and amenity of the marine environment.</p>	<p>A4. Additional essential infrastructure associated with barge operations, safety or recreational purposes will be temporary or relocatable.</p> <p>A5. Construction of hard structures (e.g. artificial reefs, breakwaters, groynes and rockwalls) for the purpose of beach protection will not be permitted. Appropriate short-term erosion control measures to protect infrastructure and facilities threatened by coastal erosion will be considered and assessed against the likelihood of short-term and long-term success. Owners of infrastructure will need to investigate appropriate erosion control options suitable for the natural amenity and are encouraged to implement a system to monitor coastal erosion.</p> <p>A6. Camping is not permitted in the foreshore areas of the island.</p>

4.1.3 Freshwater systems

Fitzroy Island has several small permanent spring-fed creeks as well as a number of seasonal creeks and areas of soakage. The average annual rainfall is approximately 2680 mm per annum of which 82 per cent falls between December and May (Bureau of Meteorology 2006). Local water supplies on Fitzroy Island are critical to the success of several fauna species as there is limited supply from the groundwater system.

The highly porous soils of the island have poor water retention qualities and this is compounded during periods of high rainfall. There is potential for nutrient enrichment at popular recreational sites such as Nudey Beach and the lighthouse precinct. Human septic and sewage treatment systems are used at the lighthouse precinct.

The natural drainage systems of the island converge near the leasehold area and discharge into the sea. The freshwater supply for activities occurring in Welcome Bay is collected from the catchment.

There are currently two water extraction leases on the island. While the leases are not within the national park, the water is sourced from the catchments within the park. Current rates of extraction are estimated to be approaching the safe yield (defined as the maximum yield of the source with a one-in-20-year risk of failure) of 100 000 litres per day (Gutteridge et al 2002).

Crocodile Creek is tidal (through seepage) and periodically opens to the ocean each year. Its natural course and proximity to the resort means it is particularly susceptible to coastal and point-source run-off impacts, such as accumulated nutrient load resulting from sewage leaching.

Water run-off from terrestrial sources is a key impact on the marine management area. The Great Barrier Reef

Marine Park Authority policy on Sewage Discharges from Marine Outfalls to the Great Barrier Reef Marine Park, and the associated regulations, codes of practice and legislation apply.

There is one point-source discharge into Welcome Bay from the former aquaculture operation, which is periodically monitored by DES for water quality. Two diffuse-source groundwater discharges flow across overflow absorption trenches associated with the septic systems at the lighthouse precinct; these are not currently used.

Key activities and events likely to impact on water quality and supply levels at Fitzroy include altered rainfall patterns (either cyclical or long-term), cyclones, fire programs and wildfire suppression, infrastructure, such as walking tracks, pollutants and increased nutrient input, weed control programs, visitor activities and human extraction.

Water run-off from terrestrial areas, in particular Fitzroy and Little Fitzroy islands, into the marine management area is a key impact on the fringing reef.

Of particular concern is the Welcome Bay area, where Fitzroy Island's key natural drainage systems converge in the leasehold precincts before discharge to the sea. Problems with water quality are more likely during periods of high rainfall due to the poor retention time of the highly porous soil of the area. This could result in reef and human health problems. Therefore, it is critical that water quality at Fitzroy Island is managed cooperatively across tenures. It is also highly desirable that human sewage treatment systems are upgraded from present septic systems at the lighthouse precinct if this area is again used for accommodation.



Secret Garden walk, Fitzroy Island National Park.

Desired outcomes 2021	Actions and guidelines
<p>Freshwater systems</p> <p>The ecological integrity of the catchment areas and freshwater systems within the park is maintained.</p>	<p>A7. To protect surface fresh water sources, visitor access to the remote catchment areas of the park will not be permitted.</p> <p>A8. Investigate the transition to improved waste management systems for replacing the septic systems at the lighthouse precinct to minimise impacts on groundwater quality.</p>
<p>Water extraction</p> <p>Groundwater extraction is sustainable in relation to quality and quantity and causes no adverse environmental impacts.</p>	<p>A9. Encourage park neighbours to install water saving devices and initiate water saving practices to ensure water extraction rates do not exceed the recommended safe yield.</p>
<p>Water quality</p> <p>Impacts on water quality in the Fitzroy Marine Management Area are minimised.</p>	<p>A10. Waste water discharges comply with State and Commonwealth legislation, regulations, policies, codes of practice and any relevant development approval conditions, in particular:</p> <ul style="list-style-type: none"> • all chemicals must be low or no phosphorous and biodegradable • stormwater management must comply with Environmental Protection (Water) Policy 2008 • all land-based effluent irrigation practices must comply with the development conditions for ERA 15 – sewage treatment. <p>A11. Liaise with park neighbours to minimise impacts on water quality by reducing run-off of pollutants and promoting visitor awareness of water quality.</p>

4.2 Native plants and animals

Many plant and animal species have significance to the Gurabana Gunggandji people who use them for their totemic values, artefact resources, food and medicine. Fitzroy Island contains a number of plants and animals of conservation significance.

The national park and marine management area are located entirely in the Wet Tropical Coast Marine bioregion. This section of the plan outlines some of their significant biodiversity values and provides guidance on the future management of these values.

4.2.1 Native plants

Fitzroy Island National Park has a high diversity of vegetation types, including closed forest (rainforest), closed heath (dominated by rainforest species), eucalypt woodland, open heath (dominated by *Allocasuarina* species), tall shrubland (dominated by *Allocasuarina* species) and melaleuca or pandanus swamp (Le Cussan 1997). Heath and open woodlands of eucalypt, acacia and turpentine cover the exposed slopes and spurs on the island, while rainforest grows in the damp valleys and mangroves line the creeks. Coastal plants tolerant of salt spray and low nutrients, such as casuarinas and pandanus palms, fringe the beaches.

Eight regional ecosystems have been described at Fitzroy Island, two of which are listed as endangered and four as of concern under the DES biodiversity status (Appendix C).

Plant surveys and anecdotal reports of the national park have recorded 195 species of native plants, including an orchid *Spathoglottis paulinae* and two species of grass *Ichnanthus pallens* var. major and *Paspalidium scabrifolium*, all listed as near threatened. An undescribed species of daisy *Helichrysum* sp. (Fitzroy Is. Jago 4237), has also been recorded in the park.

The diversity, distribution and abundance of seagrass species within the marine management area are largely unknown. The ephemeral seagrass *Halophila tricostata* has been recorded by the Queensland Department of Employment, Economic Development and Innovation between Welcome Bay and Little Fitzroy Island in waters between 10 m and 18 m deep between October and February.



Boulder track, Fitzroy Island National Park.

Desired outcomes 2021	Actions and guidelines
<p>The biodiversity and integrity of natural ecosystems and communities are maintained and rehabilitated, where appropriate.</p> <p>The quality and extent of current vegetation communities and known populations of threatened species are maintained.</p> <p>Information on the vegetation communities and plant species of the national park and marine management area continues to increase.</p>	<p>A12. Native plants will be protected through appropriate management practices consistent with zone and locality settings (Appendix E, Appendix G and Appendix A, Map 2).</p> <p>A13. Monitor populations and distributions of native plant species of conservation significance.</p> <p>A14. Continue to enter plant location information, particularly plants of conservation significance, into WildNet, the QPWS database of plants and animals.</p> <p>A15. Minimise disturbances to vegetation communities by management and visitor activities, such as encouraging visitors to stay on designated tracks, and closing and rehabilitating tracks as required.</p>

4.2.2 Native animals

There is a large diversity of animals that can be found on Fitzroy Island and surrounds. A number of species listed as endangered, vulnerable and near threatened under the Nature Conservation (Wildlife) Regulation occur in the national park or marine management area (Appendix D).

Seventy-three bird species have been recorded at Fitzroy Island or in the vicinity, including both resident and migratory species. Several species of resident birds are also locally migrant providing an important source of seed and pollen distribution between the island and the mainland. Past surveying has revealed that the majority of bird species occur within rainforest areas (Queensland Parks and Wildlife Service 2002).

Fourteen migratory bird species listed under the CAMBA, JAMBA and/or the ROKAMBA are found at Fitzroy Island. Guidelines for Managing Visitation to Seabird Breeding Islands, developed by the Great Barrier Reef Marine Park Authority, provides useful information on the impacts of disturbances on seabirds and recommended management actions, such as aircraft height and distance guidelines.

The endangered little tern *Sterna albifrons* is found in the coastal environments of the island, especially where exposed sandbanks or sandspits occur, although it is not known to nest on the island.

The following species are listed as near threatened and have been recorded in the area: grey goshawk *Accipiter novaehollandiae*, eastern curlew *Numenius madagascariensis*, sooty oystercatcher *Haematopus fuliginosus* and the Australian swiftlet *Aerodramus terraereginae*. The red-tailed tropicbird *Phaethon rubricauda* and beach stone-curlew *Esacus magnirostris* are listed as vulnerable and also occur in the area.

Mammal species and distribution is limited within the Fitzroy Island National Park with the exception of widespread distribution of various species of melomys in the park, including the grassland melomys *Melomys*

burtoni. There have been unconfirmed sightings and anecdotal evidence suggesting a number of smaller macropods live in the remote sections of the park around freshwater springs. The eastern grey kangaroo *Macropus giganteus* was found on the island previously; however, distribution was limited to a few individuals in the Welcome Bay area. There is no evidence of a current population on the island.

Fifteen species of bats have been recorded in the area, including two vulnerable species, the coastal sheath-tail bat *Taphozous australis* and the tube-nosed insectivorous bat *Murina florium*, and one near threatened species, the golden-tipped bat *Kerivoula papuensis*.

The total Australian population of the coastal sheath-tail bat is estimated to be between 1200 and 2500. Its limited distribution makes the management of this species important within the Fitzroy Island National Park. The spectacled flying-fox *Pteropus conspicillatus* is a seasonal visitor from the mainland (Clague 1999) and is listed as vulnerable under the Environment Protection and Biodiversity Conservation Act. Therefore, the protection of roost caves, particularly maternity caves, is important.

Fitzroy Island supports a number of reptiles, including snakes, skinks, geckos and goannas. Woodland vegetation shows the greatest overall abundance of reptile species within the Fitzroy Island National Park. Several reptile species have a limited home range and represent the island's major predators, particularly the goanna *Varanus* sp.

Numerous spiders and insects have been recorded within the park. For island visitors, the butterflies are an attraction, in particular, the Cairns birdwing *Ornithoptera euphorion* and the Ulysses butterfly *Papilio ulysses joesa*. The Apollo jewel butterfly *Hypochrysops apollo apollo* has been recorded in the area and is listed as vulnerable under the Nature



Photo: DES

Welcome Bay, Fitzroy Island National Park.

