

Chapter 3



Key Coastal Sites





3. Key coastal sites

Introduction to key coastal sites

This chapter describes the 15 key coastal sites (map 12) and their 55 coastal localities (maps 13, 14, 15, 16, 17 and 18) where special coastal management needs have been identified in the Wet Tropical Coast region.

Site-specific guidance for decision makers is given for each key coastal site and coastal locality by providing desired coastal outcomes. Detailed information on significant resources and their values as well as coastal management issues provides the context for desired coastal outcomes.

Decision makers must consider applicable policies in Chapter 2 and the desired coastal outcomes for relevant key coastal sites and coastal localities, when addressing coastal management issues. When cross-referenced to the relevant policies, the information in Chapter 3 provides site-specific direction and guidance for:

- ◆ applicable development approvals;
- ◆ local government planning schemes; and
- ◆ local government, State agencies and other stakeholders about management issues (for example, impacts of rural land uses, or vehicle use on beaches) as well as development issues.

The links between key coastal sites and policies are explained further in Chapter 1 and illustrated in figure 3 on page 4.

Most of the key coastal sites contain substantial portions that are also within the Wet Tropics of Queensland World Heritage Area (WTWHA) or the Great Barrier Reef World Heritage Area (GBRWHA). The World Heritage areas represent major stages of the earth's evolutionary history, provide outstanding examples of ongoing geological and biological processes, feature superlative natural phenomena and areas of natural beauty, and contain the most important natural habitats for the conservation of biological diversity (i.e. they satisfy all four criteria of outstanding universal value under the World Heritage Convention).

The GBRWHA is also recognised for its cultural and historical significance and has been identified as having the world's largest and most complex expanse of living corals, unique forms of marine life, great diversity of life forms, exceptional natural beauty, major feeding grounds of dugongs and turtles and high natural integrity. The Great Barrier Reef Marine Park is listed and described in the *Directory of Important Wetlands in Australia* (2nd edition, 1996). The WTWHA is a recognised repository of outstanding biodiversity without equal on the continent and features eight stages in the earth's evolutionary history relating to fauna and flora.

The Wet Tropical Coast region is also part of a complex matrix of Aboriginal cultural, ceremonial and story places, archaeological sites, hunting, gathering and living areas that contribute to a rich and dynamic Indigenous Traditional Owner cultural landscape. Cultural resources have unique and exceptional significance for local Indigenous Traditional Owner communities, fulfilling a significant role in their traditional and contemporary lifestyles (refer regional policy 2.5.1 *Areas of state significance (Indigenous Traditional Owner cultural resources)*). Indigenous Traditional Owner cultural resources may remain unrecorded and poorly understood by western society³⁴. It is therefore often not possible to comprehensively and clearly list, map and describe specific Indigenous Traditional Owner cultural resources for each of the key coastal sites. Unless comprehensive cultural resource data is readily available, the approach in this chapter has

³⁴ A major concern for Indigenous Traditional Owners associated with the Wet Tropical Coast region is the past, and potential present and future damage to their cultural resources through cultural site information collection activities. Indigenous Traditional Owners are the rightful owners of their cultural tacit and explicit knowledge systems. This knowledge represents Indigenous Traditional Owner intellectual capital. The involvement of Indigenous Traditional Owners in planning, management, research and monitoring activities on their ancestral homelands, will provide for culturally appropriate decision making pertaining to 'how, when, where, who and why' Indigenous Traditional Owners' knowledge systems may be included in any of these activities.



been to avoid identifying one-off site records. This is to avoid trivialising (and arguably devaluing) the full cultural landscape significance of an area by focusing solely on one or two component features³⁵. There are, however, examples of identified sites where Indigenous Traditional Owner approved cultural resource data is available.

For coastal localities, tenure types are abbreviated as follows:

CP = conservation park, Esp = esplanade, FH = freehold, LL = lands lease, MP = Great Barrier Reef Marine Park (map 11) and/or State marine park (maps 8, 9 and 10), NP = national park, RE = reserve, SF = State forest, FR = forest reserve, USL = unallocated State land, DOGIT = Deed of Grant in Trust (freehold).

Where World Heritage areas, nature refuges (as declared under the *Nature Conservation Act 1992*) and Fish Habitat Areas (as declared under the *Fisheries Act 1994*) overlay tenure, these areas are referred to in the 'description' for the relevant key coastal site.

The Wet Tropical Coast region contains a number of reserves on the coast that are dedicated for a particular 'community purpose' under the *Land Act 1994*. The community purpose or purposes that apply to a reserve provide the framework for the management of the reserve by the trustee. The *Land Act 1994* (Schedule 1) lists 'beach protection and coastal management' and 'environmental purposes' among the range of recognised community purposes. These community purposes are referred to in the relevant coastal localities.

³⁵ Note that the absence of recorded information on cultural resources does not negate the requirement by agencies to involve relevant Indigenous Traditional Owners in the identification, management, planning, monitoring, and researching of their cultural resources and values, and in the assessment of potential coastal land use impacts.



Key coastal site 1: Mission Beach (maps 12 and 13)

Desired coastal outcomes

- ◆ Remnant native vegetation on agricultural land is retained through mechanisms such as voluntary conservation agreements with landholders (e.g. under the *Nature Conservation Act 1992*, *Land Act 1994* or *Wet Tropics Management Plan 1998*).
- ◆ Appropriate management regimes are in place to maintain the very high biodiversity values associated with the complex mosaic of rainforests, woodlands and freshwater, estuarine and marine wetlands (much of the site is part of Tam O'Shanter Forest Reserve and Clump Point National Park and is World Heritage listed).
- ◆ Riparian areas and wildlife corridors are managed to protect significant species such as the southern cassowary, using a range of measures that include habitat conservation, rehabilitation and domestic and feral animal control. Habitat connectivity, particularly in the Bingil Bay to Ninney Point hinterland area, is maintained and enhanced to promote the long-term viability of the southern cassowary population.
- ◆ Appropriate planning controls are in place to minimise coastal land use impacts on natural scenic landscape values, which are of World Heritage significance. Priority areas are those with high-to-very-high scenic coastal landscape values (e.g. between Clump Point and Garners Beach).
- ◆ Tourism and nature-based recreation is ecologically sustainable and compatible with the character of the landscape.
- ◆ Interpretive walking tracks are maintained to a high standard.
- ◆ Indigenous Traditional Owner cultural resources, values and practices are adequately recognised, respected and protected and Indigenous Traditional Owners are meaningfully involved in the planning for, and management of, these resources.



Description

This key coastal site is centred on the north-eastern coastal portion of the rugged and forested Walter Hill Range and includes the coastal towns of Mission Beach and Bingil Bay. A substantial part of the site is in the WTWHA. The site includes Clump Mountain National Park, which is listed and described on the Register of the National Estate and a substantial portion of the Tam O'Shanter Forest Reserve. The marine component is in the Cairns Marine Park and the GBRWHA.

Coastal localities within this key coastal site are: 1.1 Walter Hill Range north; 1.2 Granadilla Valley; 1.3 Clump Point; 1.4 Walter Hill; and 1.5 Mount Edna.

Significant resources and their values

The following areas of state significance are located within this site (refer to policy 2.5.1 regarding those for Indigenous Traditional Owner cultural resources):

- ◆ cultural heritage (policy 2.6.1) — including areas within Walter Hill (coastal locality 1.4);
- ◆ scenic coastal landscapes (policy 2.7.1) — including areas within Clump Point (coastal locality 1.3) and Walter Hill (coastal locality 1.4); and
- ◆ natural resources (policy 2.8.1) — including areas within Walter Hill Range north (coastal locality 1.1), Granadilla Valley (coastal locality 1.2), Walter Hill (coastal locality 1.4) and Mount Edna (coastal locality 1.5).



Significant coastal resources (natural and cultural) and their values

- ◆ The *Far North Queensland Regional Plan* recognises the site as a ‘priority biodiversity’ area (Mission Beach and hinterland), because of its diverse range of plants and animals (including the southern cassowary and important frogs).
- ◆ Extensive areas of diverse remnant vegetation have high natural integrity and are dominated by a mosaic of mesophyll vine forests, with associated palms and paperbarks in wetland areas. The rainforests contain endangered and ‘of concern’ regional ecosystems that provide significant habitat for rare and threatened fauna such as the southern cassowary.
- ◆ Rare and threatened species such as Irrawaddy and Indo-Pacific humpback dolphins, dugong and turtles occur in inshore marine areas.
- ◆ The intact Muff Creek estuary is part of the Kurrimine Area Wetland, which is listed and described in the *Directory of Important Wetlands in Australia* (2nd edition, 1996).
- ◆ This area is characterised geologically by a sequence of Palaeozoic Hodgkinson Formation sediments and the Mission Beach Granite Complex. Cainozoic basalts form Clump Point and the adjoining submarine reefs and a narrow strip of Quaternary dune deposits up to 0.5km wide form part of Mission Beach and extend southwards from Clump Point.
- ◆ Very high-to-high scenic landscape values are imparted by a rugged backdrop to the coast of rainforest clad hills and mountains (e.g. Clump Mountain 395m) with high natural integrity, combined with several vegetation-fringed beaches, vegetated rocky headlands, off-shore islands and the present relatively low visual impact of coastal land uses.
- ◆ A range of Indigenous Traditional Owner cultural resources contribute to a rich and dynamic cultural landscape.

Significant social and economic resources and their values

- ◆ Bingil Bay and Mission Beach townships provide a wide range of facilities, including accommodation and caravan parks. Dispersed rural/residential development occurs. Intensive banana production occurs around Mission Beach.
- ◆ Several attractive beaches (some relatively secluded) and established walking tracks through forests to prominent viewpoints provide recreation and tourism opportunities.
- ◆ The Clump Point jetty provides a popular and regionally significant launch site to the near-shore islands (e.g. Dunk Island), reefs (e.g. Beaver Cay) and adjoining coastal waters.
- ◆ Public boat ramps are located at Clump Point and Mission Beach.
- ◆ The *Wet Tropics Nature Based Tourism Strategy* has identified two visitor sites in the vicinity of Mission Beach (Bicton Hill and Lacey Creek State Forest Park).

Coastal management issues

- ◆ Clearing of native vegetation associated with agricultural activities and urban subdivision has resulted in substantial fragmentation of habitat and loss of riparian vegetation important for habitat connectivity and wildlife conservation.
- ◆ Vegetation clearing and habitat fragmentation has contributed to a decline in the population of the endangered southern cassowary. This is of particular concern because the southern cassowary plays a critical role in maintaining ecosystem integrity by dispersing seeds of many fruits that are too large for other animals.
- ◆ Habitat and connectivity is at threat from development in areas where national parks and other protected areas are separated by other tenures, particularly in the Bingil Bay to Ninney Point hinterland area. Retention of connectivity between these sections through inclusion within national parks or establishing conservation agreements and covenants is a particularly important issue for the long-term viability of the southern cassowary and the important wildlife corridor to the Muff Creek area.
- ◆ The integrity of the watercourses has been degraded by the removal of riparian vegetation and runoff from adjoining land uses, with potential adverse impacts on the water quality of the creek systems and the receiving marine waters.



Key coastal sites

- ◆ Residential and commercial use of the area has the potential to adversely impact on the area's high visual amenity, including the scenic value of the headlands.
- ◆ Interpretive walking tracks require ongoing maintenance to ensure their continuing high standard.
- ◆ Indigenous Traditional Owner cultural resources require adequate recognition and protection and the meaningful involvement of the Indigenous Traditional Owners in the planning, management and coordination processes relating to these cultural resources.

Coastal locality 1.1: Walter Hill Range north (map 13)

Desired coastal outcomes

- ◆ Clearing of native vegetation (e.g. under the *Vegetation Management Act 1999* on freehold land) is managed to retain riparian or other remnant vegetation that provides important wildlife habitat or wildlife corridors.
- ◆ The vegetation mosaic and wildlife corridor supporting the southern cassowary population and other significant species are maintained and extended where possible.
- ◆ Voluntary conservation arrangements on private land contribute to the conservation of remnant native vegetation and enhance the wildlife corridor.

Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ The remnant native vegetation includes a mix of mesophyll vine forest and endangered lowland forest (containing *Licuala* palm wetlands).
- ◆ A wildlife corridor between the coast and the hinterland is vital for a range of fauna, but is particularly significant for the southern cassowary.
- ◆ The locality provides habitat for many rare and threatened fauna such as spectacled flying foxes.

Coastal management issues

- ◆ Clearing of native vegetation associated with agricultural activities has threatened the viability of the wildlife corridor and adversely impacted on biodiversity.

Tenure: FH, FR, LL

Coastal locality 1.2: Granadilla Valley (map 13)

Desired coastal outcomes

- ◆ The clearing of native vegetation (e.g. under the *Vegetation Management Act 1999* on freehold land) is managed to retain freshwater wetlands, riparian vegetation or other remnant vegetation that provides important wildlife habitat or wildlife corridors.
- ◆ The vegetation mosaic, riparian vegetation and wildlife corridors supporting the southern cassowary population and other significant species are maintained and extended where possible, particularly along South Maria Creek and its tributaries.
- ◆ Voluntary conservation on agricultural land contributes to the conservation of remnant native vegetation and enhances the wildlife corridor.

Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ Remnant native vegetation along Granadilla Ridge (where mesophyll vine forest dominates) and riparian strips along South Maria Creek and its tributaries form important wildlife habitat and wildlife corridors, particularly for the southern cassowary. High populations of the southern cassowary exist in this area. The remnant forests also contain rare and threatened plants.
- ◆ The locality contains some endangered regional ecosystems including rainforest and wetlands with *Licuala* fan palms, which are areas of state significance (natural resources).



Coastal management issues

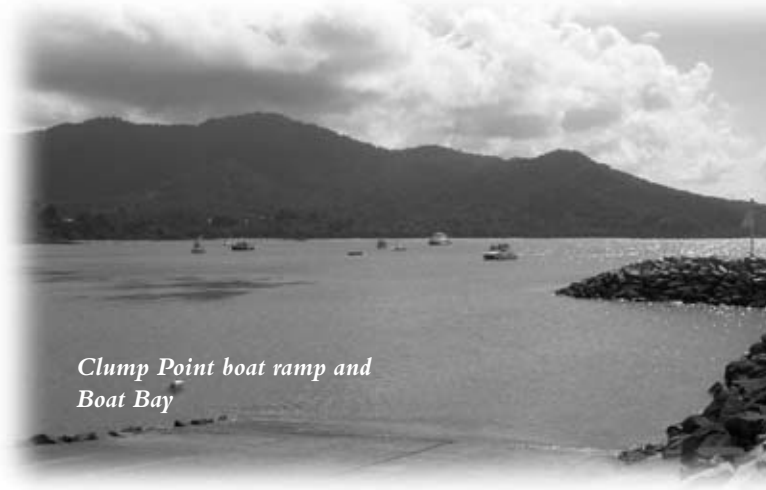
- ◆ Clearing of native vegetation associated with agricultural activities, particularly along South Maria Creek and its tributaries, has resulted in substantial fragmentation of habitat and loss of riparian vegetation.

Tenure: FH, LL

Coastal locality 1.3: Clump Point (map 13)

Desired coastal outcomes

- ◆ Recreational vehicle use along the foreshore does not occur.
- ◆ The biological integrity of the national park, mangrove communities, remnant native vegetation and scenic value of the headland are maintained.
- ◆ The natural and cultural resources and associated values of the State and Commonwealth marine parks and terrestrial national parks are conserved.
- ◆ Remnant areas of complex mesophyll vine forest and associated native vegetation and the Wongaling Creek estuary with its adjoining sclerophyll woodlands and forests are conserved.
- ◆ Any new development in Boat Bay does not adversely impact on benthic communities (including seagrass and hard corals), water quality, scenic quality, endangered marine fauna and Indigenous Traditional Owner cultural resources and their values.
- ◆ The Cutten Brothers and Ulysses Link walking tracks are maintained to a high standard.
- ◆ A comprehensive cultural heritage survey that includes both tangible and intangible cultural values is undertaken for the Clump Point area in order to inform local planning and decision making.
- ◆ Future use of the reserve (lot 540, plan NR7350) is consistent with its dedicated purpose and includes the community purpose of 'environmental purposes'. The reserve is properly and effectively managed in accordance with an approved management plan.



Clump Point boat ramp and Boat Bay

Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ Clump Point is situated adjacent to an intertidal mangrove community, has very high scenic value and contains endangered regional ecosystems and rare plant species. It is the only mainland Cainozoic basalt headland in the region.
- ◆ Substantial areas of endangered regional ecosystems occur north of the mouth of Wongaling Creek.
- ◆ Boat Bay supports a range of significant species and communities including seagrass beds, hard corals and rare and threatened species such as the beach stone-curlew, dugong, turtles and Irrawaddy and Indo-Pacific humpback dolphins.
- ◆ The Djiru Indigenous Traditional Owners maintain a strong cultural connection to this area, particularly through subsistence activities, specific sites (e.g. fish traps) and a rich oral tradition.
- ◆ Esplanades along Mission Beach, Clump Point, Boat Bay and Narragon Beach contain a continuous corridor of native vegetation including endangered regional ecosystems. The esplanade vegetation provides a natural scenic backdrop to the beaches and provides habitat for wildlife, including butterflies for which the Mission Beach foreshore is renowned.

Significant social and economic resources and their values

- ◆ The sheltered embayment north of Clump Point, locally known as Boat Bay, is both State and Commonwealth marine park and GBRWHA and is an important departure point for cruise boats and fishing vessels. An area of approximately 136ha within Boat Bay is designated a reserve R23179 (lot 550, plan NR7351) for boat harbour purposes, with Johnstone Shire Council as the trustee.



Key coastal sites

- ◆ The long sandy beach south of Clump Point is a popular site for recreation. The immediate hinterland contains extensive banana plantations. Some residential development adjoins Clump Point National Park.
- ◆ Walking tracks in the area (e.g. Cutten Brothers and the Ulysses Link) provide coastal recreational experiences and an invaluable interpretive resource.

Coastal management issues

- ◆ Vehicular access along the foreshore has the potential to degrade the frontal dune environment and impair the enjoyment of the beach for other users.
- ◆ The jetty requires refurbishment and possible relocation to a more sheltered position. Local tourism interests have expressed concern about the safety and size of the jetty as a departure point for their cruise boats.
- ◆ A marina has been proposed for Boat Bay, which would involve major reclamation and infrastructure works. Any future development of Boat Bay would need to consider potential impacts on the locality's natural and cultural resources and scenic amenity. In particular, future development in the area would need to demonstrate a significant public need and avoid adverse impacts on Indigenous and broader community cultural values and use of the site, marine and terrestrial environments, World Heritage values, and rare and threatened species.
- ◆ The Cutten Brothers and Ulysses Link walking tracks require sufficient funding for ongoing maintenance.
- ◆ The Indigenous Traditional Owner cultural resources and values of the area, apart from a few specific site records, remain largely unrecorded. Development planning and assessment is constrained by the absence of a comprehensive and systematic cultural heritage survey. Inappropriate development has the potential to impact on the social and cultural wellbeing of the Djiru people by restricting their ability to continue to access the area and its resources and by impacting on the ongoing conservation of the locality's values.
- ◆ The scenic and recreation reserve (lot 540, plan NR7350) needs to be managed to conserve its high environmental values and features.

Tenure: NP, FH, RE, USL, Esp

Coastal locality 1.4: Walter Hill (map 13)

Desired coastal outcomes

- ◆ The vegetation mosaic and wildlife corridors supporting the southern cassowary population and other significant species are maintained and extended where possible, in particular Tam O'Shanter Forest Reserve remains connected to the coast.
- ◆ Remnant vegetation and wildlife corridors are conserved, particularly on private land north of Double Mountain and Clump Mountain National Park, through mechanisms such as voluntary conservation agreements.
- ◆ The threats to the southern cassowary by moving vehicles are minimised by giving special consideration to road design and vehicle speed limits in known areas where cassowaries cross roads.
- ◆ Walking tracks are maintained to a high standard.
- ◆ The esplanade is retained in its natural condition, free of development.
- ◆ Future use of the listed reserves is consistent with their dedicated purpose and includes the community purpose of 'environmental purposes'. The reserves are properly and effectively managed in accordance with an approved management plan:
 - Reserve lot 451, plan NR4272;
 - Reserve lot 543, plan NR6994; and
 - Reserve lot 544, plan NR6994.
- ◆ Remnant vegetation along Muff Creek and the water quality of the creek are maintained.



Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ Tam O'Shanter Forest Reserve and Clump Mountain National Park, which are in the WTWHA, comprise a significant part of this locality. It contains a coastal section that is in the Cairns Marine Park and the Muff Creek estuary, which is part of the Kurrimine Area Wetland.
- ◆ The locality contains substantial areas of state significance (natural resources — significant coastal wetlands and endangered regional ecosystems). The remnant vegetation, largely complex mesophyll vine forest, is extensive and has very high natural integrity, with connectivity to the coast and hinterland ranges.
- ◆ The remnant vegetation provides important and critical habitat for the highest concentration of the southern cassowary in Australia. There are high densities of cassowaries of all ages and this locality is one of their main nesting and breeding areas.
- ◆ A burial ground at Garners Beach is an area of state significance (cultural resources).
- ◆ The rocky shoreline south of the Bingil Bay boat ramp is of particular scientific significance as it is one of the few sites in Queensland inhabited by the asterinid sea star *Patriella pseudoexigua*.

Coastal management issues

- ◆ Clearing of native vegetation associated with subdivision, agricultural activities and infrastructure development, particularly north of Double Mountain and Clump Mountain National Park, threatens to sever the connectivity of the Tam O'Shanter Forest Reserve with the coast.
- ◆ Loss of habitat threatens the viability of the southern cassowary.
- ◆ Walking tracks in the area (e.g. Bicton Hill, Lacey Creek and Licuala) require regular and ongoing maintenance to provide coastal recreational experiences and an invaluable interpretive resource.
- ◆ The reserves (lot 543, plan NR6994 and lot 544, plan NR6994) need to be managed to conserve their high environmental values and features.
- ◆ Any future operations on refuse disposal reserve R1905 (lot 451, plan NR4272) have the potential to adversely impact on the remnant habitat values and water quality of Muff Creek estuary.

Tenure: FR, NP, LL, FH, RE, MP

Coastal locality 1.5: Mount Edna (map 13)

Desired coastal outcomes

- ◆ The vegetation mosaic supporting the southern cassowary and other significant species is maintained and extended where possible.
- ◆ Voluntary conservation on agricultural land contributes to the conservation of remnant native vegetation and riparian vegetation along the numerous waterways.
- ◆ Pest species including feral pigs are controlled.
- ◆ Water quality, particularly in waterways draining into South Maria and Kaygaroo creeks, is of a standard that maintains the ecological sustainability of aquatic ecosystems.

Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ An endangered regional ecosystem consisting of mesophyll vine forest with *Licuala* palms occurs on the southern flank of Mount Edna.
- ◆ The locality contains endemic plants and animals and areas of state significance (natural resources — endangered regional ecosystems and significant coastal wetlands).
- ◆ The remnant riparian vegetation associated with South Maria Creek and the tributaries of Kaygaroo Creek provides habitat for various species of tree frogs and is important habitat for the southern cassowary.



Coastal management issues

- ◆ Widespread clearing of native vegetation around the flanks of Mount Edna, including removal of riparian corridors associated with agricultural activities, poses a substantial threat to the conservation of biodiversity.
- ◆ Pest species (e.g. feral pigs) adversely impact on the natural values of this area.
- ◆ The water quality of the creek systems may be degraded by the removal of riparian vegetation.

Tenure: LL, FH

Key coastal site 2: Kurrimine (maps I2 and I3)

Desired coastal outcomes

- ◆ Appropriate management regimes are in place to maintain the complex mosaic of dune/swale and freshwater and estuarine wetlands.
- ◆ Riparian areas and wildlife corridors are managed to protect significant species such as the southern cassowary, through habitat conservation and rehabilitation and domestic and feral animal control.
- ◆ Remnant native vegetation on agricultural land is retained through mechanisms such as voluntary conservation agreements with landholders (e.g. under the *Nature Conservation Act 1992*, *Land Act 1994* or the *Wet Tropics Management Plan 1998*).
- ◆ The very high biodiversity values associated with the marine and island component of this site are maintained.
- ◆ Roosting and nesting seabirds are undisturbed by visitor access and activities, particularly on the South Barnard Islands.
- ◆ Areas with high or very high scenic coastal landscape values (e.g. north of Kurrimine and the South Barnard Islands) are maintained by ensuring minimal coastal visual impact from commercial and residential land use.
- ◆ A range of low impact nature-based recreation opportunities is maintained.
- ◆ Drains on agricultural land are designed and constructed to have minimal impacts on watertables and adjacent wetlands.
- ◆ Indigenous Traditional Owner cultural resources, values and practices are adequately recognised, respected and protected and Indigenous Traditional Owners are meaningfully involved in the planning for, and management of, these resources.

Description

This key coastal site straddles the land-sea interface and contains the South Barnard Islands, King Reef, the Maria Creek estuary and a coastal strip of vegetated dunes and associated wetlands between Liverpool Creek and Kurrimine township. A substantial part of the Kurrimine dunes and wetlands are in the WTWHA. The Maria Creek and Kurrimine Beach national parks (listed and described on the Register of the National Estate) are contained within this site. The marine part of the site is in the GBRWHA, Great Barrier Reef Marine Park and Cairns Marine Park. The South Barnard Islands are national park.

Coastal localities within this key coastal site are: 2.1 Maria Creek and 2.2 Kurrimine dunes and wetlands.

Significant resources and their values

The following areas of state significance are located within this site (refer to policy 2.5.1 regarding those for Indigenous Traditional Owner cultural resources):

- ◆ scenic coastal landscapes (policy 2.7.1) — including areas within Maria Creek (coastal locality 2.1), Kurrimine dunes and wetlands (coastal locality 2.2) and the South Barnard Islands; and
- ◆ natural resources (policy 2.8.1) — including areas within Maria Creek (coastal locality 2.1) and Kurrimine dunes and wetlands (coastal locality 2.2).