Conservation (Wildlife) Regulation. The only amphibian recorded on the island is the striped rocketfrog *Litoria nasuta*, although anecdotal reports suggest the presence of two other species.

The waters surrounding Fitzroy Island are used in the cooler months by vulnerable humpback whales *Megaptera novaeangliae* on their annual migration. Other cetaceans of conservation significance include the Indo-Pacific humpback dolphin *Sousa chinensis* and Australian snubfin dolphin *Orcaella heinsohni* (both currently listed as near threatened). Detailed information about these species, including dolphin and whale watching guidelines, is available through the Great Barrier Reef Marine Park Authority website.

In addition, the Great Barrier Reef Marine Park Authority has developed an Operational Policy on Whale and Dolphin Conservation in the Great Barrier Reef Marine Park. Dugongs *Dugong dugon* and green turtles *Chelonia mydas*, both listed as vulnerable, also occur in the area.

Healthy coral cover is fundamental to the ecological processes and values of the Fitzroy Marine Management Area. Coral and associated biota are threatened globally by a variety of human activities and natural processes (Wilkinson 2002). At Fitzroy, visitor activities may have negligible individual impacts, but may be significant within high-use areas as they accumulate. The extent and long-term effects of damage to corals from human activities at Fitzroy Island has not been qualified; however, extensive damage from human use has been demonstrated in other coral reef systems and in localised parts of the Great Barrier Reef Marine Park.

Long-term monitoring of Fitzroy Island reef by the Australian Institute of Marine Science has occurred since 1986. Initial monitoring showed coral cover to be at a moderate level (10–30 per cent); however, in 2002 coral cover had declined to a low level (<5 per cent) as a result of flood plumes, cyclones, coral bleaching and crown of thorns starfish invasions (Sweatman et al 2004). While coral cover remains low, monitoring in 2004 indicated areas of good coral cover and regrowth.

Recent surveys by the Australian Institute of Marine Science have recorded no crown of thorns starfish on this reef, but they were previously recorded in 1998. While no bleaching or coral disease was recorded during surveys in November 2002, coral bleaching was recorded in 1998 and anecdotally in early 2002 and 2008. Hard coral cover is low across the reef with soft coral cover at 16 per cent (Sweatman et al 2004). Detailed information on reef structure and health within marine management areas is available on the Australian Institute of Marine Science website.

The fringing reefs show evidence of impacts, such as trampling, anchor damage and fishing line entanglement, particularly in the Welcome Bay locality.

Beaches provide important habitat for invertebrates, such as amphipods, isopods, molluscs, polychaetes and crustaceans, and provide feeding ground for fish, shorebirds and seabirds.

Desired outcomes 2021	Actions and guidelines
<p>The biodiversity and integrity of natural ecosystems and communities are maintained and rehabilitated, where appropriate.</p> <p>Detailed information about the habitat and distribution of animals are available to guide management decisions.</p>	<p>A16. Native animals will be protected through appropriate management practices consistent with the zone and locality settings (Appendix A, Map 2, Appendix E and Appendix G).</p> <p>A17. Ensure that commercial operators and visitors undertake popular activities, such as snorkelling and diving, in accordance with the responsible reef practices developed by the Great Barrier Reef Marine Park Authority.</p> <p>A18. The impacts of anchors will be minimised through a system of public and private moorings concentrated in designated, low impact anchorage areas.</p> <p>A19. Monitor populations and distributions of native animal species of conservation significance. (See also section 4.5.4 Site Profiles).</p> <p>A20. Continue to enter animal location information, particularly animals of conservation significance, into WildNet, the QPWS database of plants and animals.</p>

4.3 Indigenous culture

Fitzroy Island National Park and the surrounding reef and waters form part of the traditional land and sea country of the Gurabana Gunggandji people. The Traditional Owners describe the creation of Fitzroy Island through a dreamtime story about a big mountain (Kobaburra) surrounded by coastal plains, which were later flooded by the seawater.

The island and its surrounding waters are of cultural significance and importance as they were used for hunting and gathering, fishing, totemic values and ceremonies.

The Gurabana Gunggandji people once hunted goannas and goats on the island, collected crayfish from the south-eastern shores and gathered coral rubble, which

they later crushed to apply to orchards as lime. Today, many Gurabana Gunggandji people reside in the local towns of Yarrabah and Cairns.

Traditional Owners access the island and surrounding waters for a variety of cultural purposes. While a formal cultural heritage assessment has not been completed for the park, burial sites have been identified. Areas of the national park and other lands within the Welcome Bay area are the subject of a native title claim, which has not been determined at this time.

The Traditional Owners have commercial aspirations for the island, and appropriate commercial ventures run by Traditional Owners should be encouraged.

Desired outcomes 2021	Actions and guidelines
<p>Places of Indigenous cultural heritage significance are identified and managed appropriately with the involvement of Traditional Owners.</p> <p>Indigenous culture is celebrated through interpretation, commercial opportunities and cooperative park management.</p>	<p>A21. Work with Traditional Owners to have a formal cultural heritage assessment of the island undertaken, and maintain confidentiality as requested by the Traditional Owners and/or the community.</p> <p>A22. Provide listings for Fitzroy Island on the Queensland Heritage Register to the Menmumy Museum at Yarrabah; no separate Aboriginal cultural heritage register for Fitzroy Island will be held by DES.</p> <p>A23. Develop cooperative relationships with Traditional Owners to protect and maintain Indigenous cultural heritage.</p>

4.4 Shared-history culture

In 1770, Lieutenant James Cook named Fitzroy Island in honour of Augustus Henry Fitzroy, the Duke of Grafton and Prime Minister of England at the time. In the late 1800s, a beche-de-mer (sea cucumber) industry began operating on Fitzroy Island. The island was established as a quarantine station in 1876 for early Chinese migrants to north Queensland, with many dying on the island. Little Fitzroy Island and Fitzroy Island have had a number of lighthouse facilities since the first navigational light was built on Little Fitzroy Island in 1929.

Following European settlement, Fitzroy Island became part of the Yarrabah Aboriginal Mission and in 1892 an Anglican church made of coral was built in Welcome Bay in the present resort lease area.

Fruit and vegetable gardens were established in the early 1900s and runaways from the Yarrabah Mission were left at the island to work as labourers. While the plantations were closed in 1912, the area remained officially part of the mission until it was acquired for defence purposes during World War II (WWII) and has subsequently been transferred to other tenures.

Desired outcomes 2021	Actions and guidelines
<p>Places of cultural heritage significance are identified and appropriately managed.</p>	<p>A24. Cooperatively manage cultural places identified in the cultural heritage assessment for their continued protection and preservation.</p> <p>A25. Demolish and remove buildings that do not have cultural heritage significance and are not required for management or another identified appropriate use. Rehabilitate areas formerly occupied by demolished buildings or develop for appropriate recreational use.</p>

4.5 Tourism and visitor opportunities

Recreation and tourism values include a very relaxed atmosphere and significant landscape values, a fringing reef in a relatively protected and shallow environment, sheltered beaches, day-use and overnight facilities including a local council campground, a protected anchorage within easy travel time from Cairns, and regular ferry services. The anchorage at Welcome Bay in particular is a key attraction and draws a large number of fishing vessels, motorboats, and cruising and local yachts annually.

Specific recreational activities within the national park and marine management area include nature and cultural viewing and walks, sunbathing and boating, camping, picnicking, whale watching, anchoring or mooring, swimming, snorkelling or SCUBA diving, coral viewing, use of the beach hire equipment such as kayaks and catamarans, and educational activities.

Fitzroy Island and the surrounding waters are a key recreation and tourism destination in the local region. The island is nestled geographically between the undeveloped and more remote Frankland Group to the south and high reef tourism destinations, such as Green Island to the north.

The medium level of nature-based activities and facilities, while remaining very relaxed and low-key, is a visitor experience not offered elsewhere in the

Cairns Great Barrier Reef region, making it an important recreational area from a regional perspective. As there are no other sheltered islands with a good anchorage easily accessible from Cairns, it is important that Fitzroy Island National Park is managed in a way that maintains its unique qualities, does not displace local user groups and encourages local use.

Fitzroy Island is a popular day visit destination for those living in or visiting Cairns. Visitor access to the Fitzroy Island National Park is determined by access through the marine management area. Total visitor numbers are estimated at approximately 70 000 visitors per year across tenures.

Visitor use patterns, based on anecdotal evidence, indicate 90–95 per cent of visitors arrive by commercial marine tourism operators. Due to temporal and spatial separation for activities, crowding is not an issue on most days. However, approximately 84 per cent of permitted marine tourism operator capacity is unused annually. Daily capacity is fully used on peak days (e.g. Easter) when crowding is evident.

Monitoring of visitor numbers (both commercial and non-commercial) and further assessment of sustainable and equitable use of this location is required to provide accurate data for future management of visitor numbers.

Desired outcomes 2021	Actions and guidelines
<p>Fitzroy Island National Park and adjacent State marine waters are promoted as a valued natural area where visitors can enjoy nature-based recreation opportunities.</p> <p>Recreation activities are managed to encourage visitor enjoyment and understanding, while minimising impacts on the national park and management area.</p>	<p>A26. Manage the national park and marine management area in accordance to the terrestrial zones and marine setting system as detailed in Appendix A, Map 2, Appendix E and Appendix G.</p> <p>A27. Liaise with State and regional tourism authorities to promote the values and recreation opportunities through local publications and media releases.</p>

4.5.1 Information and interpretation

The Indigenous heritage of the Gurabana Gunggandji people provides an educational perspective to others on the relationship that Indigenous people had, and continue to have, with the land and waters of Fitzroy Island. This plan recognises the importance of Indigenous traditional knowledge.

Visitors to Fitzroy Island may be unfamiliar or unaware of local hazards. Visitor education of safety issues is critical in managing visitor safety in the area. Potential risks include hazards associated with slippery, steep and rocky terrain, heat exhaustion and dehydration.

Within the marine management area there are risks of injury to swimmers or snorkellers from boat users and marine stingers and other jellyfish.

An interpretive strategy for the area was completed in February 2008 and a range of interpretive products are available for visitors to the island. Pre-visit information is available from the DES website. On-site information is available in the resort area, at the lighthouse and via signs along the Secret Garden track. Several other interpretive signs are placed on the lighthouse and Nudey Beach tracks and at the lighthouse lookout.

Desired outcomes 2021	Actions and guidelines
The park provides opportunities for interpretation.	<p>A28. Walking tracks will be closed when there is a threat to visitor safety (e.g. cyclone warning, fire danger or planned burns).</p> <p>A29. Develop a Statement of Interpretation Intent, including input from Traditional Owners.</p>

4.5.2 Activity specific management

The island has a network of walking tracks catering to a range of interests, fitness levels and desired experiences. The walking tracks to and around the lighthouse precinct have cultural heritage significance. Access to the lighthouse track is via the Esplanade. Access to the summit track is currently via the lighthouse track (as access through Lot 169 has been closed since the resort redevelopment in 2009). Access to the Nudey Beach track is guaranteed through the conditions of the resort lease. The current access point for the lighthouse track is outside of the national park boundary. Public access is not guaranteed.

The marine management area caters for a wide range of low-impact, water-based activities, such as swimming, snorkelling and sea kayaking.

The Cairns Regional Council maintains a public campground at Welcome Bay. Camping outside of this designated area—that is in the national park—has the potential to adversely impact sensitive foreshore vegetation and is, therefore, not permitted.

Commercial tourism operators play an important role in nature-based tourism in the Great Barrier Reef. The personal interaction with visitors, combined with the provision of guided and supervised recreation activities, helps ensure the appropriate use of natural areas can help enhance the visitor experience. There are limited group or commercial activities occurring on the island.

Commercial tourism activities are managed according to the Great Barrier Reef Marine Park Authority Policy – Managing Tourism Permissions to Operate in the

Great Barrier Reef Marine Park and under the QPWS Operational Policy – Commercial Activities.

While current boat-based activities are not impacting to any significant extent, there is a need to ensure that only nature-based recreation boating activities compatible with the area's values occur. More intense motorised watersport activities, such as the use of personalised watercraft and waterskiing, are not encouraged as they have the potential to impact on the natural values and amenity of the area as well as strike or disturb whales, dolphins, turtles and dugong as a result of vessel speed, erratic manoeuvring, low vantage point and use in shallow inshore waters.

The Marine Parks Act and the Great Barrier Reef Marine Park Act prohibits boats or vessels from discharging oil, garbage, sediment, litter or other wastes to Queensland and Commonwealth waters and controls discharge of sewage. Provisions for waste receiving and pump-out facilities are located at Cairns. The island's rubbish is currently shipped back to the mainland for disposal; however, visitors to the park must take their rubbish with them upon leaving. All sewage on the island is septic treated with wastewater disposal through soakage trenches.

Barging is required to the island and permits have previously limited operations to between the hours of 3:30 pm and 9:00 am.

Emergency evacuation from the island is possible by sea or by helicopter, subject to prevailing weather conditions.

Desired outcomes 2021	Actions and guidelines
<p>Bush walking</p> <p>Walking tracks on Fitzroy Island National Park provide opportunities catering to range of experiences and fitness levels.</p> <p>Access to national park walking tracks is guaranteed.</p>	<p>A30. Explore the possibility of expanding the walking track network to create enhanced opportunities for visitors.</p> <p>A31. The firebreak between the lighthouse cottages and the beach adjacent to Little Fitzroy Island will not be developed into a walking track due to its alignment over steep, rocky terrain and associated safety issues.</p> <p>A32. Negotiate arrangements for guaranteed access to the lighthouse and summit tracks through Lot 132 with the relevant land manager. If access cannot be guaranteed across Lot 132, then modify walking tracks to ensure improved public access to the summit and lighthouse precinct.</p>
<p>Camping</p> <p>Camping does not impact on sensitive foreshore vegetation communities.</p>	<p>A33. Ensure camping only occurs within the designated Cairns Regional Council camping area and not in the national park and inter-tidal area.</p>

Desired outcomes 2021	Actions and guidelines
<p>Group and commercial activities</p> <p>Appropriate balance between independent travellers and commercial operator tours exists.</p>	<p>A34. Encourage and permit new commercial tourism ventures that are nature-based, promote the natural and cultural values of the area and do not impact on independent visitors' experience.</p> <p>A35. Promote opportunities for non-motorised marine water sports tours, such as kayak tours.</p> <p>A36. Daily commercial operations (those with daily access to enter the marine management area from a location outside the marine management area) will be managed to achieve a visitor capacity not to exceed 1355 people per day for entry to the marine management area (Appendix G). New daily tourism operation permits or authorisations will only be issued if high levels of latent capacity exists within the total daily visitor capacity. Allocation of any additional capacity may be subject to a preferential allocation system, ballot, public advertising or applicable QPWS or Great Barrier Reef Marine Park Authority policy, where this is in the public interest of equitable allocation of limited capacity.</p> <p>A37. Access for all other tourism operations (those not a daily tourism operation as defined above) will be limited to 50 days per annum to the marine management area, regardless of the type of vessel or craft used. These operations will be managed via a booking system.</p>
<p>Aircraft</p> <p>Aircraft do not disturb breeding and roosting seabirds and shorebirds.</p> <p>Aircraft noise does not impact on the relaxed, low-key amenity values and visitor experiences.</p>	<p>A38. Aircraft overflights (below 1500 feet) will not be recommended and aircraft landings will not be permitted in the Fitzroy Island National Park or marine management area except in an emergency or for authorised management purposes.</p>
<p>Motorised watersports, personal watercraft and high speed vessels</p> <p>Recreation boating activities are consistent with protecting the values of the reef, are safe, and do not conflict with users enjoying the tranquil and picturesque setting.</p>	<p>A39. Through interpretive materials inform visitors about boating and associated activity requirements.</p> <p>A40. Motorised water sports are not permitted within the marine management area.</p> <p>Note: Vessels, such as jetskis and ski boats, may be used to access the area provided they are not used for motorised water sports.</p>
<p>Vehicles</p> <p>Vehicles, other than authorised vehicles, are not used on the park.</p>	<p>A41. Only authorised vehicles will be permitted to transport goods, equipment or people to the lighthouse keepers' cottages via the lighthouse track. Such activities will be conducted outside of the peak period (9:30 am – 3:30 pm) where possible.</p>
<p>Barge operations</p> <p>Barge operations do not impact on the social, cultural and natural values of the island.</p>	<p>A42. Barge operations are restricted to operating between the hours of 3:30 pm and 9:00 am during suitable tides and within locality one to the designated barge access and shipping channel areas to ensure minimal disturbance to benthic communities.</p>
<p>Waste disposal</p> <p>Human waste and rubbish is managed and disposed of in an ecologically sustainable manner.</p>	<p>A43. Rubbish will continue to be removed from the park and disposed of at local municipal rubbish disposal facilities.</p>
<p>Emergency access</p> <p>Emergency access to the park has no permanent impact on the existing values and amenity.</p>	<p>A44. Access and/or structures or facilities erected for emergencies must be temporary and have minimal impact on the natural and cultural values of the area.</p>

4.5.3 Zones (Fitzroy Island National Park)

The landscape classification system is one tool used to assess the natural state of visitor sites, assess implications of visitor activities (including gradual change with increase visitation) and assess management actions that would increase naturalness. The landscape classification system is used to describe natural, social and managerial characteristics of a site, with settings ranging from one (most natural) to nine (most urbanised).

A terrestrial management zone system has been prepared based on the landscape classification settings. The zone system guides management directions and priorities, acceptable levels of use and development throughout the park (Appendix A, Map 2 and Appendix E).

Each zone has identified management characteristics and establishes upper limits for provision of campsites, visitor facilities, signs, walking tracks and commercial visitation.

Zone one describes an area that is very natural. The natural landscape dominates these areas, which show some inconspicuous evidence of modern human activity. Sites within this zone have minimal impacts from visitors and encounters with others are not to be expected, with frequent opportunities for solitude.

There is no evidence of management in these areas and they are unlikely to contain any infrastructure. Orchid Valley as well as the remainder of the island not captured in other zones fit this category. These areas fall in the landscape classification setting range of 3-4 and the focus of management is conservation.

Zone two describes a somewhat natural area where evidence of modern human activity is more conspicuous. Visitors to these sites will experience a



Fitzroy Island National Park.

low to moderate sense of isolation and encounters with other groups are likely. Structures at these sites tend to be small and blend into the natural surroundings. There are four sites (the summit track, Nudey Beach and the Nudey Beach track, Secret Garden track, and the lighthouse track) that fit this category. This zone is within the landscape classification setting range of 4-6.

Zone three describes a somewhat modified area with significant evidence of visitors, including larger groups. There is one site (the lighthouse precinct) that fits this category. Visitors to this site will experience a low sense of isolation with moderate to high encounters with other people. Structures are readily apparent within the natural landscape and there is an active management presence. This site falls in the landscape classification setting of 6-7.

Refer to Appendix A, Map 2 and Appendix E for more information on management zones and Map 3 for sites and walking tracks.

Desired outcomes 2021	Actions and guidelines
<p>Zone one – very natural</p> <p>Orchid Valley, as well as the remainder of the island not captured in other zones, is to be managed as a 'very natural' setting.</p>	<p>A45. Infrastructure, including walking tracks, will not be permitted within Orchid Valley to protect species of conservation significance and conservation values. (Appendix A, Map 3)</p> <p>A46. Orchid Valley and all other areas of the island not described as sites in this plan are to be managed as a 'very natural' setting.</p>
<p>Zone two – somewhat natural</p> <p>The summit track, Nudey Beach and the Nudey Beach track, Secret Garden track, and the lighthouse track are to be managed as a 'somewhat natural' setting.</p>	<p>A47. Review the summit area to optimise natural outlooks and minimise risks to visitors.</p> <p>A48. There will be no infrastructure or visitor facilities at Nudey Beach.</p> <p>A49. Group activities (commercial or non-commercial) at Nudey Beach will not be permitted during the peak period between 9:30 am and 3:30 pm, daily.</p>
<p>Zone three – somewhat modified</p> <p>The lighthouse precinct is to be managed as a 'somewhat modified' setting.</p>	<p>A50. Opportunities for visitor facilities will be considered for the former lighthouse ruins located along the summit track.</p> <p>A51. The lighthouse tower will remain closed to visitors.</p>

4.5.4 Site profiles (Fitzroy Marine Management Area)

Generally vessels operating in marine parks around islands are sightseeing, fishing or dropping off tour groups, campers or day visitors who access national park beaches and walking tracks. Consequently, limits on commercial visitation to island intertidal areas and national parks must be closely aligned. The marine management area comprises four separate localities that see different types and levels of visitation (Appendix A, Map 2) and a use setting has been determined for each locality, based on the categories of use applied to the surrounding areas under the Cairns Area Plan of Management 1998.

Localities one and two will be managed as moderate use settings, consistent with the settings described under the Cairns Area Plan of Management 1998.