Significant coastal resources (natural and cultural) and their values

- ◆ The *Far North Queensland Regional Plan* recognises the Maria Creek estuary as a ‘priority biodiversity’ area (Mission Beach and hinterland) because of its significant wetlands and dune systems and diverse plants and animals (including the southern cassowary and important frog species).
- ◆ The mainland part of the site is dominated by a sequence of Quaternary dunes of subdued relief with associated freshwater wetlands and peat deposits up to 3km wide.
- ◆ Outstanding biodiversity values are associated with the Kurrimine dune/swamp system. The eastern half of the dune/swamp system north of Murdering Point is part of the Cowley Area Wetland, which is listed and described in the *Directory of Important Wetlands in Australia* (2nd edition, 1996). It is one of the few remaining wetlands of its type in Australia. The Maria Creek estuary forms the main part of the Kurrimine Area Wetland that is also listed and described in this directory.
- ◆ The site contains extensive areas of high natural integrity, diverse remnant vegetation with a mosaic of mangrove forests, mixed shrubland-sedgeland, melaleuca or eucalypt dominated woodlands and mesophyll vine forests. The Kurrimine Beach National Park contains a representative sample of tropical lowland and stranded dune vegetation. These vegetation types contain endangered and ‘of concern’ regional ecosystems. The coastal strip north of Murdering Point supports a unique and endangered mesophyll vine forest on the dunes.
- ◆ The melaleuca-sedge series of dunes is considered a unique ecosystem by virtue of the patterns of organic production and accumulation; it has significant scientific value for the study of productivity.
- ◆ The South Barnard Islands, particularly Stephens Island, have spectacular scenery imparted by volcanic pyroclastic deposits, which provide outstanding exposures of Cainozoic volcanicity in an area of high natural integrity.
- ◆ The South Barnard Islands contain a high diversity of vegetation communities, including tropical rainforest, low woodlands, mangrove communities and pandanus. These islands have extensive fringing coral reefs.
- ◆ The South Barnard Islands support significant numbers of breeding populations of many seabird species such as bridled terns, lesser-crested terns and black-naped terns.
- ◆ Rare and threatened fauna such as Irrawaddy and Indo-Pacific humpback dolphins, dugong and turtles occur here.
- ◆ There are very high scenic landscape values associated with the near-shore islands and long sandy mainland beaches, generally backed by vegetation of high natural integrity.
- ◆ The Kurrimine area is part of the traditional lands of the Ma:Mu Indigenous Traditional Owners. The islands are a component of the traditional cultural landscape and have important cultural values in terms of their intrinsic natural landscape values and native plants and animals. The islands are part of the Ma:Mu peoples’ ‘sea country’. The ecosystems around and on the islands continue to be the focus of traditional and contemporary use of natural resources.
- ◆ A range of Indigenous Traditional Owner cultural resources contribute to a rich and dynamic cultural landscape.

Significant social and economic resources and their values:

- ◆ Recreational activities associated with the Kurrimine Beach township include camping, beachcombing, boating and fishing. Public boat ramps are located at Kurrimine Beach and Maria Creek. Considerable recreational activity occurs at the South Barnard Islands and in adjacent coastal waters, including King Reef and the Maria Creek estuary.
- ◆ A substantial aquaculture operation is located at the mouth of Maria Creek.
- ◆ Sand quarrying is conducted in reserves a few kilometres northwest of Kurrimine.

Coastal management issues

- ◆ Extensive clearing of native vegetation (particularly riparian vegetation) for agriculture, quarrying and sporting activities has adversely impacted on biodiversity and may degrade the water quality in the creek systems.



Key coastal sites

- ◆ Drainage of agricultural lands has lowered watertables, which is adversely impacting on the adjoining wetlands.
- ◆ This site contains areas of moderate-to-high risk for acid sulfate soil.
- ◆ Cumulative impacts from discharge and runoff (particularly from agricultural land and residential development) into waterways may pose long-term problems for the quality of fish habitat.
- ◆ Visitors to the South Barnard Islands may disturb nesting seabirds if access is not appropriately managed.
- ◆ The area's high-to-very-high scenic values should be maintained, while providing for appropriate residential and commercial use.
- ◆ The use and structural adequacy of the unauthorised Maria Creek boat ramp is under review by Queensland Transport.
- ◆ Indigenous Traditional Owner cultural resources require adequate recognition and protection and the meaningful involvement of the Indigenous Traditional Owners in the planning, management and coordination processes relating to these cultural resources.

Coastal locality 2.1: Maria Creek (map 13)

Desired coastal outcomes

- ◆ Drainage from adjacent agricultural land has minimal impacts on the wetlands.
- ◆ Agricultural activities and land clearing minimise adverse impacts on water quality and fish habitat.
- ◆ The vegetation mosaic and wildlife corridor supporting significant species including the southern cassowary are maintained and extended where possible.
- ◆ Voluntary conservation on private land contributes to the conservation of remnant native vegetation.
- ◆ Pest species including feral pigs, pond apple and hymenachne are controlled.
- ◆ Maria Creek estuary including the esplanade is retained in its natural state, with the exception of formalising the existing unauthorised boat ramp.
- ◆ Vehicles do not access the frontal sand spit (reserve lot 536, plan SP136922).
- ◆ Future use of the following unallocated State land on the coast conserves the high environmental values and features, including significant coastal wetlands, and avoids significant impacts on coastal processes through the implementation of an appropriate management regime:
 - USL lot 199, plan NR3587; and
 - USL lot 2, plan USL31346.
- ◆ Future use of the reserve (lot 536, plan SP136922) is consistent with its dedicated purpose and includes the community purpose of 'beach protection and coastal management'. The reserve is properly and effectively managed in accordance with an approved management plan.

Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ The locality is part of the Kurrimine Area Wetland and features an estuarine wetland complex largely contained within the Maria Creek National Park.
- ◆ It contains areas of state significance (natural resources — significant coastal wetlands and endangered regional ecosystems) and parts of Kaygaroo and Lagoon creeks, which drain into the estuarine system. A prominent vegetated sand spit occurs at the mouth of Maria Creek. The portions of the locality within the national park have high natural integrity.
- ◆ This coastal locality contains endangered and 'of concern' regional ecosystems.
- ◆ The locality contains significant habitat for the estuarine crocodile, southern cassowary and red-eyed green tree frog and is an important nesting site for turtles.

Significant social and economic resources and their values

- ◆ Several aquaculture operations occur near the mouth and tributaries of Maria Creek.
- ◆ Recreational boating and fishing is popular.



Coastal management issues

- ◆ Drains to redirect water flows have been established and these may be adversely impacting on the wetland. There is a moderate-to-high risk for acid sulfate soils.
- ◆ Extensive clearing of native vegetation (particularly riparian vegetation) for agricultural use has occurred to the west and southwest of the estuarine system, adversely impacting on biodiversity and potentially degrading water quality.
- ◆ Cumulative impacts from discharge into waterways have the potential to adversely impact on water quality and the integrity of fish habitat.
- ◆ Pest species such as feral pigs, pond apple and hymenachne adversely impact on the natural integrity.
- ◆ The USL and reserve need to be managed to conserve their high environmental values and features, including maintenance of coastal processes. Vehicle use on the reserve (lot 536, plan SP136922) requires management.
- ◆ Queensland Transport is seeking to formalise the existing unauthorised boat ramp following a request from Johnstone Shire Council.

Tenure: NP, FH, USL, LL, RE, MP, Esp

Coastal locality 2.2: Kurrimine dunes and wetlands (map 13)

Desired coastal outcomes

- ◆ The vegetation associated with the dune/swale system, including the rare mesophyll vine forest, retains its current extent and function as habitat for the southern cassowary.
- ◆ Vehicles do not access the frontal sand dunes or beach and impact on the beach stone-curlew and nesting turtles.
- ◆ Future use of the following unallocated State land on the coast conserves the high environmental values and features, including significant coastal dunes and wetlands and remnant native vegetation, through the implementation of an appropriate management regime:
 - USL lot 5, plan USL31333;
 - USL lot 9, plan USL31344; and
 - USL lot 24, plan USL37265.
- ◆ Future use of the listed reserves is consistent with their dedicated purpose and includes the community purpose of ‘environmental purposes’. The reserves are properly and effectively managed in accordance with an approved management plan:
 - Reserve lot 562, plan NR814104;
 - Reserve lot 554, plan NR8091;
 - Reserve lot 457, plan NR4686; and
 - Reserve lot 179, plan NR7768.

Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ This locality is part of an extensive vegetated dune/swale system associated with endangered and ‘of concern’ regional ecosystems. It forms part of the Cowley Area Wetland. Adjacent to the foreshore is a well-developed rare mesophyll vine forest on dunes.
- ◆ The locality contains an area of state significance (natural resources — significant coastal wetlands, endangered regional ecosystems and significant coastal dune systems).
- ◆ It contains important habitat for rare and threatened fauna and includes significant turtle nesting sites.
- ◆ Much of the locality retains high natural integrity except for limited disturbance for quarrying and a rifle range.
- ◆ The locality has very high scenic values when viewed from the coast. A substantial part of the USL portion is in the WTWHA.



Coastal management issues

- ◆ Development of the rifle range (lot 1, plan PER7028) and quarrying on reserve R1628 have resulted in some vegetation clearing and loss of natural and scenic values. Ongoing quarrying operations and sporting activities may result in further loss of native vegetation, some of which is important southern cassowary habitat.
- ◆ Vehicle access along the beach reduces the high wilderness values of this coastal sector and could adversely affect beach stone-curlews and nesting turtles.
- ◆ The USL (lot 5, plan USL31333; lot 9, plan USL31344; and lot 24, plan USL37265) and reserves (lot 562, plan NR814104; lot 554, plan NR8091; lot 457, plan NR4686; and lot 179, plan NR7768) need to be managed to conserve their high environmental values and features.

Tenure: USL, RE

Key coastal site 3: Moresby (maps I2 and I3)

Desired coastal outcomes

- ◆ The mosaic of wetland, rainforest and dune and interconnecting wildlife corridors are conserved.
- ◆ Management activities such as rehabilitation of degraded areas, domestic and feral animal control and habitat conservation are undertaken to protect significant species such as the southern cassowary.
- ◆ The biodiversity associated with the seagrass beds, significant mangroves and the mesophyll vine forest around the Port of Mourilyan is maintained.
- ◆ Port development and functioning does not adversely impact on the adjoining WTWHA, Cairns Marine Park, Great Barrier Reef Marine Park or GBRWHA.
- ◆ The natural, cultural and scenic values of the dune system are maintained.
- ◆ A range of low impact nature-based recreation opportunities is maintained.
- ◆ Tourism facilities are compatible in style, location, size and type of operation with the character of the landscape.
- ◆ Remnant native vegetation on agricultural land is retained through mechanisms such as voluntary conservation agreements with landholders (e.g. under the *Nature Conservation Act 1992*, *Land Act 1994* or the *Wet Tropics Management Plan 1998*).
- ◆ Indigenous Traditional Owner cultural resources, values and practices are adequately recognised, respected and protected and Indigenous Traditional Owners are meaningfully involved in the planning for, and management of, these resources.
- ◆ Defence training activities have minimal impact on natural integrity.
- ◆ The introduction of exotic marine pests and diseases is avoided.

Description

This key coastal site straddles the land-sea interface and incorporates the North Barnard Islands, Moresby River and Liverpool Creek estuaries, the vegetated Cowley dunes, Mourilyan Harbour and the coastal town of Cowley Beach (Inarlinga). A substantial part of the Cowley dune/swale system and the Moresby River estuary is in the WTWHA. The marine component of this site is in the GBRWHA, the Cairns Marine Park and partly in the Great Barrier Reef Marine Park, with three islands (Bresnahan, Hutchison and Jessie) of the North Barnard Islands being national park.

Coastal localities within this key coastal site are: 3.1 Cowley dunes; 3.2 Moresby headlands; 3.3 Moresby wetlands; and 3.4 North Barnards.

Significant resources and their values

The following areas of state significance are located within this site (refer to policy 2.5.1 regarding those for Indigenous Traditional Owner cultural resources):

- ◆ scenic coastal landscapes (policy 2.7.1) — including areas within Cowley dunes (coastal locality 3.1), Moresby headlands (coastal locality 3.2) and North Barnards (coastal locality 3.4); and



- ◆ natural resources (policy 2.8.1) — including areas within Cowley dunes (coastal locality 3.1) and Moresby wetlands (coastal locality 3.3).

Significant coastal resources (natural and cultural) and their values

- ◆ The mainland part of the site is mostly a Quaternary dune system with widths of about 10km in the Moresby River catchment. This dune system provides one of the most outstanding examples of coastal accretion in the Wet Tropics bioregion and is of particular importance as a record of recent sedimentation and coastal evolution. Liverpool Creek is a major supplier of sediment to this coastal sector (estimated to be about 25,000cu.m annually). Superimposed on this system are extensive estuarine deposits associated with the Moresby River and its tributaries. Proterozoic Barnard Metamorphics form the rugged Moresby Range between Mourilyan Harbour and Double Point. Isolated remnants of these rocks extend seawards to form the North Barnard Islands.
- ◆ Substantial parts of the Moresby site provide habitat for rare and threatened fauna and rare and under-represented vegetation communities. Of particular note are populations of the southern cassowary, which are of similar importance to those of the nearby Mission Beach area.
- ◆ Populations of whimbrels occur in the intertidal areas. The whimbrel is listed under the international conventions of JAMBA (Japan Australia Migratory Bird Agreement) and CAMBA (China Australia Migratory Bird Agreement).
- ◆ All of the dune system and associated estuaries within the site are part of the regionally extensive Cowley Area Wetland, which is listed and described in the *Directory of Important Wetlands in Australia* (2nd edition, 1996).
- ◆ There are extensive areas of high natural integrity with diverse remnant vegetation comprising a mosaic of mangrove forests, mixed shrubland-sedgeland, melaleuca or eucalypt-dominated woodlands and mesophyll vine forests. These vegetation communities contain 'of concern' regional ecosystems.
- ◆ A series of dunes with melaleuca-sedge vegetation is considered to have significant scientific research value. It is recognised as a unique ecosystem by virtue of its distinct patterns of organic production and accumulation.
- ◆ The North Barnard Islands are of high natural integrity, containing diverse and contrasting landforms, which include shallow reefs, rocky reefs, sand spits, beaches, exposed rock faces and dense rainforest-clad slopes. Pied imperial-pigeons nest on the islands and there is a colony of spectacled flying foxes on Kent Island.
- ◆ The inshore marine area contains rare and threatened fauna such as Irrawaddy and Indo-Pacific humpback dolphins, dugong and turtles.
- ◆ The scenic backdrop of the Moresby Range, extensive melaleuca wetlands and adjacent coastal dune forests and sandy beaches, the large mangrove areas of the Moresby River and the rugged nature of the offshore islands combine to form a landscape of high-to-very-high scenic quality.
- ◆ The Moresby River area is part of the traditional lands of the Ma:Mu people and is of continuing cultural significance. A midden of cultural significance to the Ma:Mu people has been identified in the Georgie Hill area. The nearby Camp Point area is associated with traditional Ma:Mu settlement and the region's early European history.
- ◆ The North Barnard Islands are an important component of the local traditional cultural landscape and have important cultural values in terms of their natural landscape values and native plants and animals. The islands and surrounding waters are part of the Ma:Mu peoples' 'sea country' and continue to be the focus of traditional and contemporary use of natural resources.
- ◆ A range of Indigenous Traditional Owner cultural resources contribute to a rich and dynamic cultural landscape.

Significant social and economic resources and their values

- ◆ Cowley Beach (Inarlinga) is the only coastal town in this site. Recreational activities include camping, beachcombing, boating and fishing.
- ◆ Refer to policy 2.1.1 *Areas of state significance (social and economic)* for values relating to the Port of Mourilyan.



Key coastal sites

- ◆ A public boat ramp is located within the Port for recreational users of the Moresby River, with fishing and sailing being popular pastimes. Another public boat ramp is located at Cowley Beach.
- ◆ A substantial part of the Cowley dunes, adjacent estuarine area, Moresby Range and Lindquist Island are used for defence training purposes.
- ◆ Intensive sugar cane production and several aquaculture operations occur on lands adjacent to the Moresby River estuary and adjoining Liverpool Creek and its tributaries.
- ◆ The North Barnard Islands and adjacent coastal waters including the Liverpool Creek and Moresby River estuaries provide important recreational opportunities that are especially popular with the local community.

Coastal management issues

- ◆ The site's natural integrity, scenic and wilderness values (particularly the regionally significant dune system, associated wetlands and the islands) may be impacted by agricultural, recreational and tourism activities.
- ◆ Clearing of land for agricultural activities and draining of agricultural land impact on adjoining wetlands and water quality and may promote invasion by pest species. This site has areas of moderate-to-high risk for acid sulfate soils.
- ◆ Indigenous Traditional Owner cultural resources require adequate recognition and protection and the meaningful involvement of the Indigenous Traditional Owners in the planning, management and coordination processes relating to these cultural resources.
- ◆ Unmanaged defence training activities have the potential to adversely impact on coastal resources.
- ◆ Marine pests and diseases may be introduced by visiting vessels.

Coastal locality 3.1: Cowley dunes (map 13)

Desired coastal outcomes

- ◆ Defence training activities have minimal impact on natural integrity.
- ◆ Appropriate fire management regimes are established to maintain natural values.
- ◆ The mosaic of vegetation associated with the dune-swale system and wetlands, which supports significant species including the southern cassowary, is maintained and extended where possible.
- ◆ The large esplanade extending from Cowley Beach township to the mouth of Liverpool Creek is retained in its natural state, free of development and upgraded to a reserve for beach protection and management.
- ◆ The physical and biological integrity of the dune system and associated beach is maintained.
- ◆ Vehicular access and recreational use has minimal impacts on fauna (e.g. beach stone-curlew, turtle) that use the beaches. There is no vehicle use on the beach south of the Cowley Beach township.
- ◆ Sand extraction from Liverpool Creek is sustainably managed to avoid erosion along the coast.
- ◆ Pest species including feral pigs and hymenachne are controlled.
- ◆ Coordination occurs between land and marine resource managers, including the appropriate Indigenous Traditional Owners, in matters relating to planning and management.
- ◆ The Liverpool Creek estuary is maintained in its natural state and free of infrastructure.
- ◆ Future use of the listed reserves is consistent with their dedicated purpose and includes the community purpose of 'environmental purposes'. The reserves are properly and effectively managed in accordance with an approved management plan:
 - Reserve lot 302, plan NR6480;
 - Reserve lot 231, plan NR6480; and
 - Reserve lot 102, plan NR8024.



*Cowley dunes —
paperbark and
bulkuru swamp*



Significant coastal resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ The mouth and tidal waters of Liverpool Creek provide significant habitat for estuarine crocodiles.
- ◆ This locality features one of the most extensive and well-developed dune/swale systems of high natural integrity in the Wet Tropics bioregion. It contains perched ponds and 'of concern' regional ecosystems. The dunes form part of the Cowley Area Wetland and are included within the WTWHA. The vegetated dunes and coastal wetlands are areas of state significance (natural resources — significant coastal wetlands and significant coastal dune systems). The dunes and associated vegetation have high scientific research values.
- ◆ The dunes and associated vegetation support one of the highest populations of the southern cassowary in the Wet Tropics bioregion and are significant for nesting turtles.
- ◆ The beaches north of Double Point and extending north and south of the coastal township of Cowley Beach have high-to-very-high scenic values and are largely areas of state significance (scenic coastal landscapes).

Significant social and economic resources and their values

- ◆ The beach around the township of Cowley Beach has high recreational value.
- ◆ The mouth and tidal waters of Liverpool Creek provide important fishing and boating opportunities.
- ◆ The dune system is used for defence training purposes.

Coastal management issues

- ◆ Unmanaged defence training activities have the potential to adversely impact on the regionally significant vegetated dune system and associated freshwater wetlands. The use of land for defence training purposes needs to continue to be consistent with the approved Commonwealth Environmental Management Plan³⁶.
- ◆ Inappropriate fire management may impact on the natural values of this locality.
- ◆ Inappropriate land use could impair the high-to-very-high scenic coastal values.
- ◆ Vehicle access to the mouth of Liverpool Creek and recreational camping is causing adverse impacts. Unmanaged vehicular use of Cowley Beach may adversely impact on wildlife and impair the amenity of the beach.
- ◆ Future quarrying operations on lot 2, plan RP 747206 may have adverse impacts on the estuary. Quarrying operations are likely to disrupt natural sand supply to the coast, which may cause significant erosion problems for this coastal sector.
- ◆ Pest species such as feral pigs and hymenachne have the potential to adversely impact on the natural integrity of this area.
- ◆ Due to the multiple jurisdictions involving reserves, esplanade, national park and marine parks, there is potential for lack of coordination between the relevant land and marine resource managers, including the appropriate Indigenous Traditional Owners, in matters relating to permit allocation, planning and management.
- ◆ Private maritime infrastructure or intensive use at the mouth of Liverpool Creek would be inappropriate because the coastal resources are of a very high standard and value.
- ◆ The reserves (lot 302, plan NR6480, lot 231, plan NR6480 and lot 102, plan NR8024) need to be managed to conserve their high environmental values and features.

Tenure: Commonwealth land, FH, RE, LL, Esp, MP

³⁶ This also includes Defence Environmental Certificates of Compliance.



Coastal locality 3.2: Moresby headlands (map 13)

Desired coastal outcomes

- ◆ Defence training activities have minimal impact on the high natural integrity.
- ◆ The very high scenic values of the headlands are maintained.
- ◆ Pest species such as feral pigs are controlled.

Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ Mesophyll vine forest dominates the prominent headlands between Mourilyan Harbour and Double Point. This coastal sector is in the WTWHA and has very high scenic, natural integrity and wilderness values. The locality is an area of state significance (scenic coastal landscapes).

Significant social and economic resources and their values

- ◆ The headlands are used for defence training purposes.

Coastal management issues

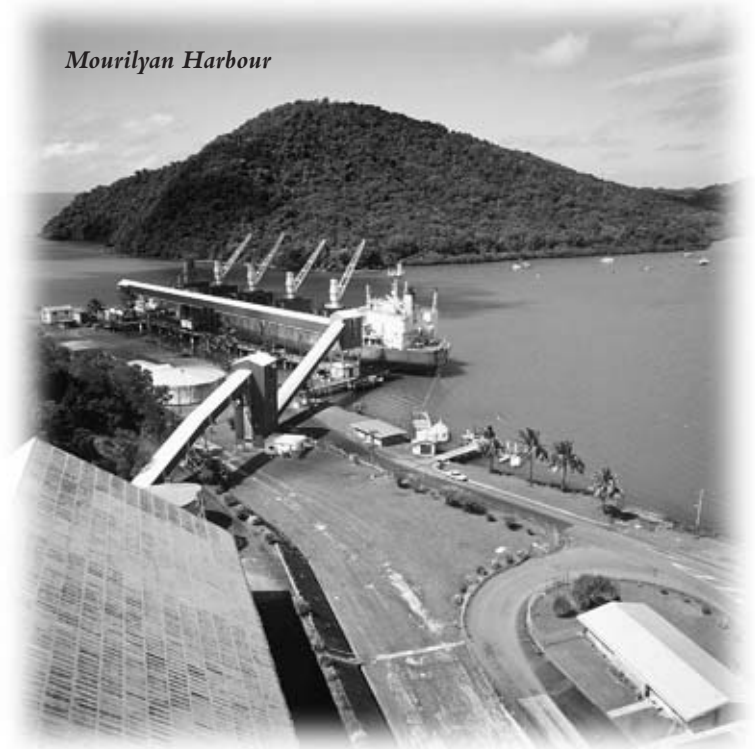
- ◆ Unmanaged defence training activities have the potential to adversely impact on the natural integrity, wilderness and scenic values. Use of the land for defence training purposes is subject to an approved Commonwealth Environmental Management Plan.
- ◆ Pest species such as feral pigs have the potential to adversely impact on natural values.

Tenure: Commonwealth land

Coastal locality 3.3: Moresby wetlands (map 13)

Desired coastal outcomes

- ◆ Defence training activities have minimal impact on natural integrity.
- ◆ The ecological integrity and viability of the wetlands are maintained.
- ◆ Water quality is not adversely impacted by port activities or discharges from the aquaculture operations.
- ◆ The extent of the estuarine communities and associated freshwater wetlands remains at or close to present levels and is extended where possible.
- ◆ Pest species such as feral pigs and weeds are controlled.
- ◆ Future use of the following unallocated State land on the coast conserves the high environmental values and features, including significant coastal wetlands and remnant native vegetation, through the implementation of an appropriate management regime:
 - USL lot 6, plan USL35562;
 - USL lot 7, plan USL35616;
 - USL lot 1, plan USL35615;
 - USL lot 3, plan USL35611;
 - USL lot 4, plan USL35611;
 - USL lot 1, plan USL35610;
 - USL lot 2, plan USL35641;
 - USL lot 4, plan USL35641; and
 - USL lot 16, plan USL35641.



Mourilyan Harbour



- ◆ Land and marine resource managers, including the appropriate Indigenous Traditional Owners, coordinate in matters relating to planning and management.

Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ The locality forms the core of the Cowley Area Wetland, comprising an extensive estuarine complex on a dune system, which grades into freshwater wetlands. The wetlands have high natural integrity, are associated with high-to-very-high scenic values and provide important fish habitat values and habitat for rare and threatened species including the southern cassowary and estuarine crocodile. Several vegetation communities are classified as 'of concern' or endangered regional ecosystems.
- ◆ The wetlands, vegetated dune systems and associated endangered regional ecosystems are areas of state significance (natural resources). The locality is partly in the WTWHA and Cairns Marine Park.

Significant social and economic resources and their values

- ◆ The Port of Mourilyan has regional and State economic significance (refer regional context of policy 2.1.1).
- ◆ The wetlands centred on the Moresby River estuary are used for defence training purposes.
- ◆ The adjoining land to the north and west has been cleared for sugar cane production.

Coastal management issues

- ◆ Unmanaged defence training activities have the potential to adversely impact on the natural integrity of the wetlands. Use of the land for defence training is subject to an approved Commonwealth Environmental Management Plan.
- ◆ Outfalls from the aquaculture operations around the margins of the wetlands and port activities have the potential to adversely impact on water quality.
- ◆ Weeds are invading disturbed wetland margins and threaten to displace native species. Pest species such as feral pigs have the potential to adversely impact on the natural integrity.
- ◆ The many USL parcels need to be managed to conserve their high environmental values and features.
- ◆ This locality contains areas of moderate-to-high risk for acid sulfate soil.
- ◆ Due to the multiple jurisdictions involving freehold land, USL, Commonwealth land, port land and marine park, there is a need for coordination between the relevant land and marine resource managers, including the appropriate Indigenous Traditional Owners, in matters relating to planning and management.