Locality one – Welcome Bay

Welcome Bay is the primary anchorage for the island providing shelter from the prevailing south-easterly weather. Key uses of the area include swimming, snorkelling, SCUBA diving, vessel mooring or anchoring, boating, kayaking, coral viewing, barge operations, commercial tourist operations (including beach hire) and recreational fishing. Within Welcome Bay there are four areas designated for the specific purposes of private moorings, anchorage, swimming and the shipping channel (Appendix A, Map 4). The unauthorised moorings, at least one of which dates back to WWII, are sometimes used by the general public and have not been assessed for safety and/or suitability.

Additional public moorings are needed to accommodate larger vessels. There are a number of other structures and permanently moored facilities within Welcome Bay, including a water trampoline and public jetty.

The design of the public jetty and its use by commercial operations restricts use by smaller vessels. Therefore, smaller vessels must anchor closer to shore or tie up to foreshore vegetation.

Locality two – Welcome Bay to Little Fitzroy Island

There are four public moorings (type A) and four private moorings within this locality. The public moorings in Sharkfin Bay are mostly unused. Key activities within this locality include commercial snorkelling, diving, kayaking tours and commercial and recreational fishing, and the area is largely protected from the prevailing south easterly weather.

Locality three – Little Fitzroy Island to Nudey Beach

Key activities include commercial snorkelling, diving and kayaking tours and recreational and commercial fishing. This locality is used as an alternative commercial tourism site during northerly weather and is rarely used during prevailing south-easterly weather. There are four private moorings and no public moorings.

Locality four – Nudey Beach

Nudey Beach is separated from Welcome Bay by a short walk and offers an alternative visitor experience to Welcome Bay. There is one public mooring (type A), no private moorings and several historical unauthorised moorings (tackled and untackled).

Localities three and four will be managed as low-use settings.



Welcome Bay, Fitzroy Island National Park.

Photo: DES

Desired outcomes 2021	Actions and guidelines
<p>Locality one – Welcome Bay</p> <p>Locality one is managed as a 'moderate use' setting catering to a range of commercial and recreational users.</p> <p>The location and use of existing authorised private and public moorings caters to a range of vessels and conforms to the recommendations of this plan.</p> <p>Structures and permanently moored facilities are utilised and do not impact on other users of the area.</p> <p>The designated areas are managed appropriately for their intended purpose.</p>	<p>A52. Private moorings are not limited outside of the 250 m coastal line.</p> <p>A53. Existing permitted tourism operations with a permitted capacity greater than 60 may be allowed to continue those operations, subject to eligibility criteria when permits expire.</p> <p>A54. Larger vessels (>35 m) are restricted to anchoring or mooring outside of the 250 m coastal line.</p> <p>A55. The private mooring area is managed to accommodate the needs of authorised activities requiring the use of tenders and smaller vessels (<15 m).</p> <p>A56. Private moorings within the 250 m coastal line are restricted to:</p> <ul style="list-style-type: none"> • the designated private mooring area • areas outside of the other designated areas within locality one for anchoring, swimming and the shipping channel, etc. <p>A57. Moorings for private non-commercial use are not permitted (an exception may be made for full-time residents of the island where use requirements are not fulfilled by the public mooring system). For example, a yacht that visits the islands on weekends does not have a demonstrated need for a private mooring because public moorings meet this need, while allowing continued general public use.</p> <p>A58. Review the location of existing private moorings in conjunction with the owners and relocate, where possible, to meet the recommendations of this plan.</p> <p>A59. If a current private mooring authorisation expires or is revoked, any future applications for infrastructure at the same location must be assessed against this plan.</p> <p>A60. No anchoring will be permitted in the private mooring area.</p> <p>A61. Assess the suitability of historical moorings and remove if they are unsuitable.</p> <p>A62. Additional structures may be supported where:</p> <ul style="list-style-type: none"> • there is a demonstrated need to install or upgrade publicly-owned facilities within the area; or • new technologies provide opportunities to rationalise and maximise efficiencies of vessel use and moorings within the area; and • the proposal does not impact (either individually or accumulatively) on natural values, amenity and general public use of the area; and • there is a clear public benefit. <p>A63. Further resource allocation authorities are not supported due to the existing crowding in the anchorage.</p> <p>A64. No infrastructure is to be located in the shipping and barge access channel.</p>
<p>Locality two – Welcome Bay to Little Fitzroy Island</p> <p>Locality two is managed as a 'moderate use' setting.</p>	<p>A65. Permit a maximum of one structure or permanently moored facility (other than current public moorings) for the purposes of aquaculture (provided it complies with the policy of the plan and obtains all relevant approvals).</p>
<p>Locality three – Little Fitzroy Island to Nudey Beach</p> <p>Locality three is managed as a 'low-use' setting.</p>	<p>A66. Exceptions to the setting limits will be made for permitted tourism operations that use authorised private moorings as an alternative during northerly weather conditions.</p> <p>A67. Structures, permanently moored facilities and additional private moorings will not be permitted in locality three.</p>
<p>Locality four – Nudey Beach</p> <p>Locality four is managed as a 'low-use' setting.</p>	<p>A68. Private structures, permanently moored facilities and moorings will not be permitted.</p> <p>A69. Commercial and private groups and/or events will not be permitted in the intertidal area in peak period between the hours of 9:30 am and 3:30 pm.</p> <p>A70. Group snorkelling may be conducted in the adjacent waters provided that no part of the activity (e.g. equipment storage and beach lookouts) occurs in the intertidal area (exemptions may be granted for vessels in transit).</p>

4.6 Education and science

Fitzroy Island and the surrounding reef is a valuable destination for educational groups, including local primary schools and researchers. This popularity is due to the easy access from Cairns, a regular ferry service and accommodation options.

The area offers a range of research opportunities in natural, cultural and social themes. The marine management area has been part of the Australian Institute of Marine Science Great Barrier Reef long-term monitoring program since 1986 and has been surveyed 16 times (Sweetman et al 2008). Scientific research and monitoring programs can provide valuable information towards improved management.



Photo: DES

Welcome Bay from the jetty, Fitzroy Island National Park.

Desired outcomes 2021	Actions and guidelines
<p>The national park and marine management area continue to provide opportunities for education and training.</p> <p>Terrestrial and marine research and monitoring programs provide information that contributes to the protection and sustainable use of the area.</p> <p>There are opportunities for education about Traditional Owners' historic and ongoing relationship with the area and its extensive cultural heritage.</p>	<p>A71. Provide opportunities for nature-based education in the national park and marine management area.</p> <p>A72. Encourage collaborative arrangements with educational and research organisations, emphasising arrangements that contribute to improved park management.</p> <p>A73. Encourage scientific research programs that deliver the specific actions and guidelines outlined in this management plan and that contribute to understanding and managing significant flora and fauna, and use results to inform management.</p>

4.7 Partnerships

Traditional Owners have a responsibility under traditional lore for the management of the area. Neighbouring areas and other relevant legislation are administered by other agencies, including Cairns Regional Council, Commonwealth Department of Sustainability, Environment, Water, Population and Communities and the Great Barrier Reef Marine Park Authority.

The Great Barrier Reef Marine Park Authority funds QPWS through the Field Management Program for

management activities on the Great Barrier Reef, including Fitzroy Island National Park and the Fitzroy Marine Management Area.

Working with groups, agencies and individuals with similar interests in managing the area is highly desirable. These partnerships can foster resource sharing, improved communication and decision-making and enhanced on-ground outcomes.

Desired outcomes 2021	Actions and guidelines
<p>The integrity, sustainable use and enjoyment of the park are maintained through a coordinated and complementary management approach across all jurisdictions.</p> <p>Strong communication and cooperation exists between all agencies with interests in, and responsibilities for, managing land, resources and human behaviours in the national park and marine management area.</p>	<p>A74. Continue to develop relationships in planning and managing the area with Traditional Owners and stakeholders including State and Commonwealth government agencies, the operators of the resort and industry groups.</p>

5.0 Other key issues and responses

5.1 Pest management

The occurrence and distribution of pest plants has remained limited to areas of disturbance and long-term habitation, notably the Welcome Bay area and the lighthouse road and precinct. Some pest species occur on adjacent tenure and have the potential to threaten the natural values of the park by altering local biodiversity.

Species of particular concern within the Fitzroy Island National Park are Singapore daisy *Sphagneticola trilobata* and lantana *Lantana camara*, which are both declared Class 3 pests under the Land Protection (Pest and Stock Route Management) Regulation 2003. Also present are Class 2 pests, giant sensitive plant *Mimosa diplotricha* var. *diplotricha* and giant Parramatta grass *Sporobolus fertilis*. Also of concern are devil's ivy or pothos *Epipremnum aureum*, dwarf poinsettia *Euphorbia cyathophora*, wandering jew *Tradescantia spathacea* and red natal grass *Melinis repens* due to their invasive nature.



Welcome Bay, Fitzroy Island National Park.



Fungi, Secret Garden walk, Fitzroy Island National Park

Introducing mainland and non-Australian species to off-shore islands has the potential to alter the ecosystem and can lead to widespread changes in both plants and animal species that occur. In particular, impacts on bird and mammal species (for example, due to rats) can be widespread and lead to local extinction. Therefore, it is important that human uses of these areas do not deliberately or inadvertently introduce species not endemic to the island. It is also important that disease introduction (for example, through landscaping materials or earth moving equipment) is mitigated. Particular threatening activities relate to landscaping materials and freight, fire management, visitor activities and management activities following natural disturbances, such as cyclones.

Surveying within the park has identified 26 pest plants and animals, including ornamental garden plants. A pest management strategy for the island has been prepared. Although only one cane toad *Bufo marinus* has previously been recorded on the island, it is a listed key threatening process under the Environment Protection and Biodiversity Conservation Act and is a major threat to the island's biota, particularly the goanna population. The black rat *Rattus rattus* is also a listed key threatening process and occurs on the island.

Desired outcomes 2021	Actions and guidelines
Pests posing a threat to the park's natural values are controlled and, where possible, eradicated.	A75. Implement Level 2 Pest Management Strategy developed under the QPWS Pest Management System and review when necessary.

5.2 Fire management

Fire is used as a management tool where appropriate to maintain biodiversity, protect human life and property, and manage pest plants. Three of the seven vegetation communities within the park (eucalypt woodland, *Allocasuarina*-dominated open heath and *Allocasuarina*-dominated tall shrubland) are fire dependant (Le Cussan 1997).

Encroachment by rainforest species threatens a number of other species that are reliant on open forests.

A level 2 fire strategy has been prepared for the island in accordance with the Department's Fire Management System and there is a wildfire response plan in place.

Desired outcomes 2021	Actions and guidelines
Fire has no adverse impact on the natural and cultural values of the park.	<p>A76. Implement the fire management strategy and wildfire response plan for the park, in collaboration with neighbours and Traditional Owners, and review when necessary.</p> <p>A77. Fires are not permitted in the national park and intertidal area except for authorised management purposes.</p>

5.3 Climate change

Fitzroy Island and surrounding waters are at risk from the effects of climate change. Higher temperatures, rising sea levels, drought and a consequent change in fire regimes are likely effects of a changed climate that would impact on the area's natural values (Australian National University 2009). Climate change threatens many of the area's values, including:

- coastal beaches experiencing increased erosion from rising sea waters and large king tides

- fish populations and habitats experience longer periods of high water temperatures, decreasing habitat (including seagrass and coral), and loss of potential breeding areas.

Although these impacts are hard to manage and are largely outside the scope of the plan, reducing stresses on the environment could make it more resilient to climate change.

Desired outcomes 2021	Actions and guidelines
<p>Understand potential impacts from climate change, particularly on the coastal environment and threatened species.</p> <p>Impacts of invasive species as a result of climate change are minimised.</p>	<p>A78. Encourage research that is associated with climate change impacts and supports and informs management decisions.</p> <p>A79. Monitor the impacts of invasive species as a result of climate change and, where necessary, include actions in pest management and fire programs to minimise identified impacts.</p>



View from the Summit track, Fitzroy Island National Park.

6.0 References

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7.0 Hyperlinks

Australian Institute of Marine Science <www.aims.gov.au>

Bonn Convention <www.cms.int>

Cairns Area Plan of Management 1998 (Commonwealth) <www.gbrmpa.gov.au> China-

Australia Migratory Bird Agreement <www.environment.gov.au>

Coastal Protection and Management Act 1995 <www.legislation.qld.gov.au>

DES website <www.des.qld.gov.au>

Environment Protection and Biodiversity Conservation Act 1999 <www.environment.gov.au>

Environmental Protection Act 1994 <www.legislation.qld.gov.au>

EPA Water Policy 1997 <www.legislation.qld.gov.au>

Great Barrier Reef Marine Park Authority website <www.gbrmpa.gov.au>

Great Barrier Reef Marine Park Act 1975 (Commonwealth) <www.frli.gov.au>

Great Barrier Reef Marine Park Regulation 1983 (Commonwealth) <www.frli.gov.au>

Great Barrier Reef Marine Park Zoning Plan 2003 (Commonwealth) <www.gbrmpa.gov.au>

Japan–Australia Migratory Bird Agreement <www.environment.gov.au>

Marine bioregions <www.gbrmpa.gov.au>

Marine Parks Act 2004 <www.legislation.qld.gov.au>

Marine Parks (Great Barrier Reef Coast) Zoning Plan 2004 <www.legislation.qld.gov.au>

Marine Parks Regulation 2006 <www.legislation.qld.gov.au>

Nature Conservation Act 1992 <www.legislation.qld.gov.au>

Nature Conservation (Wildlife) Regulation 2006 <www.legislation.qld.gov.au>

Native Title Act 2003 <www.comlaw.gov.au>

QPWS Energy Manual <www.des.qld.gov.au/parks_and_forests/managing_parks_and_forests/renewable_energy>

Responsible reef practices <www.gbrmpa.gov.au>

Sewage discharges from marine outfalls to the Great Barrier Reef Marine Park (GBRMPA policy) <www.gbrmpa.gov.au>

Wet Tropical Coast Regional Coastal Management Plan <www.des.qld.gov.au/environmental_management/coast_and_oceans/coastal_management>

World Heritage Convention <www.environment.gov.au>

8.0 Appendixes

Appendix A – Maps

Appendix B – Definitions

Appendix C – Regional ecosystems

Appendix D – Animals of conservation significance

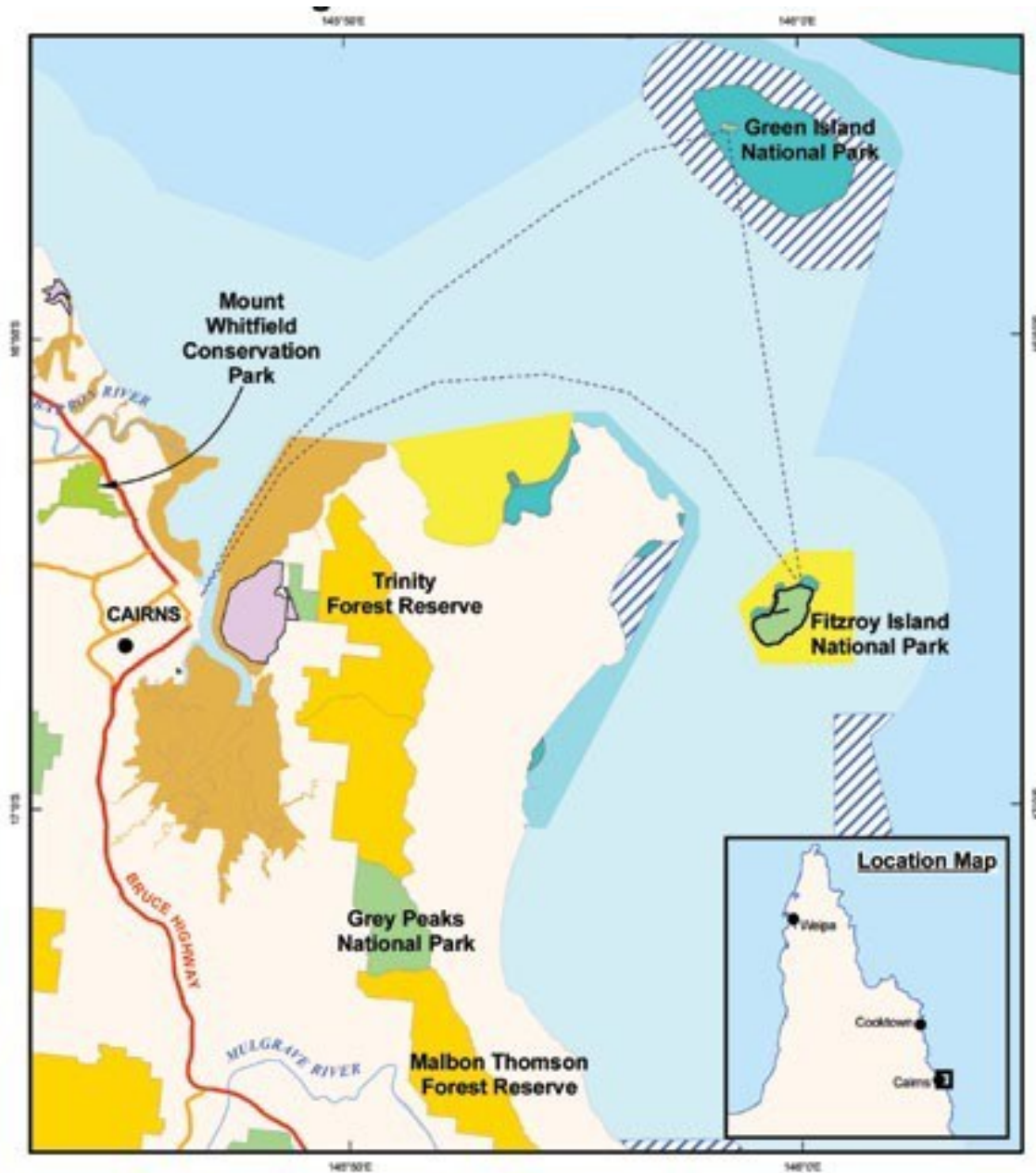
Appendix E – Zones and special management areas

Appendix F – Boundaries of designated activity areas and localities within the Fitzroy Marine Management Area

Appendix G – Sustainable visitor capacity

Appendix A – Maps

Map I Fitzroy Island National Park and Marine Management Area – Location

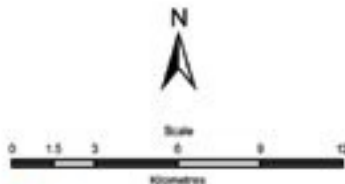


Map Projection:
 Universal Transverse Mercator (UTM) zone 88
 Horizontal Datum:
 Geocentric Datum of Australia 1984 (GDA84)

Map Production:
 Spatial Services - Brisbane,
 Queensland Parks and Wildlife Service,
 Department of Environment and Resource Management,
 9 February 2016

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Accuracy statement:
 Due to varying source, accuracy or currency of data layers used in this map, the spatial locations of features may not coincide when overlaid.



Source Material:
 Protected Areas of Queensland, DERM, 2016
 Major Coral Reef structures (ANZLIC), Great Barrier Reef Marine Park Authority; 2002
 State Marine Parks of Queensland (ANZLIC), DERM, 2009
 Drainage Network - Rivers of Queensland (ANZLIC); 2010
 State Digital Road network (SDRN); 2010
 © MapInfo Australia Pty Ltd 2010
 Major Towns of Queensland - NRM (ANZLIC); 2008

- Legend**
- DERM Tenure**
 - National Park
 - Conservation Park
 - Forest Reserve
 - Other Lands
 - Marine Parks**
 - General Use Zone
 - Habitat Protection Zone
 - Estuarine Conservation Zone
 - Conservation Park Zone
 - Marine National Park Zone
 - Preservation Zone
 - Reef structure**
 - Coral reef
 - Drainage network**
 - River
 - Road network**
 - Highway
 - Secondary road
 - Ferry
 - Major centre**
 - Town

Queensland Department of Environment and Resource Management
 2016
 Queensland Government
 Queensland Parks and Wildlife Service

Map 2 Fitzroy Island National Park and Marine Management Area – Management Zones

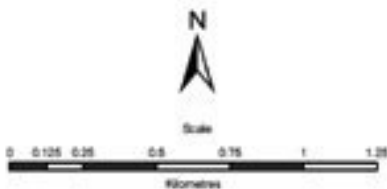


Map Projection:
 Universal Transverse Mercator (UTM) zone 55
 Horizontal Datum:
 Geocentric Datum of Australia 1984 (GDA84)