Tenure: USL, Commonwealth land, FH, LL, MP

Coastal locality 3.4: North Barnards (map 13)

Desired coastal outcomes

- ◆ Management of the Commonwealth owned Lindquist and Kent islands affords the same protection as the neighbouring national park islands in this group.
- ◆ Further development of maritime infrastructure on Lindquist and Kent islands is consistent with the 'no-structures zone' for the marine parks surrounding the neighbouring national park islands.
- ◆ Roosting and nesting seabirds are undisturbed by visitor access and activities.
- ◆ Defence training activities have minimal impact on natural integrity.
- ◆ Coordination occurs between land and marine resource managers, including the appropriate Indigenous Traditional Owners, in matters relating to planning and management.

Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ The North Barnards is a group of five continental islands, three of which are national parks, with high natural integrity, scenic and recreational values. The locality is an area of state significance (scenic coastal



Key coastal sites

landscapes). The islands are part of the GBRWHA. Surrounding waters are in the Great Barrier Reef Marine Park and Cairns Marine Park.

- ◆ The islands exhibit a diverse range of vegetation communities, including rainforest and fringing coral reefs.
- ◆ The islands contain important breeding sites for the crested, black-naped and bridled tern, support a seasonal colony of the spectacled flying fox and provide important nesting sites for the pied imperial-pigeon.

Significant social and economic resources and their values

- ◆ Lindquist Island is used for defence training purposes.
- ◆ Kent Island, a rugged rain-forested island lying in the outer extremity of the North Barnards group, has a small coral shingle beach and a lighthouse.

Coastal management issues

- ◆ The Commonwealth owned Lindquist and Kent islands do not have protected area status. There are potential impacts associated with development and recreational use as the Commonwealth land is not within the 'no structures zone' for the marine parks.
- ◆ Visitors to Lindquist and Kent islands may disturb nesting seabirds unless access is appropriately managed.
- ◆ Defence training activities on Lindquist Island have the potential to adversely impact on natural values. Management needs to be consistent with (a) the *Barnard Islands National Park Management Plan*; (b) the Commonwealth Environmental Management Plan relating to this specific island; and (c) the 'no structures zone' for the marine parks.
- ◆ Due to the multiple jurisdictions involving Commonwealth land, national park and marine parks, there is a need for coordination between the relevant land and marine resource managers, including the appropriate Indigenous Traditional Owners, in matters relating to planning and management.

Tenure: NP, Commonwealth land (Lindquist and Kent islands), MP

Key coastal site 4: Innisfail (maps 12 and 13)

Desired coastal outcomes

- ◆ The Ninds and Bulguru wetlands, rainforest and interconnecting wildlife corridors, which provide important habitat for the southern cassowary, are conserved.
- ◆ Natural scenic landscape values are maintained.
- ◆ Remnant native vegetation on private land is retained through mechanisms such as voluntary conservation agreements with landholders (e.g. under the *Nature Conservation Act 1992*, the *Land Act 1994*, or the *Wet Tropics Management Plan 1998*).
- ◆ Drains on agricultural land adjacent to this site are designed and constructed to minimise adverse impacts on wetlands.
- ◆ The hydrology and functioning of the wetlands associated with Ninds Creek and the Johnstone River are maintained or enhanced where possible.
- ◆ The North and South Johnstone rivers' natural sediment supply is maintained to ensure coastal stability.
- ◆ Indigenous Traditional Owner cultural resources, values and practices are adequately recognised, respected and protected and Indigenous Traditional Owners are meaningfully involved in the planning for, and management of, these resources.



Description

This key coastal site is bound to the east by the rugged and scenic Moresby Range and incorporates the flanking extensive wetlands centred on Ninds Creek and a section of the North Johnstone and South Johnstone rivers. Most of the Moresby Range including the Moresby Range National Park (listed on the



Register of the National Estate) is in the WTWHA. Gladys Inlet and tidal sections of the North Johnstone and South Johnstone rivers are in the Cairns Marine Park. Marine waters along the open coast are in the GBRWHA, Cairns Marine Park and Great Barrier Reef Marine Park.

Coastal localities within this key coastal site are: 4.1 Ninds Creek and 4.2 Moresby Range.

Significant resources and their values

The following areas of state significance are located within this site (refer to policy 2.5.1 regarding those for Indigenous Traditional Owner cultural resources):

- ◆ social and economic (policy 2.1.1) — the Johnstone River boat harbour is recognised as an area of state significance (social and economic) (map 19);
- ◆ cultural heritage (policy 2.6.1) — the Canecutters Memorial;
- ◆ scenic coastal landscapes (policy 2.7.1) — including areas within Moresby Range (coastal locality 4.2); and
- ◆ natural resources (policy 2.8.1) — including areas within Ninds Creek (coastal locality 4.1).

Significant coastal resources (natural and cultural) and their values

- ◆ Barnard Metamorphics form the Moresby Range. Excellent exposures of these rocks at Etty Bay and near Mourilyan Harbour are recognised for their importance in interpreting the deformational history of northeast Australia and have considerable educational and scientific importance. These are flanked to the west by an extensive Quaternary alluvial plain containing a chain of freshwater wetlands and associated peat deposits, centred on the tidal Ninds Creek.
- ◆ The Moresby Range has overall high natural integrity with remnant vegetation dominated by mesophyll vine forest extending to the shoreline. It also contains the only sizeable and nearly intact remnant of mixed mesophyll vine forest at low altitude in north Queensland, on soils derived from strongly metamorphosed rocks. The Moresby Range supports diverse plants and animals of special ecological interest because of its derivation from lower fertility soils and contains rare and threatened plants and animals and rare vegetation types. The southern cassowary is occasionally seen in the Coquette Point area adjoining the Moresby Range National Park. The range and flanking wetlands to the west have outstanding biodiversity significance.
- ◆ The freshwater wetlands, including the upper reaches of Ninds Creek and Bulguru Swamp, form the main part of the Innisfail Area Wetland, which is listed and described in the *Directory of Important Wetlands in Australia* (2nd edition, 1996).
- ◆ The North Johnstone and South Johnstone rivers are the only major rivers to supply sediment in this coastal sector (estimated to be about 37,000cu.m annually) and play a vital role in facilitating coastal stability through sand accretion.
- ◆ The inshore marine area contains rare and threatened fauna such as Irrawaddy and Indo-Pacific humpback dolphins, dugongs and turtles.
- ◆ Most of the coastline along the Moresby Range has very high scenic values, imparted by its high natural integrity and rainforest canopy with impressive, rugged backdrops close to the coast.
- ◆ A range of Indigenous Traditional Owner cultural resources contribute to a rich and dynamic cultural landscape.

Significant social and economic resources and their values

- ◆ The main town of Innisfail is centred on the confluence of the North Johnstone and South Johnstone rivers. It is an important regional centre with a range of social, recreational, tourism and economic values that are intricately linked to the site. Relatively minor residential development occurs at Coquette Point on the Moresby Range.
- ◆ Etty Bay is listed in the *Wet Tropics Nature Based Tourism Strategy* as a regionally significant recreation area, offering camping and swimming.
- ◆ The wetlands and alluvial plains associated with Ninds Creek and the North Johnstone and South Johnstone rivers are extensively used for agricultural production, with rural and residential development also occurring.



Key coastal sites

- ◆ Gladys Inlet, including the mouth of Ninds Creek, provides an important natural harbour and scenic focal point for the town of Innisfail. The inlet offers many opportunities for recreational boating and fishing and provides access to open coastal waters as well as a relatively safe anchorage.
- ◆ About 70 commercial fishing vessels use the Johnstone River boat harbour. It is also used by game fishing boats and private sailing and motor vessels.
- ◆ Sand is extracted from the North Johnstone and South Johnstone rivers for commercial purposes.

Coastal management issues

- ◆ Extensive clearing of native vegetation associated with agricultural activities, particularly on the coastal alluvial plain and western flank of the range, has caused substantial habitat fragmentation, weed invasion and loss of biodiversity and scenic amenity.
- ◆ Residential development has the potential to disrupt wildlife corridors, impair scenic values and impact adversely on biodiversity.
- ◆ Agricultural drains have adversely altered the hydrology and functioning of the wetlands. This site contains areas of moderate-to-high risk for acid sulfate soil.
- ◆ Sand extraction from the North Johnstone and South Johnstone rivers has the potential to reduce the availability of natural sand to the open coast.
- ◆ Indigenous Traditional Owner cultural resources require adequate recognition and protection and the meaningful involvement of the Indigenous Traditional Owners in the planning, management and coordination processes relating to these cultural resources.

Coastal locality 4.1: Ninds Creek (map 13)

Desired coastal outcomes

- ◆ Remnant native vegetation and wildlife corridors on private land are conserved through mechanisms such as voluntary conservation agreements.
- ◆ Water quality in Ninds Creek and Gladys Inlet remains high.
- ◆ The hydrology and functioning of the wetlands are not further impaired.
- ◆ Pest species including pond apple and feral pigs are controlled.
- ◆ Future use of the listed quarry reserves is consistent with the maintenance of their World Heritage biodiversity and scenic values. The reserves are properly and effectively managed in accordance with an approved management plan:
 - Reserve lot 261, plan NR7965; and
 - Reserve lot 278, plan NR4612.
- ◆ Land and marine resource managers, including the appropriate Indigenous Traditional Owners, coordinate in matters relating to planning and management.

Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ An extensive freshwater wetland is drained by the partly tidal Ninds Creek into the Johnstone River. Part of this wetland including Bulguru Swamp is contained within the Innisfail Area Wetland. The wetlands including the associated endangered regional ecosystems are areas of state significance (natural resources — significant coastal wetlands and endangered regional ecosystems).
- ◆ Much of the remnant vegetation is classified as 'of concern' or endangered and forms important southern cassowary habitat. It is also a significant habitat for the estuarine crocodile.

Coastal management issues

- ◆ Extensive clearing of native vegetation, associated with agricultural activities, has caused substantial habitat fragmentation, weed invasion and loss of biodiversity.
- ◆ Agricultural drains have adversely altered the hydrology and functioning of the wetlands.
- ◆ This locality contains areas of moderate-to-high risk for acid sulfate soil.



- ◆ Pest species including pond apple and feral pigs may adversely impact on the natural values of this site.
- ◆ Two unused quarry reserves (lot 261, plan NR7965 and lot 278, plan NR4612) within the WTWHA and adjoining the Moresby Range National Park need to be managed to conserve their high environmental values and features.
- ◆ Due to the multiple jurisdictions involving freehold land, leasehold land, USL, reserve, national park and marine park, there is a need for coordination between the relevant land and marine resource managers, including the appropriate Indigenous Traditional Owners, in matters relating to planning and management.

Tenure: FH, NP, MP, LL, USL, RE

Coastal locality 4.2: Moresby Range (map 13)

Desired coastal outcomes

- ◆ The extent of the complex mesophyll vine forest and its function as a wildlife corridor are maintained.
- ◆ Remnant native vegetation on private land is conserved through mechanisms such as voluntary conservation agreements.
- ◆ The large esplanade extending north and south of Etty Bay is retained in its natural state, free of development and incorporated into the Moresby Range National Park.
- ◆ Future use of the reserve (lot 565, plan NR7553) is consistent with its dedicated purpose and includes the community purpose of 'environmental purposes'. The reserve is properly and effectively managed to maintain the wildlife corridor in accordance with an approved management plan.
- ◆ Scenic values of the Moresby Range reserve are unimpaired.
- ◆ Pest species including pond apple and feral pigs are controlled.

Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ The Moresby Range has high natural integrity and forms a rugged, highly scenic backdrop to the coast. It is dominated by complex mesophyll vine forest and provides an important wildlife corridor linking Moresby Range National Park and the eastern parts of suburban Innisfail. The vegetation contains rare and threatened plant species and is important habitat for the southern cassowary.
- ◆ The Moresby Range reserve straddles the southern end of the Moresby Range and has highly scenic and natural values with a high degree of natural integrity. It forms part of an important wildlife corridor for rare and threatened species (e.g. the southern cassowary) that links the reserve to the Moresby Range National Park.
- ◆ Coquette Point is a breeding site for a range of tern species including the endangered little tern.

Significant social and economic resources and their values

- ◆ Residential development occurs on the range near the mouth of Johnstone River and Gladys Inlet.
- ◆ Etty Bay is a popular recreation and camping area.

Coastal management issues

- ◆ Residential and agricultural development has the potential to significantly disrupt the wildlife corridor, impair scenic values and impact adversely on biodiversity.
- ◆ The undeveloped esplanade needs to be managed to conserve its high environmental values and features, including significant natural and cultural values.
- ◆ Habitat retention and maintenance of the wildlife corridor are important issues for the Moresby Range reserve (lot 565, plan NR7553). The reserve contains one of the few wilderness coastlines remaining in the region. The reserve needs to be managed to conserve its high environmental values and features.
- ◆ Pest species, including pond apple and feral pigs, may adversely impact on the integrity of this site.