Map Production:
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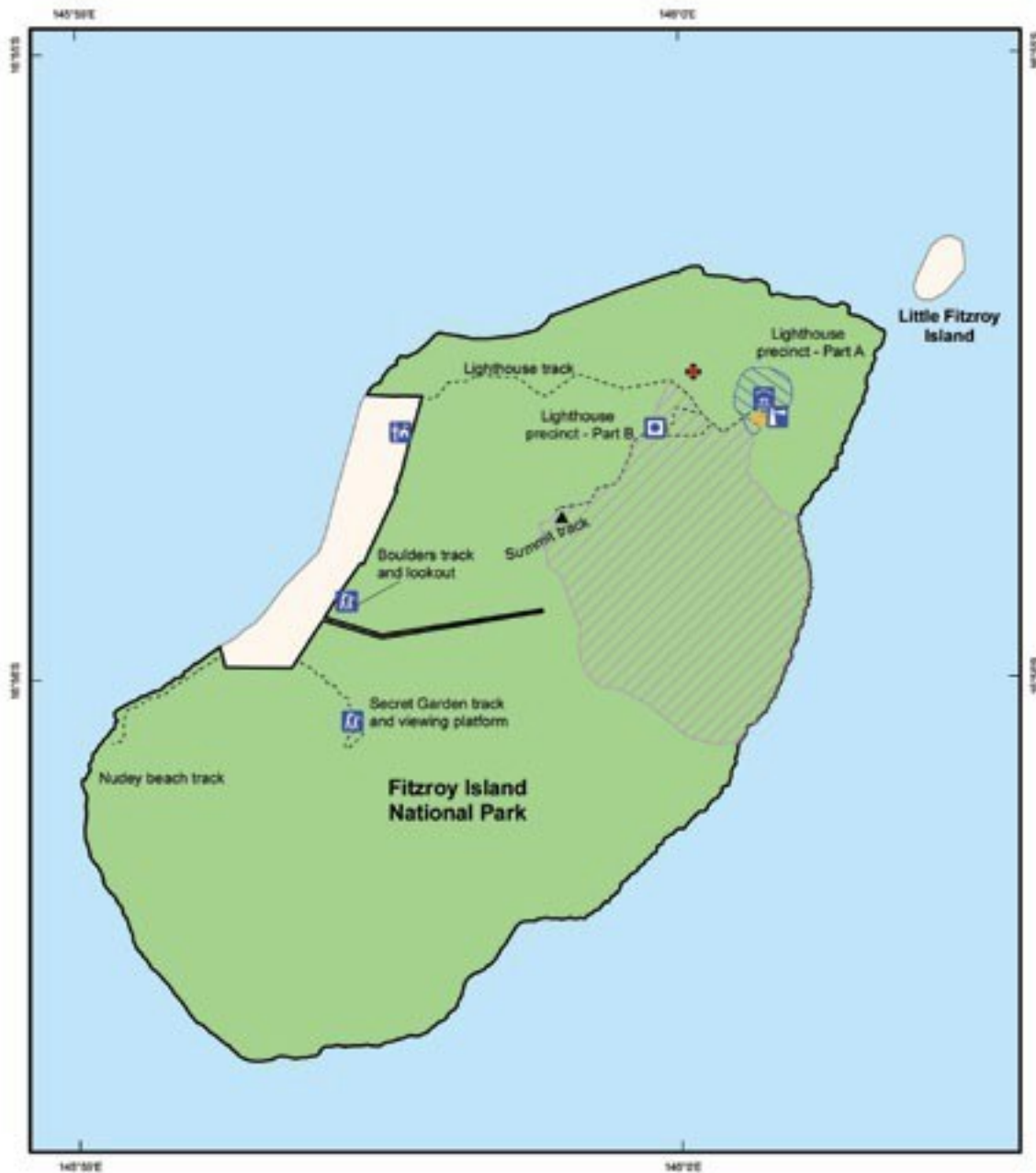


Source Material:
 DERM Digital Data of the Estate; 2007
 Management Zones, DERM Digital Data of the Estate; 2006
 Major Coral Reef Structures (ANZLIC), Great Barrier Reef
 Marine Park Authority; 2002
 Protected Areas of Queensland, DERM; 2010
 State Marine Parks of Queensland (ANZLIC), DERM; 2009

- Legend**
- Mooring**
 - Private mooring
 - Unpermitted structure
 - Channel marker
 - Public mooring type A
 - Tenure**
 - National Park
 - Other Lands
 - Commonwealth Island Zone
 - Coral reef
 - General Use Zone
 - Conservation Park Zone
 - Management Zone**
 - Zone 1
 - Zone 2
 - Zone 3
 - Management area boundary**
 - Seabed lease
 - Locality
 - Trail**
 - Walking trail

2010 Queensland Government and Queensland Parks and Wildlife Service
 Department of Environment and Resource Management
 Queensland Parks and Wildlife Service
 Queensland Government
 Queensland Parks and Wildlife Service
 Department of Environment and Resource Management
 Queensland Parks and Wildlife Service
 Queensland Government

Map 3 Fitzroy Island National Park – Sites and walking tracks

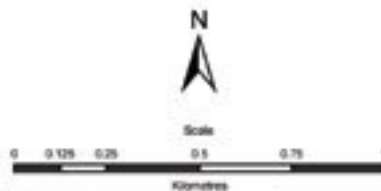


Map Projection:
 Universal Transverse Mercator (UGA) zone 58
 Horizontal Datum:
 Geocentric Datum of Australia 1994 (GDA94)

Map Production:
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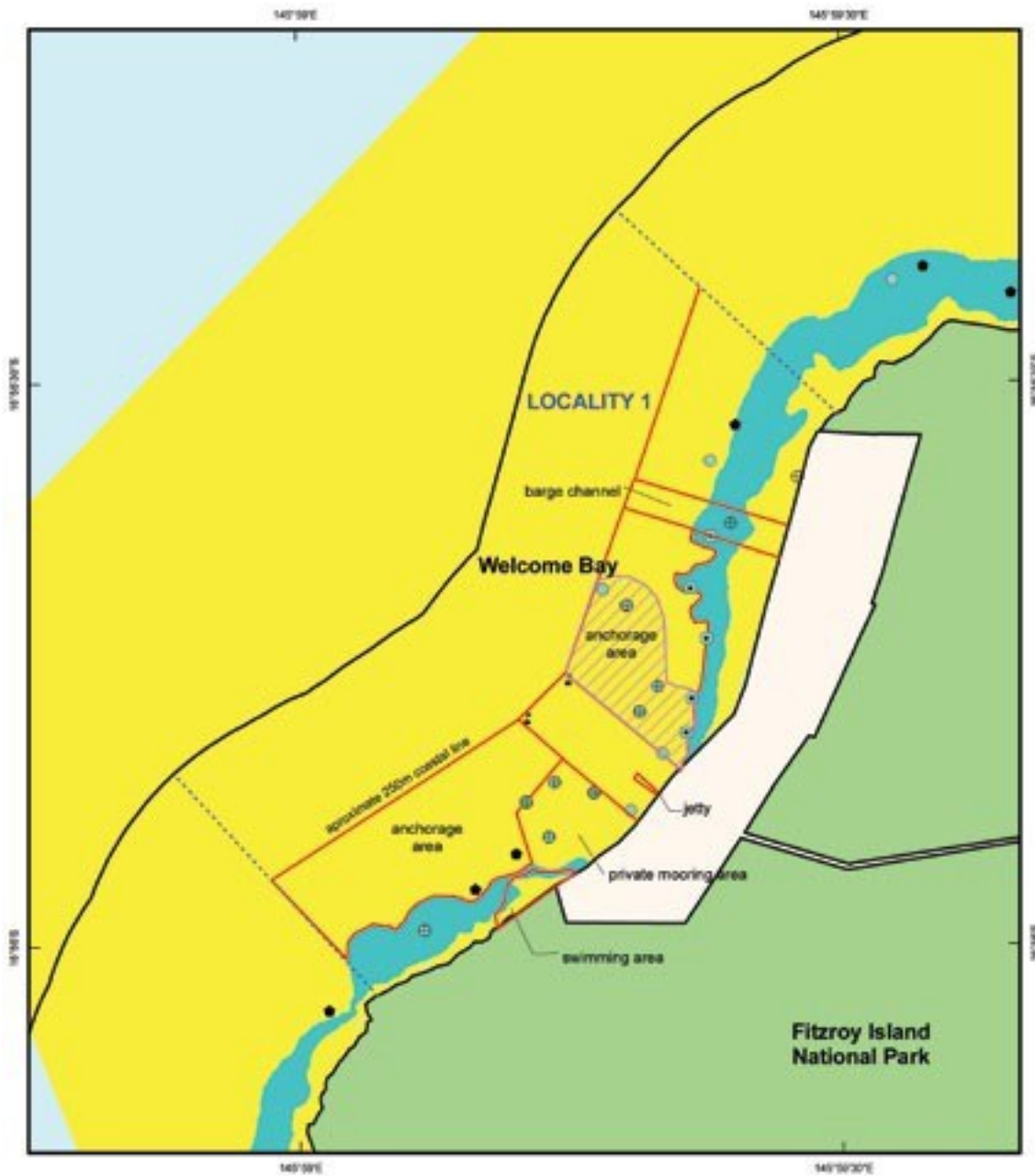
Source Material:
 DEPM Digital Data of the Estate; 2007
 Protected Areas of Queensland, DERM; 2010

Legend

- Infrastructure**
- 1873 Lighthouse
 - Lookout
 - Lighthouse cottages
 - Island summit
 - Old water pump shed
 - CPWS shed, Welcome Bay
 - Radar station
 - WWII lighthouse ruins
- Tenure**
- National Park
 - Other Lands
- Sites**
- Lighthouse precinct
 - Orchid valley
- Trail**
- Walking trail

Department of Environment and Resource Management 2010

Map 4 Fitzroy Island National Park and Marine Management Area – Designated Areas, Locality I



Map Projection:
 Universal Transverse Mercator (UTM) zone 55
 Horizontal Datum:
 Geocentric Datum of Australia 1994 (GDA94)

Map Production:
 Spatial Services - Brisbane,
 Queensland Parks and Wildlife Service,
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 of features may not coincide when overlaid.



Source Material:
 DEPM Digital Data of the Estate: 2007
 Major Coral Reef structures (ANZLIC), Great Barrier Reef
 Marine Park Authority; 2002
 Protected Areas of Queensland, DEPM, 2010
 State Marine Parks of Queensland (ANZLIC), DEPM, 2008

Legend

- Mooring**
- Private mooring
 - ⊕ Unpermitted structure
 - ⌄ Channel marker
 - Public mooring type A
 - ⊗ Reef protection marker

- Tenure**
- National Park
 - Other Lands
 - Coral reef
 - General Use Zone
 - Conservation Park Zone

- Marine Management Area**
- ▭ Management area boundary
 - ▭ Future public mooring sites
 - ⋯ Locality

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Appendix B – Definitions

Authorised management purposes	The term authorised management purposes is taken to mean actions by managing agencies or authorised contractors only, necessary for the management of the Fitzroy Island National Park and approved infrastructure, under the <i>Nature Conservation Act 1992</i> and subordinate legislation. They include activities authorised within a national park by another Act (e.g. <i>Native Title (Queensland) Act 1993</i>). It does not include other actions or activities by groups or commercial operations, such as commercial tourism operations, which may be permitted in Fitzroy Island National Park.
Commercial activity	A commercial activity is conducted for gain under an agreement between the State and a person authorised to conduct a stated activity on a protected area for a stated time and on payment of a stated amount and may involve: <ul style="list-style-type: none"> a) selling an article, material or thing b) supplying a facility or service c) commercial photography d) conducting a tour, safari, scenic flight, cruise or excursion e) advertising or promoting the use of a protected area as part of a tour, safari, scenic flight, cruise or excursion f) advertising or promoting the use of a protected area as a feature associated with a resort or tourist facility on land adjoining the area.
Cultural heritage significance	Cultural heritage significance is defined by the <i>Queensland Heritage Act 1992</i> as the values that people place on the landscape and their experience of it. It includes their knowledge and traditions, stories, songs, dances and relationships as well as places, structure and objects.
Endangered, vulnerable and near threatened	Scheduled under the Nature Conservation (Wildlife) Regulation 2006 and/or the <i>Environment Protection and Biodiversity Conservation Act 1999</i> and sets out parameters for the management of species of plants and animals declared by the schedule.
Intertidal area	The shore area influenced by tides between the highest astronomical tide line and the lowest astronomical tide line. Note: some of this area may fall within the boundaries of the adjacent Fitzroy Island National Park.
Landscape Classification Settings (LCS)	A setting is a term used to describe the character of a place, which takes into account its physical, social and managerial features. Settings on parks range from high-volume areas with signs, toilets and car parks to wild, remote locations (EPA 2001). A landscape classification setting is a system used to describe the natural, social and managerial characteristics of a site. Settings range from one (most natural) to nine (most urbanised). See QPWS operational policy – Landscape Classification System for Visitor Management.
Management principles for national parks	Under Section 17, <i>Nature Conservation Act 1992</i> : (1) A national park is to be managed to— <ul style="list-style-type: none"> (a) provide, to the greatest possible extent, for the permanent preservation of the area’s natural condition and the protection of the area’s cultural resources and values (b) present the area’s cultural and natural resources and their values (c) ensure that the only use of the area is nature-based and ecologically sustainable. (2) The management principle mentioned in subsection (1)(a) is the cardinal principle for the management of national parks.
Marine park zoning	Waters surrounding Fitzroy Island are zoned conservation park and general use under the Marine Parks (Great Barrier Reef Coast) Zoning Plan 2004 (State) and Great Barrier Reef Marine Park Zoning Plan 2003 (Commonwealth). The most popular recreational areas also fall within a Commonwealth public appreciation special management area. Objectives for the zones, and allowable activities and other management considerations, are further defined in the zoning plans.

<p>Motorised water sports</p>	<p>Motorised water sports are defined as any of the following:</p> <ol style="list-style-type: none"> a) irregular driving of a motorised vessel – that is, driving such a vessel other than in a straight line, including: <ol style="list-style-type: none"> (i) driving in a circular pattern; or (ii) weaving or diverting; or (iii) surfing down, or jumping over or across, any wave, swell or wash; except for any necessary turn or diversion b) any activity in which a motorised vessel tows a person on top of the water or air, for example, waterskiing or parasailing c) any activity which: <ol style="list-style-type: none"> (i) a vessel is operated at a speed greater than 35 knots; or (ii) a personal watercraft (within the meaning given by the Transport Operations (Marine Safety) Regulation 1995 of Queensland) is used; except to transport by the most direct practicable route (not irregular driving) between two places. <p>(Section 25, Great Barrier Reef Marine Park Regulations 1983).</p>
<p>Noisy activities or equipment</p>	<p>Noisy activities or equipment are those that impact on the background soundscape to a level:</p> <ol style="list-style-type: none"> a) that a reasonable person may feel annoyance or may be displaced by the noise. The actual level will vary depending on a number of other factors; however, as a guide, noise levels greater than 10 dB (A) above the background soundscape are generally considered annoying and a level of between 5–10 dB (A) may be annoying depending on other conditions (see also Fitzroy Island and Reef Management Planning: Background Information 2006); or b) which negatively impacts on wildlife. <p>Note - the <i>Environmental Protection Act 1994</i> and subordinate legislation also has relevant requirements for noisy activities or equipment.</p>
<p>Precautionary principle</p>	<p>Where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. In the application of the precautionary principle, public and private decisions should be guided by:</p> <ol style="list-style-type: none"> a) careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment b) an assessment of the risk-weighted consequences of various options.
<p>Regional ecosystems</p>	<p>Regional ecosystems are communities of vegetation that are consistently associated with a particular combination of geology, land form and soil in a bioregion (after Sattler and Williams, 1999). The Queensland Herbarium, part of DES, has mapped the remnant extent of regional ecosystems for much of the state using a combination of satellite imagery, aerial photography and on-ground studies. Each regional ecosystem has been assigned a conservation status, which is based on its current remnant extent (how much of it remains) in a bioregion. Regional ecosystems are classified as:</p> <ul style="list-style-type: none"> • endangered: if the area of remnant vegetation for the regional ecosystem is less than 10 per cent of the pre-clearing extent of the regional ecosystem; or the area of remnant vegetation for the regional ecosystem is 10 to 30 per cent of the pre-clearing extent of the regional ecosystem and less than 10 000 hectares. • of concern: if the area of remnant vegetation for the regional ecosystem is 10 to 30 per cent of the pre-clearing extent of the regional ecosystem; or the area of remnant vegetation for the regional ecosystem is more than 30 per cent of the pre-clearing extent of the regional ecosystem and less than 10 000 hectares. • not of concern: if the area of remnant vegetation for the regional ecosystem is more than 30 per cent of the pre-clearing extent of the regional ecosystem and more than 10 000 hectares.
<p>Management zones</p>	<p>Zones are smaller units within the national park, established in order to prescribe individual management regimes to each based on the conservation of natural and cultural values, on presentation values, or managing hazards and visitor safety in the area. For the purposes of this plan, zones are described in Appendix E and mapped in Appendix A, Map 2.</p>

Appendix C – Regional ecosystems

Table I: Of concern or endangered regional ecosystems for Fitzroy Island National Park.

Regional ecosystem number	Regional ecosystem name	DES biodiversity status	Reason for status and the threats to ongoing sustainability
7.2.7	<i>Casuarina equisetifolia</i> ± <i>Corymbia tessellaris</i> open forest ± groved vine forest shrublands of the beach strand and foreshore.	Endangered	Extremely vulnerable to weed invasion, and subject to recreational disturbance and encroachment by housing developments. Remnant extent <10 000 ha and >30 % of the pre-clearing area remains.
7.12.11	Simple notophyll vine forest and notophyll semi-evergreen vine forest of rocky areas and talus, of moist granite and rhyolite foothills and uplands.	Of concern	Remnant extent >10 000 ha and >30 % of the pre-clearing area remains.
7.12.23	<i>Corymbia intermedia</i> and/or <i>C. tessellaris</i> ± <i>Eucalyptus tereticornis</i> medium to tall open forest to woodland (or vine forest with these species as emergents) on coastal granite and rhyolite headlands and near-coastal foothills.	Endangered	Less than 30 % remains unaffected by severe degradation (rainforest invasion, timber harvesting and weed invasion) and less than 10 000 ha remains.
7.12.37	Rock pavements and seepage areas of wet lowlands, uplands and highlands of the eastern escarpment and central range (excluding high granite areas of Hinchinbrook Island and Bishops Peak) on granite and rhyolite with <i>Allocasuarina</i> spp. shrubland and/or sedgeland.	Of concern	Remnant extent <10 000 ha and >30 % of the pre-clearing area remains. Distinguished from other <i>Allocasuarina</i> -dominated rock-pavement types by its eastern fall position and high rainfall, and exclusion from Hinchinbrook Island and Bishops Peak.
7.12.40	Closed vineland of wind disturbed vine forest on granites and rhyolites.	Of concern	Remnant extent <10 000 ha and >30 % of the pre-clearing area remains. Naturally wind or cyclone-disturbed communities that appear to be in a stable state either due to repeated disturbance and exposure, or due to the perpetual prevention of tree regeneration under the vine tangle.
7.12.54	Complex of shrublands and low open forests on wind-exposed granite and rhyolite coastal heathlands and islands on skeletal soils.	Of concern	Pre-clearing area is <1000 ha and >30 % of the pre-clearing area remains. Distributed patchily along the entire coastal edge of the bioregion. Eucalypt components are distinguished from 7.12.23 by their low wind-sheared nature.

Appendix D – Animals of conservation significance

Table 1: Vulnerable, endangered or near threatened native animals for Fitzroy Island National Park.

Family	Scientific name	Common name	Status under the <i>Nature Conservation Act 1992</i>
Phaethontidae	<i>Phaethon rubricauda</i>	red-tailed tropicbird	Vulnerable #
Apodidae	<i>Aerodramus terraereginae</i>	Australian swiftlet	Near threatened #
Accipitridae	<i>Accipiter novaehollandiae</i>	grey goshawk	Near threatened #
Scolopacidae	<i>Numenius madagascariensis</i>	eastern curlew	Near threatened #
Burhinidae	<i>Esacus magnirostris</i>	beach stone-curlew	Vulnerable #
Haematopodidae	<i>Haematopus fuliginosus</i>	sooty oystercatcher	Near threatened #
Laridae	<i>Sterna albifrons</i>	little tern	Endangered #
Emballonuridae	<i>Taphozous australis</i>	coastal sheath-tail bat	Vulnerable #
Vespertilionidae	<i>Murina florium</i>	tube-nosed insectivorous bat	Vulnerable #
Vespertilionidae	<i>Kerivoula papuensis</i>	golden-tipped bat	Near threatened #
Chiroptera	<i>Pteropus conspicillatus</i>	spectacled flying-fox	Vulnerable ###
Lycaenidae	<i>Hypochrysops apollo apollo</i>	apollo jewel butterfly	Vulnerable #

Nature Conservation Act 1992.

Environment Protection and Biodiversity Conservation Act 1999.

Appendix E – Zones and special management areas

The stated management characteristics and guiding principles below provide guidance; however, activities and structures remain subject to the provisions of the managing legislation and the management principles for national parks. The conservation of nature and the protection of cultural values therefore remains the cardinal principle for the use of a national park. The presentation of an area's values is subject to these being protected, and any use of a national park must be nature-based and ecologically sustainable.

Table 1 – Management zone characteristics and principles.