Tenure: FH, RE, NP, USL, LL, Esp



Key coastal site 5: Ella Bay (maps I2 and I4)

Desired coastal outcomes

- ◆ The high biodiversity of the Seymour Range and Ella Bay Swamp is maintained and vegetation connectivity along the range and to the west is maintained and restored where possible, to protect habitat for significant species such as the southern cassowary and estuarine crocodile.
- ◆ Remnant native vegetation on agricultural land is retained through mechanisms such as voluntary conservation agreements with landholders (e.g. under the *Nature Conservation Act 1992*, *Land Act 1994* or the *Wet Tropics Management Plan 1998*).
- ◆ Infrastructure developments are designed and located so that they do not adversely affect coastal processes or scenic amenity.
- ◆ Development has minimal visual impact on the very high natural scenic landscape values.
- ◆ The remote and pristine character of the northern section of Ella Bay is maintained (including the national park and foreshore). The esplanade north of Heath Point remains in an undeveloped natural condition with no intensification of access.
- ◆ Tourism is ecologically sustainable and has minimal impact on scenic amenity and the remote and pristine character of the landscape.
- ◆ A range of low impact nature-based recreation opportunities is maintained.
- ◆ Indigenous Traditional Owner cultural resources, values and practices are adequately recognised, respected and protected and Indigenous Traditional Owners are meaningfully involved in the planning for, and management of, these resources.

Description

This key coastal site is largely framed by the rugged and forested Seymour Range and incorporates Flying Fish, Heath and Cooper points, the township of Coconuts and Ella Bay National Park (listed on the Register of the National Estate). A substantial part of the site is in the WTWHA. The marine part of this site is in the Great Barrier Reef Marine Park and Cairns Marine Park.

The coastal locality within this key coastal site is: 5.1 Flying Fish Point.

Significant resources and their values

The following areas of state significance are located within this site (refer to policy 2.5.1 regarding those for Indigenous Traditional Owner cultural resources):

- ◆ scenic coastal landscapes (policy 2.7.1) — Ella Bay coastline from Heath Point to Cooper Point and back to the Seymour Range; and
- ◆ natural resources (policy 2.8.1) — Ella Bay National Park, including Ella Bay Swamp and associated vegetation.

Significant coastal resources (natural and cultural) and their values

- ◆ The Seymour Range is comprised of Barnard Metamorphics, flanked to the west by Cainozoic volcanics and to the east by an infilled embayment up to 3km wide of dunes associated with freshwater swamp deposits consisting of mud and peat. Extending northwards from Gladys Inlet and beyond Cooper Point is a prominent submerged sand lobe, which provides an important source of sand for replenishment of the coast.
- ◆ The remnant vegetation of the Seymour Range is dominated by mesophyll vine forest. On the margins of the Ella Bay Swamp these forests feature palms grading into melaleuca and sedge wetlands. Isolated areas of rare coastal wet sclerophyll forests occur on Cooper Point. The rainforests contain endangered vegetation types and areas of special evolutionary significance with some of the highest diversity in the Wet Tropics bioregion.
- ◆ The freshwater wetland, including the dune system, forms the Ella Bay Swamp, which is listed and described in the *Directory of Important Wetlands in Australia* (2nd edition, 1996). The Ella Bay Swamp is the only remaining pristine or near-pristine catchment area of mixed mesophyll vine forest on foothills



derived from mixed metamorphic rocks and forms part of a mosaic of sclerophyll vegetation and mixed palm forests on soils with impeded drainage. It provides an outstanding example of this vegetation type for scientific research. The regional ecosystems associated with the wetland are rated as 'of concern' and endangered.

- ◆ Rare and threatened fauna such as the Irrawaddy and Indo-Pacific humpback dolphins, dugong and turtles inhabit the inshore marine area.
- ◆ The scenic backdrop of the Seymour Range, vegetated rocky headlands, extensive melaleuca wetlands and adjacent coastal dune forests and sandy beaches combine to form a landscape of very high scenic quality. Heath Point and Flying Fish Point provide panoramic views of the coast.
- ◆ This area forms part of the traditional lands of the Ma:Mu people and is of continuing cultural significance. A range of Indigenous Traditional Owner cultural resources contribute to a rich and dynamic cultural landscape.

Significant social and economic resources and their values

- ◆ Flying Fish Point and Coconuts are small coastal communities with ready access to Gladys Inlet and a sandy beach extending south from Heath Point. There are camping and recreational facilities and a public boat ramp at Flying Fish Point.
- ◆ Attractive beaches in the vicinity of Heath Point and in Ella Bay provide popular recreational areas. Heath Point is an identified visitor site in the *Wet Tropics Nature Based Tourism Strategy*.
- ◆ An aquaculture operation occurs on the coast just south of Heath Point.
- ◆ Agricultural activities occur in the southern part of Ella Bay and on the lower southern and western flanks of the Seymour Range.

Coastal management issues

- ◆ Agricultural activities have resulted in habitat loss along both flanks of the Seymour Range and potentially threaten biodiversity, the natural integrity of remnant forests and water quality.
- ◆ Inappropriate land use and development may impair the wildlife corridor along the Seymour Range, particularly the link between the two sections of Ella Bay National Park.
- ◆ Disruption to natural sand supply to the coast by sand extraction activities may cause significant erosion problems in residential areas (e.g. Coconuts).
- ◆ Existing and potential foreshore erosion may adversely impact on infrastructure and public amenity.
- ◆ Infrastructure development may adversely affect the very high scenic coastal landscape values of this section of the coast.
- ◆ Residential, tourism or agricultural use of freehold land adjoining the portions of Ella Bay National Park has the potential to adversely impact on the protected area and remnant forest along the Seymour Range, through disruption to the wildlife corridor and the introduction of domestic animals and pest species.
- ◆ Uncontrolled visitor access to certain areas within this site may adversely impact on the coastal resources and diminish visitor experience.
- ◆ Indigenous Traditional Owner cultural resources require adequate recognition and protection and the meaningful involvement of the Indigenous Traditional Owners in the planning, management and coordination processes relating to these cultural resources.

Coastal locality 5.1: Flying Fish Point (map 14)

Desired coastal outcomes

- ◆ Future urban expansion is located outside the erosion prone area. Further development is designed and located so as to not adversely affect coastal processes or scenic amenity.
- ◆ Sand extraction from the North Johnstone and South Johnstone rivers does not significantly affect the important contribution the rivers make to sand replenishment along the coast.
- ◆ The esplanade north of the established seawall is retained in its natural condition, free of development.



Significant resources and their values

Significant social and economic resources and their values

- ◆ The coastal settlement of Flying Fish Point includes a caravan park, boat ramp and picnic facilities.

Coastal management issues

- ◆ A seawall has recently been repaired and extended to protect residential property and public facilities from beach erosion.
- ◆ Sand extraction may cause significant erosion problems for this coastal sector by disrupting the natural sand supply to the coast.
- ◆ Further development on the esplanade north of the established seawall has the potential to impact on foreshore vegetation and scenic amenity.

Tenure: FH, Esp, RE, USL

Key coastal site 6: Bramston (maps I2 and I4)

Desired coastal outcomes

- ◆ The Wyvuri wetlands, Joyce Creek and the adjoining wet sclerophyll and mesophyll vine forests and wildlife corridors are actively managed to conserve their natural integrity and biodiversity.
- ◆ The hydrology and functioning of the Wyvuri wetlands are maintained. Where practicable, existing agricultural drains adversely affecting the wetlands are rehabilitated or modified.
- ◆ Tourism is ecologically sustainable and has minimal impact on scenic amenity and the remote and pristine character of the landscape.
- ◆ A range of low-impact, nature-based recreation opportunities is maintained that focus on camping and foreshore activities.
- ◆ Indigenous Traditional Owner cultural resources, values and practices are adequately recognised, respected and protected, and Indigenous Traditional Owners are meaningfully involved in the planning for and management of these resources.

Description

This key coastal site is largely framed by the rugged and forested Graham Range and incorporates the Joyce Creek and Wyvuri wetlands and the Bramston Beach township. Substantial parts of the Graham Range are in the WTWHA. The marine part of this site is in the GBRWHA, Great Barrier Reef Marine Park and Cairns Marine Park. The site also contains parts of Ella Bay and Russell River national parks (both parks are listed on the Register of the National Estate).

Coastal localities within this key coastal site are: 6.1 Joyce wetlands and dunes; 6.2 Bramston Beach; 6.3 Wyvuri; and 6.4 East Russell.

Significant resources and their values

The following areas of state significance are located within this site (refer to policy 2.5.1 regarding those for Indigenous Traditional Owner cultural resources):

- ◆ scenic coastal landscapes (policy 2.7.1) — including areas within Joyce wetlands and dunes (coastal locality 6.1), Bramston Beach (coastal locality 6.2) and Wyvuri (coastal locality 6.3); and
- ◆ natural resources (policy 2.8.1) — including areas within Joyce wetlands and dunes (coastal locality 6.1), Bramston Beach (coastal locality 6.2) and Wyvuri (coastal locality 6.3).

Significant coastal resources (natural and cultural) and their values

- ◆ The Graham Range is comprised of Babalangee Amphibolite and Mission Beach Granite Complex. The coastal plain contains two prominent infilled embayments up to 3km wide with dunes associated with freshwater swamp deposits (Joyce and Wyvuri swamps) consisting of mud and peat. Drainage along the Graham Range is either to the coast via the freshwater wetlands or to the west into the Russell River.



- ◆ The site is characterised by extensive areas of high natural integrity featuring some of the highest biodiversity in the Wet Tropics bioregion.
- ◆ Large areas of permanent freshwater wetlands and associated melaleuca forest located between the Graham Range and a coastal dune system to the east form the Wyvuri Swamp, which is listed and described in the *Directory of Important Wetlands in Australia* (2nd edition, 1996). This wetland supports a combination of species that are now rare in other parts of the state. It is one of the largest remaining wetlands of its type in Australia.
- ◆ The extensive remnant vegetation of the Graham Range is dominated by mesophyll vine forest with minor areas of vine forest, eucalypt-dominated forest and complex mesophyll vine forest. These rainforests contain endangered vegetation types and areas of special evolutionary significance.
- ◆ The inshore marine area contains rare and threatened fauna such as Irrawaddy and Indo-Pacific humpback dolphins, dugong and turtles.
- ◆ The scenic backdrop of the Graham Range, vegetated rocky headlands, extensive melaleuca wetlands and adjacent coastal dune forests and sandy beaches, form a landscape of mostly very high scenic quality.
- ◆ A range of Indigenous Traditional Owner cultural resources contribute to a rich and dynamic cultural landscape.

Significant social and economic resources and their values

- ◆ Bramston Beach is a small coastal community that is popular for camping, beachcombing, boating and fishing. It has ready access to the Joyce Creek estuary at Rocky Point and long sandy beaches. The northern part of Bramston Beach is an identified visitor site in the *Wet Tropics Nature Based Tourism Strategy*. A public boat ramp is located at Joyce Creek.
- ◆ Agricultural activities occur along the eastern and southern edges of Wyvuri Swamp, within and around Joyce Swamp and on the western and eastern flanks of the Graham Range.

Coastal management issues

- ◆ Clearing of native vegetation and drainage modification for agricultural development threatens the viability of the wetlands, adversely impacts on biodiversity and World Heritage values and causes edge effects such as the invasion of pest species and fire. This site has areas of moderate-to-high risk for acid sulfate soil.
- ◆ Agricultural drains have the potential to adversely impact on a range of coastal resources and processes, including scenic coastal landscapes, water quality and biodiversity.
- ◆ Tourism, residential development and recreational activities (including uncontrolled camping on the foreshore) have the potential to adversely impact on the integrity of the remnant vegetation, dune systems and wetlands.
- ◆ Indigenous Traditional Owner cultural resources require adequate recognition and protection and the meaningful involvement of the Indigenous Traditional Owners in the planning, management and coordination processes relating to these cultural resources.

Coastal locality 6.1: Joyce wetlands and dunes (map 14)

Desired coastal outcomes

- ◆ Further adverse impacts to the integrity of wetlands and remnant native vegetation by land clearing and agricultural drains are avoided, and southern cassowary habitat is retained.
- ◆ Riparian vegetation is rehabilitated where possible.
- ◆ Pest species including feral pigs and hymenachne are controlled.
- ◆ Infrastructure in Joyce Creek is limited to the public boat ramp.
- ◆ The dune system (including the esplanade) and foreshore are maintained in their natural state, free of development.
- ◆ There is no vehicle access on the foreshore south of Rocky Point and recreational use has minimal impacts on coastal resources and scenic values.



Key coastal sites

- ◆ Future use of the following unallocated State land on the coast conserves the high environmental values and features, including significant coastal wetlands and dunes and avoids adverse impacts on coastal processes through the implementation of an appropriate management regime:
 - USL lot 6, plan USL21999; and
 - USL lot 4, plan USL21999.

Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ The locality features a large highly modified freshwater wetland and melaleuca forest (an endangered regional ecosystem), which has developed landward of a vegetated dune system fed by drainage from the Seymour and Graham ranges. Together with the nearby mangrove wetlands, the freshwater wetland provides a valuable fish nursery area.
- ◆ The wetland and the associated endangered regional ecosystem are areas of state significance (natural resources). The wetland acts as a significant nutrient trap and filter and contains rare plants of high scientific value (e.g. pitcher plants).
- ◆ The locality also features sphagnum moss, a rarity in the Wet Tropics bioregion.
- ◆ A vegetated dune/swale system links Rocky Point to Cooper Point and forms a buffer between the Joyce Creek wetlands and the coast. The system has high natural integrity. It is significant for rare and threatened species including the estuarine crocodile and provides important habitat for nesting turtles.
- ◆ The vegetated dunes are areas of state significance (natural resources — significant coastal dune systems).
- ◆ The coastline south of Rocky Point has high-to-very-high wilderness and scenic values.