Note:

1. Map 2 in Appendix A shows the location of the zones on the park.
2. Park management will aim to achieve the stated zone characteristics.
3. Traditional use, emergency situations and management strategies may override the zone characteristics and will be assessed on a case-by-case basis.

* QPWS staff should refer to the Facilities Manual for further guidance on facilities appropriate to each LCS class.

ZONE I Very natural
General description
The natural landscape dominates these areas, which show some inconspicuous evidence of modern human activity. Sites within this zone have minimal impacts from visitors and encounters with others are not to be expected, with frequent opportunities for solitude. There is no evidence of management in these areas and they are unlikely to contain any infrastructure. Orchid Valley as well as the remainder of the island not captured in other zones fit this category. These areas fall in the Landscape Classification Setting range of 3–4 and the focus of management is conservation.

ZONE 1 Very natural ... continued

Management characteristics	Management aims	LCS settings *	Expected levels of visitation	Public vehicle access	Pedestrian access / walking tracks
	Manage almost exclusively for conservation. Provide for very low levels of self-reliant, nature-based visitation. No facilities.	(indicative only) 3–4	Very low	None	Walk in, natural foot trails. No formed tracks.
	Day visitor facilities None <ul style="list-style-type: none"> • no tables or shelters • no toilets 	Signs and interpretation None in zone. Mainly offsite or near boundaries where essential.	Campsites No defined sites	Visitor self-reliance Very high	Maximum group size Up to five depending on sites.

Guiding principles

Orchid Valley

- The vegetation of this area is predominately heath and there are numerous caves.
- Visitor access to Orchid Valley is not provided in order to protect species of conservation significance and the high conservation values.

The remaining areas of the island contain high conservation values and are remote and rugged and generally not accessible.

ZONE 2 Somewhat natural

General description

Zone 2 describes a somewhat natural area where evidence of modern human activity is more conspicuous. Visitors to these sites will experience a low to moderate sense of isolation and encounters with other groups are likely. Structures at these sites tend to be small and blend into the natural surroundings. There are four sites (the summit track, Nudey Beach and the Nudey Beach track, Secret Garden track, and the lighthouse track) that fit this category. This zone is within the Landscape Classification Setting range of 4–6.

Management characteristics	Management aims	LCS settings *	Expected levels of visitation	Public vehicle access	Pedestrian access / walking tracks
	Manage for conservation and low-moderate levels of visitation. Minimise impacts on adjacent natural and cultural values. Range from natural environments with minimal hardening to medium level facilities concentrated at visitor nodes within predominantly natural environment.	(indicative only) 4–6	Medium	None, or access to boundaries where appropriate. Formed or unformed roads, management access only. Some restrictions may apply.	Walk in, natural foot trails Formed trails. Some well built tracks and boardwalks where necessary.

ZONE 2 Somewhat natural ... continued

Management characteristics	Day visitor facilities	Signs and interpretation	Campsites	Visitor self-reliance	Maximum group size
	Basic or well developed where necessary <ul style="list-style-type: none"> • no tables or shelters • no toilets 	Some onsite if needed	No defined sites	Moderate	5–25 depending on sites.

Guiding principles

Summit track

- This steep 1 km return walk through heath and open forest is narrow and steep and requires good levels of fitness to negotiate the numerous stairs and large boulder outcrops. The walk will be extended again into a circuit walk if public access through Lot 132 is negotiated.
- The track offers several scenic outlooks with 360-degree views at the summit.

Nudey Beach and Nudey Beach track

- Nudey Beach is a sand and coral rubble beach bordered by closed forest. Peak usage occurs between 9:30 am and 3:30 pm.
- The beach area is significantly reduced during high tides (particularly summer king tides) and is prone to erosion during northerly weather and storm events.
- Nudey Beach offers a quiet and natural alternative to Welcome Bay.
- The Nudey Beach track is used to access Nudey Beach and is an easy grade walk through rainforest and open forest suited to low levels of fitness.
- The track surface is predominantly bitumen with some steep stone sections.

Secret Garden track

- The Secret Garden track is an easy grade, self-guided, 1 km return walk suitable to all levels of fitness.
- The rocky track follows a semi-permanent creek through rainforest and offers a viewing platform and rest area that provide good bird-watching opportunities.
- The first part of the track is within the resort lease area and is impacted by generator noise.

Lighthouse track

- This 1.8 km one-way track contains three short and steep sections with stairs that are suited to medium levels of fitness. The lighthouse track links to the summit track near the lighthouse and consists of open forest with some rainforest galleries opening to heath near the top.
- The dual concrete wheel tracks that form the track were built soon after WWII and limited vehicle use of the track for management purposes occurs.

Access to this track is currently through the Esplanade. A 120 m track links the lighthouse track to the site of the WWII lighthouse ruins.

ZONE 3 Somewhat modified					
<p>General description</p> <p>Zone 3 describes a somewhat modified area with significant evidence of visitors, including larger groups. There is one site (the lighthouse precinct) that fits this category. Visitors to this site will experience a low sense of isolation with moderate to high encounters with other people. Structures are readily apparent within the natural landscape and there is an active management presence. This site falls in the Landscape Classification Setting of 6.5.</p>					
Management characteristics	Management aims	LCS settings * (indicative only) 6–7	Expected levels of visitation High	Public vehicle access Formed or unformed roads, management access only.	Pedestrian access / walking tracks Formed trails
	Day visitor facilities Well developed large areas	Signs and interpretation Some onsite if needed	Campsites No defined sites	Visitor self-reliance Moderate	Maximum group size >25
<p>Guiding principles</p> <ul style="list-style-type: none"> • The lighthouse precinct comprises a 1973 lighthouse, two lighthouse cottages, ruins of a radar station, several remnant signal or telegraph poles and ruins of the WWII lighthouse site. • The vegetation is predominantly heath with large boulder outcrops. There are numerous scenic lookouts. <p>The precinct has cultural heritage value although this has not been formally assessed. The site has high maintenance requirements and has no permanent on-site management.</p>					

Appendix F – Boundaries of designated activity areas and localities within the Fitzroy Marine Management Area

Designated activity areas	<p>Those areas of locality one as depicted in Appendix A, Map 4 that are:</p> <p>a) within the 250 m coastal line</p> <p>b) depicted as shipping channel, barge access channel, swimming enclosure, private mooring or future public mooring areas.</p> <p>Provisions apply for access and management.</p>
Localities	<p>The Fitzroy Marine Management Area is subdivided into four localities (Appendix A, Map 2). The boundaries of each locality are defined as follows:</p> <ul style="list-style-type: none"> • Locality one and locality two – The boundary between localities one and two is a straight line north-west to south-east through the points 16.922323° south 145.98735° east and 16.92478314° south and 145.99013460° east. • Locality two and locality three – The boundary between localities two and three is a straight line south from the 500 m coastal line to mean high water springs tide line on Little Fitzroy Island at about 16.92115166° south 146.0074° east then following the mean high water springs tide line to a point about 16.9233° south 146.0065° east then south-westerly to a point on Fitzroy Island at mean high water springs at about 16.92425° south 146.0058666° east. • Locality three and locality four – The boundary between localities three and four is a straight line east to west through the points 16.93749371° south 145.98265191° east and 16.9374931° south 145.97799886° east. • Locality four and locality one – The boundary between localities four and one is a straight line north-west to south-east through the points 16.93064569° south 145.98046909° east and 16.93381900° south 145.98376578° east.

Appendix G – Sustainable visitor capacity

Recreational use of Fitzroy Island and the surrounding waters flows across tenures. Sustainable visitor capacity must, therefore, be calculated across the marine park, resort, campground and national park tenures as visitors move between activities and rarely restrict their activities to just one location or tenure. All access to the island is through the marine park and commercial access is regulated through the marine parks permit system. Private access is not usually regulated by permits and must be accommodated as a percentage of overall visitor capacity.

Sustainable visitor capacity was calculated using:

- the estimated size of terrestrial recreational sites based on computer mapping software and aerial photographs
- the Cairns Regional Council planning limit for Fitzroy Island of 200 persons per hectare as set by the Cairns Plan
- QPWS operational policy - Landscape Classification System for Visitor Management.

Table 1: Overall estimated carrying capacity.

Recreation node	Capacity (adjusted for social experience and design capacity)
Welcome Bay Beach	115
Nudey Beach	50
Lighthouse cottages and lighthouse area	50
Little Fitzroy Beach	10
Tracks (see Table 2)	81
Resort	804
Campground (design capacity 50 persons)	50
Total – Terrestrial areas	1160
Total – Marine management areas (see Table 3)	298
Estimated grand total (terrestrial + marine)	1458

Table 2: Estimated use of walking tracks (one group per time per track).

Track	Recommended group size
Summit track from ruins to boulders	5
Boulders track	12
Summit track to ruins only	12
Nudey Beach track	15
Secret Garden track	12
Lighthouse track	25
Estimated total	81

Table 3: Estimated use of the Fitzroy Marine Management Area.

Fitzroy Marine Management Area – water only	Setting	Approximate number of vessels	Average group size per vessel	Estimated total
Locality one (Welcome Bay)	Moderate use*	20	Two to six	120
Locality two (Little Fitzroy) (also includes locality three)	Moderate use*	Two large commercial, two small commercial, six private	Two (private), 20–60 (commercial)	172
Locality four (Nudey Beach)	Low use*	One	Two to six	6
Estimated total				298

* Under the Cairns Area Plan of Management 1998:

Moderate use – maximum number of people per vessel or aircraft (includes crew) – 60; some to many private moorings; no pontoons unless already permitted.

Low use – maximum number of people per vessel or aircraft (includes crew) – 15; no private moorings or pontoons except those already permitted.

The estimated overall capacity for the area is 1458 people per day (Table 1). However, anecdotal evidence suggests private vessels account for between five and 10 per cent of overall visitation. If seven per cent visitation is used as an average guide, this equates to just over 100 private visitors per day. Removing private visitation from the estimated overall capacity leaves an estimated commercial capacity of 1355 passengers daily. As the current commercial capacity (1255 passengers daily) is below the estimated commercial capacity, the future commercial capacity has been increased, allowing expansion of daily tourism operations (40 people) and Traditional Owner tourism operations (60 people), as shown in Table 4.

Table 4: Total commercial capacity for Fitzroy Marine Management Area.

Type of commercial operation	Presently permitted capacity	Recommended future capacity
Daily tourism operations	1195*	1235
Other tourism operations	60	60
Traditional Owner operations	0	60
Total daily commercial use	1255	1355

* The existing commercial capacity of one daily tourism operation was below the recommended maximum setting limit of 60 persons per vessel to locality one and was increased by 40 passengers per day (to the settings limit).