Significant social and economic resources and their values

- ◆ A boat ramp on Joyce Creek near Rocky Point provides access for recreational boating and fishing.

Coastal management issues

- ◆ Extensive clearing of native vegetation for agriculture, over-grazing and drain construction, have degraded the dune/swale system and impacted on the significant natural values, including habitat for the southern cassowary. The swamp soils have a moderate-to-high risk for acid sulfate soil.
- ◆ Pest species including feral pigs and hymenachne adversely impact on the integrity of this site.
- ◆ As access by boats to the mouth of Joyce Creek from the existing boat ramp is tidal-dependent and the locality has high natural integrity, there should be no further development of maritime infrastructure.
- ◆ Development of further maritime infrastructure or increased use at the mouth would impede access to this tidal-dependent area and impact on the high value of the natural and scenic coastal resources.
- ◆ The undeveloped esplanade needs to be managed for its environmental values and features, including natural and cultural values.
- ◆ The USL blocks (lot 6, plan USL21999 and lot 4, plan USL21999) need to be managed to conserve their high environmental values and features.
- ◆ Vehicle use along the coast would adversely impact on the ‘wilderness’ values south of Rocky Point.
- ◆ Private marine infrastructure or intensive use at the mouth of Joyce Creek would impact on the high value of the natural and scenic coastal resources.

Tenure: FH, USL, Esp, MP

Coastal locality 6.2: Bramston Beach (map 14)

Desired coastal outcomes

- ◆ Development is focused on the existing Bramston Beach village, while retaining its low-key character and continuing to provide opportunities for low-impact recreational activities.





- ◆ Beach erosion control measures avoid adverse impacts on coastal processes and coastal resources and their values, particularly use and enjoyment of the beach and scenic amenity.
- ◆ The esplanade is retained in its natural condition, free of development and off-road vehicles do not damage the frontal dunes or beach. There is no vehicle use on the foreshore.
- ◆ Future use of the following unallocated State land on the coast conserves the high environmental values and features, including its value as a wildlife corridor and southern cassowary habitat and avoids adverse impacts on coastal processes, including beach protection, through the implementation of an appropriate management regime:
 - USL lot 15, plan NR317; and
 - USL lot 35, plan NR6649.
- ◆ There are no adverse impacts from adjoining land use on the Wyvuri Swamp.

Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ The coastline has very high scenic value and the beach is important for nesting turtles.
- ◆ The areas of USL within the locality contain an intact section of a prominent vegetated, dune system extending along the coast from Bramston Beach township to the Russell River National Park. The associated vegetation provides important habitat for the southern cassowary and a wildlife corridor to the adjacent Graham Range and Wyvuri Swamp.
- ◆ The vegetated dunes are areas of state significance (natural resources).

Significant social and economic resources and their values

- ◆ Bramston Beach is a small seaside township. The township, beach and remnant vegetation have important recreational and tourism appeal with amenities such as a caravan park, beachside picnic areas and camping grounds.

Coastal management issues

- ◆ Development beyond the existing township area or seaward of the coastal building line would exacerbate erosion problems at this locality.
- ◆ Coastal land use and recreational activities have the potential to impact on the coastal resources and scenic amenity of this site. Unmanaged vehicle use degrades the foreshore environment, impairs the enjoyment of other users and impacts on turtle nesting.
- ◆ Loss of natural integrity due to uncontrolled camping and access threatens the values of the areas of USL (lot 15, plan NR317 and lot 35, plan NR6649). The USL needs to be managed to conserve its high environmental values and features. The undeveloped esplanade is unsuitable for development and should be retained in its natural condition.
- ◆ Adverse edge effects on the Wyvuri Swamp associated with adjoining agricultural activities include fire, drains and weeds.

Tenure: FH, USL, RE, Esp, MP

Coastal locality 6.3: Wyvuri (map 14)

Desired coastal outcomes

- ◆ The biodiversity values of the endangered regional ecosystems and rare and threatened fauna associated with the wetlands are conserved.
- ◆ The complex mesophyll vine forest and the wildlife corridor supporting significant species such as the southern cassowary are maintained.
- ◆ Degraded areas are rehabilitated where practicable.
- ◆ Remnant native vegetation on private land is conserved through mechanisms such as voluntary conservation agreements.



Key coastal sites

- ◆ An appropriate management regime is in place to mitigate any adverse impacts of agricultural drains on the wetlands and their water quality.

Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ The Wyvuri Swamp is a large freshwater wetland fed by drainage from the Graham Range. There is a minor estuarine influence on the north-eastern extremity. Overall, the wetlands have high natural integrity with a largely intact melaleuca woodland containing 'of concern' and endangered regional ecosystems.
- ◆ The Wyvuri Swamp is one of only four areas on the Wet Tropical Coast consisting of peaty soil and intact native vegetation. The wetland and the associated endangered regional ecosystems are areas of state significance (natural resources).
- ◆ The fossil and prehistory records of Wyvuri Swamp are highly significant for scientific purposes.
- ◆ Remnant vegetation outside the wetlands is predominantly complex mesophyll vine forest. Rare, threatened or significant species such as the ant plant, sphagnum moss and estuarine crocodile occur here. The locality is the most southerly occurrence of the highly endemic and endangered pitcher plant *Nepenthes mirabilis*. The scenic rim to the coast forms part of an important wildlife corridor for significant species such as the southern cassowary.
- ◆ The wetlands form a nutrient trap and filter system for drainage to the coast and provide a significant fish nursery area.
- ◆ The wetlands have very high scenic values and are areas of state significance (scenic coastal landscapes).
- ◆ The area straddling the Graham Range and forming the watershed for Wyvuri Swamp has high scenic values.

Coastal management issues

- ◆ Agricultural drains have caused saltwater intrusion and disturbed acid sulfate soils with adverse impacts on the integrity of the wetlands and potential adverse impacts on water quality.
- ◆ Grazing, fire and pest species such as feral pigs, hymenachne and pond apple have compromised the biological integrity of the wetlands.
- ◆ The State has purchased substantial land in this locality that is within the WTWHA for conservation purposes.

Tenure: State owned land, LL, FH, NP, USL

Coastal locality 6.4: East Russell (map 14)

Desired coastal outcomes

- ◆ The significance of the biodiversity, wildlife corridor and the potential for impacts on Eubenangee Swamp and the Russell River are considered when assessing permit applications for clearing of native vegetation.
- ◆ The vegetation mosaic of complex mesophyll vine forest, wetland forests and habitat corridor supporting the southern cassowary population and other significant species, is conserved and extended where possible.
- ◆ Biodiversity and water quality are maintained and enhanced through the retention and rehabilitation of riparian vegetation.
- ◆ Drains on agricultural land adjacent to this site are designed and constructed to minimise adverse impacts on wetlands.
- ◆ Remnant native vegetation on agricultural land is conserved.
- ◆ Pest species including pond apple, feral pigs and hymenachne are controlled.



Wyvuri Swamp



Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ This area straddles a portion of the Graham Range, forming an important catchment for Eubenangee Swamp and the Russell River.
- ◆ Remnant vegetation is dominated by complex mesophyll vine forest with some endangered regional ecosystems occurring on lower land adjoining the Russell River.
- ◆ The area's complex mesophyll vine forest, wetland forests and wildlife corridor support a range of significant species including the southern cassowary.
- ◆ The locality is largely contained in the WTWHA.

Coastal management issues

- ◆ Vegetation clearing and agricultural drains have the potential to adversely affect the water quality and hydrology of the wetlands, promote weed invasion and threaten the viability of wildlife corridors.
- ◆ There has been loss of natural integrity due to invasion by pest species such as pond apple, feral pigs and hymenachne.

Tenure: NP, USL, FH

Key coastal site 7: Graham Range (maps 12 and 14)

Desired coastal outcomes

- ◆ Wildlife corridors are conserved and rehabilitated.
- ◆ The very high biodiversity of the wetlands (including the estuary and associated mangroves) and the rainforests of the Graham Range and the Russell River valley are maintained.
- ◆ The natural scenic landscape values of the Graham Range, Bramston Point and Mutchero Inlet are maintained.
- ◆ Drains on agricultural land adjacent to this site are designed and constructed to minimise adverse impacts on wetlands.
- ◆ The Russell and Mulgrave rivers' natural sediment supply is maintained to ensure coastal stability.
- ◆ Indigenous Traditional Owner cultural resources, values and practices are adequately recognised, respected and protected and Indigenous Traditional Owners are meaningfully involved in the planning for, and management of, these resources.

Description

This key coastal site abuts the Bramston key coastal site along the Graham Range. It includes Mutchero Inlet (the confluence of the Russell and Mulgrave rivers) a substantial portion of the Russell River Valley and Eubenangee Swamp. The site contains most of the Russell River National Park, which is in the WTWHA, and the Eubenangee Swamp National Park (both listed and described on the Register of the National Estate). Mutchero Inlet and tidal sections of the Mulgrave and Russell rivers are in the Cairns Marine Park.

Coastal localities within this key coastal site are: 7.1 Eubenangee, 7.2 Mutchero; 7.3 Russell Heads; and 7.4 Mount Josey.

Significant resources and their values

The following areas of state significance are located within this site (refer to policy 2.5.1 regarding those for Indigenous Traditional Owner cultural resources):

- ◆ scenic coastal landscapes (policy 2.7.1) — including areas within Mutchero (coastal locality 7.2), Russell Heads (coastal locality 7.3) and the Graham Range National Park; and
- ◆ natural resources (policy 2.8.1) — including areas within Eubenangee (coastal locality 7.1), Mutchero (coastal locality 7.2) and the Graham Range National Park.



Significant coastal resources (natural and cultural) and their values

- ◆ Bellenden Ker Granite forms a steep rugged coastline around Bramston Point. Quaternary alluvials and estuarine deposits to the west and northwest of the coastline are associated with the broad valleys of the Mulgrave and Russell rivers, which are estimated to supply about 15,000cu.m of sediment annually to this coastal sector. Quaternary dune deposits form a small coastal plain on the southern side of Mutchero Inlet. A sandy beach extends about 3km from Russell Heads to Bramston Point. Estuarine deposits occur around the margins of the inlet.
- ◆ The site has extensive areas of high natural integrity featuring some of the highest biodiversity in the Wet Tropics bioregion. Extensive remnant vegetation is dominated by complex mesophyll vine forest and mesophyll vine forest with subordinate vine forest. These rainforests contain endangered regional ecosystems.
- ◆ The site contains the following three wetlands which are listed and described in the *Directory of Important Wetlands in Australia* (2nd edition, 1996):
 - Alexandra Palm Forest Wetland, which is in a section of national park along the Russell River. This palm dominated wetland forest is the only significant area of this type left in the Wet Tropics bioregion. Its mangrove forests are significant for maintenance of fisheries values and are particularly extensive around the confluence of the Russell and Mulgrave rivers;
 - Eubenangee–Alice River Wetland, which is formed by the Alice River and the wetlands located on the coastal plain adjoining the Russell River. This wetland provides important estuarine crocodile habitat; and
 - Russell River Wetland, which is formed by the dune system and wetlands associated with the confluence of the Russell and Mulgrave rivers.
- ◆ The site contains important habitat for rare and threatened fauna including the southern cassowary and estuarine crocodile.
- ◆ The scenic backdrop of the rainforest-clad Graham Range including the rocky headland of Bramston Point, extensive mangrove forests at Mutchero Inlet, coastal dune forests and sandy beaches combine to form a landscape of high-to-very-high scenic quality.
- ◆ The Russell River wildlife corridor provides an important link from the uplands to the wetland on the river's western floodplain.
- ◆ A range of Indigenous Traditional Owner cultural resources contribute to a rich and dynamic cultural landscape.

Significant social and economic resources and their values

- ◆ The inlet at Russell Heads provides an outstanding recreational and tourism resource and a strategic 'gateway' to the Frankland Islands.
- ◆ Russell Heads is a relatively small coastal settlement that can only be accessed by boat. It has significant recreational values for the local community. It provides ready access to long sandy beaches extending north and south of the inlet's mouth, and the Frankland Islands. Popular recreational activities include camping, beachcombing, boating and fishing.
- ◆ The public boat ramps at Deeral (Mulgrave River) and Bellenden Ker (Russell River) provide recreational boating opportunities.
- ◆ Intensive sugar cane production occurs along the lower western flanks of the Graham Range and along the Mulgrave and Russell River valleys.
- ◆ Commercial sand extraction occurs in the Russell and Mulgrave rivers.

Coastal management issues

- ◆ Clearing vegetation for agricultural activities has the potential to threaten the viability of the wildlife corridors and adversely affect the high biodiversity values of the wetlands (including the estuary and associated mangroves) and rainforests of the Graham Range and the Russell River valley.
- ◆ The natural scenic landscape values of the Graham Range, Bramston Point and Mutchero Inlet would be adversely impacted by inappropriate development.



- ◆ Agricultural drains adjacent to this site may lower the watertable and impact on wetlands. Some areas in the valleys have a high risk from acid sulfate soil.
- ◆ Residential development has occurred within the erosion prone area on the unstable sand spit at the mouth of Mutchero Inlet. Protection of these residences may result in adverse impacts on coastal resources and their values.
- ◆ Sand extraction has the potential to disrupt natural sand supply to the coast, which may cause significant erosion problems, particularly at Russell Heads.
- ◆ Indigenous Traditional Owner cultural resources require adequate recognition and protection and the meaningful involvement of the Indigenous Traditional Owners in the planning, management and coordination processes relating to these cultural resources.

Coastal locality 7.1: Eubenangee (map 14)

Desired coastal outcomes

- ◆ The wetlands are conserved and rehabilitated to maintain and restore biodiversity and natural integrity, including connectivity to the adjacent forested ranges.
- ◆ The clearing of native vegetation is managed to minimise impacts on the wetland, wildlife corridor and biodiversity.
- ◆ Remnant native vegetation on agricultural land is conserved.
- ◆ Pest species including feral pigs, harungana, hymenachne and pond apple are controlled.

Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ The Eubenangee-Alice River Wetland:
 - is one of the best examples of a freshwater wetland mosaic on alluvial and basaltic soils in the Wet Tropics bioregion;
 - contains ‘of concern’ and endangered regional ecosystems and is a significant habitat for estuarine crocodiles and internationally significant birds;
 - acts as an important nutrient trap and filter for the Russell River, moderating potential impacts from adjacent agricultural land; and
 - forms part of an important corridor linking the forested ranges (dominated by a mix of complex mesophyll vine forest and vine forest) to the south (Mount Chalmynia area) and the Graham Range to the north via coastal locality 7.4 (East Russell).
- ◆ Most of the forested ranges are within the WTWHA.

Coastal management issues

- ◆ Clearing of natural vegetation for agricultural activities has the potential to threaten the viability of the wildlife corridor.
- ◆ The integrity of the wetland system and its connectivity to the adjoining ranges may be threatened by agricultural activities.
- ◆ Impacts from adjoining agricultural activities such as fires, weeds, drains and water extraction may result in loss of habitat and deterioration of water quality.
- ◆ Significant pest species such as feral pigs, harungana, hymenachne and pond apple have the potential to impact on the natural values of the area.

Tenure: FH, NP, USL, LL



Eubenangee Swamp



Coastal locality 7.2: Mutchero (map 14)

Desired coastal outcomes

- ◆ World Heritage values are maintained, including the diverse wetlands, as well as habitats for rare and threatened species including the southern cassowary and estuarine crocodile.
- ◆ Conservation and rehabilitation of riparian vegetation and management of agricultural drains contributes to maintaining water quality and wetland values.
- ◆ Riparian vegetation is retained and rehabilitated to conserve the particularly diverse and unique aquatic fauna of Harvey Creek.
- ◆ Water quality values are maintained and enhanced for the Russell River and associated streams through the conservation and revegetation of riparian areas.
- ◆ The clearing of native vegetation and its cumulative impacts are managed to minimise impacts on the biodiversity significance of remnant vegetation and on hydrology and drainage.
- ◆ Remnant native vegetation on agricultural land is conserved.
- ◆ Management of sand extraction from the Russell and Mulgrave rivers considers the potential adverse effects of erosion along the coast and the important contribution the rivers make to the sand replenishment process.
- ◆ The volume of water extracted from the Russell and Mulgrave rivers and their tributaries does not adversely affect the natural river ecosystem or allow salt intrusion further upstream.
- ◆ Pest species including feral pigs, pond apple and hymenachne are controlled.
- ◆ Land and marine resource managers, including the appropriate Indigenous Traditional Owners, coordinate in matters relating to planning and management.

Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ This locality includes the catchments of the Russell and Mulgrave rivers and Mutchero Inlet, which results from the confluence of these rivers.
- ◆ A significant part of the locality is in the WTWHA and forms the Russell River Wetland. There are extensive, high integrity saline and freshwater wetlands containing endangered and 'of concern' regional ecosystems. The wetlands and associated endangered regional ecosystems are areas of state significance (natural resources). These wetlands stabilise the Russell River in times of high flow and reduce sediment runoff to the coast.
- ◆ Riparian vegetation along Harvey Creek forms an important wildlife corridor between the coast and the Bellenden Ker Range.
- ◆ Mutchero Inlet has a high diversity of mangroves (one of the most diverse in the Russell/Mulgrave system) and features a number of rare and threatened species. It is an important habitat for crocodiles and an important area for plants and animals such as *Dendrobium nindii*, the primitive angiosperm *Idiospermum australiense* and the southern cassowary. It also exhibits a number of icon rainforest plant species such as the *Licuala* palm and kauri pine.
- ◆ Harvey Creek has particularly high water quality and supports unusually diverse aquatic fauna including the Cairns soft-finned rainbowfish, three endangered stream-dwelling frogs and a lowland population of platypus. Several endemic lowland plant species are associated with this locality.

Significant social and economic resources and their values

- ◆ The Russell and Mulgrave rivers provide the main access to the Frankland Islands.
- ◆ The locality has high recreational and tourism values.

Coastal management issues

- ◆ Agricultural activities have resulted in substantial removal of riparian vegetation and habitat fragmentation along Russell and Harvey creeks, threatening wildlife corridors and water quality.
- ◆ The clearing of native vegetation needs to be managed to minimise impacts, including cumulative impacts, on the biodiversity significance of remnant vegetation and on hydrology and drainage.



- ◆ Parts of the locality contain soils with high risk from acid sulfate soil.
- ◆ Management of water extraction needs to allow for adequate flows to maintain biodiversity.
- ◆ There is a potential for upstream water extraction to reduce dry season flows and allow saltwater intrusion.
- ◆ Unsustainable sand extraction may disrupt the natural sand supply to the coast and cause significant erosion problems for this coastal sector.
- ◆ Pest species such as feral pigs, pond apple and hymenachne have the potential to impact on the natural values of the area.
- ◆ Due to the multiple jurisdictions involving tenures such as reserves, a marine park and national park there is a need for coordination between the relevant land and marine resource managers, including the appropriate Indigenous Traditional Owners, in matters relating to planning and management.

Tenure: FH, NP, MP, USL, LL, RE

Coastal locality 7.3: Russell Heads (map 14)

Desired coastal outcomes

- ◆ Further intensification of land use does not occur on the sand spit at Russell Heads.
- ◆ Waste management in the sand spit area incorporates environmentally sustainable waste-disposal methods and sewage treatment systems.
- ◆ Private land associated with the sand spit and erosion prone areas is acquired for beach protection and management or conservation purposes where available.
- ◆ Development has minimal visual impact.
- ◆ Future use of the following listed reserves is consistent with their dedicated purpose and includes the community purposes of 'environmental purposes' and 'beach protection and coastal management'. The reserves are properly and effectively managed in accordance with an approved management plan:
 - Reserve lot 1, plan WS8686;
 - Reserve lot 10, plan NR3616; and
 - Reserve lot 100, plan NR 6527.
- ◆ The esplanade is retained in its natural condition, free of development.

Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ The mouth of Mutchero Inlet contains estuarine complexes of high natural integrity. A substantial part of the locality is in the WTWHA.
- ◆ The locality generally has very high scenic values.
- ◆ Turtle nesting occurs along the sandy foreshore.

Significant social and economic resources and their values

- ◆ The small settlement of Russell Heads is located on a sandspit at the mouth of Mutchero Inlet.
- ◆ The locality has high recreational values, particularly for boating and fishing.

Coastal management issues

- ◆ Residential development on the unstable sand spit at Russell Heads may need protection from erosion, which is likely to have adverse impacts on coastal resources and their values.
- ◆ Inappropriate management of waste including sewage may affect water quality.
- ◆ Further development at Russell Heads has the potential to impact on scenic and natural values.



Russell Heads



Key coastal sites

- ◆ Reserves (lot 10, plan NR3616; lot 100, plan NR6527; and lot 1, plan WS8686) need to be managed to conserve their high environmental values and features, including their beach protection significance.

Tenure: FH, LL, RE, MP, NP, Esp

Coastal locality 7.4: Mount Josey (map 14)

Desired coastal outcomes

- ◆ The complex mesophyll vine forests on the range and the freshwater and estuarine wetlands are conserved and rehabilitated.
- ◆ Water quality is maintained by conservation and rehabilitation of the riparian vegetation.
- ◆ The clearing of native vegetation is managed to minimise impacts, including cumulative impacts, on the water quality of the Russell River, the wildlife corridor, biodiversity and associated World Heritage values.
- ◆ Remnant native vegetation on agricultural land is conserved.
- ◆ Pest species including feral pigs, harungana and pond apple are controlled.

Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ Complex mesophyll vine forest occurs on the steep western slopes of the Graham Range, grading to freshwater wetlands and estuarine communities on the floodplain associated with the Russell River.
- ◆ The remnant vegetation provides important southern cassowary habitat and creates a link between coastal lowlands and the range. The wetlands provide important estuarine crocodile habitat.
- ◆ Parts of the locality are in the WTWHA.

Coastal management issues

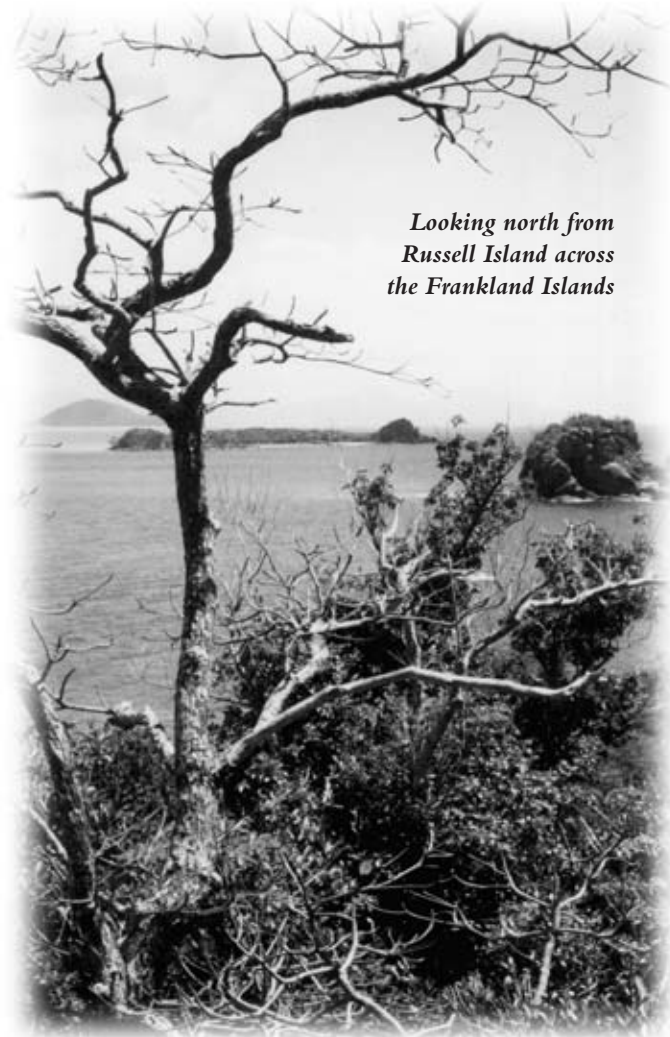
- ◆ The clearing of native vegetation needs to be managed to minimise impacts on the water quality of the Russell River, the wildlife corridor and biodiversity.
- ◆ Significant pest species such as feral pigs, harungana and pond apple have the potential to impact on the natural values of the area.

Tenure: NP, FH

Key coastal site 8: Frankland Islands (maps 12 and 14)

Desired coastal outcomes

- ◆ Biodiversity is maintained and enhanced through wildlife protection (particularly for the little tern, beach stone-curlew, pied imperial-pigeon, sea eagle, osprey and spectacled flying fox) especially during breeding periods.
- ◆ The natural scenic landscape values and the semi-remote natural setting are maintained through the provision of minimal infrastructure.
- ◆ Recreation and tourism opportunities remain nature-based and low key with minimal impacts.
- ◆ The islands of the entire Frankland Group, including the Commonwealth owned Russell Island, are managed in a complementary manner consistent with the *Frankland Group National Park Management Plan*.



*Looking north from
Russell Island across
the Frankland Islands*



- ◆ Indigenous Traditional Owner cultural resources, values and practices are adequately recognised, respected and protected and Indigenous Traditional Owners are meaningfully involved in the planning for and management of these resources.

Description

The Frankland Islands key coastal site comprises a group of six undeveloped continental islands extending up to 13km from Mutchero Inlet (the confluence of the Russell and Mulgrave rivers). The Frankland Islands are in the GBRWHA. Four of the islands (High, Normanby, Mabel and Round) are part of the national park and are listed and described on the Register of the National Estate, with surrounding waters (featuring fringing reefs) being part of the Cairns Marine Park and Great Barrier Reef Marine Park. Russell Island is part of the Great Barrier Reef Marine Park.

The coastal locality within this key coastal site is 8.1 Russell Island.

Significant resources and their values

The following areas of state significance are located within this site (refer to policy 2.5.1 regarding those for Indigenous Traditional Owner cultural resources):

- ◆ scenic coastal landscapes (policy 2.7.1) — entire Frankland Islands group, including Russell Island (coastal locality 8.1); and
- ◆ natural resources (policy 2.8.1) — Russell Island (coastal locality 8.1) and the Frankland Group National Park, including High, Normanby, Mabel and Round islands.

Significant coastal resources (natural and cultural) and their values

- ◆ The islands have high natural integrity and are characterised by substantial outcrops of Barnard Metamorphics. Landforms include shallow rocky reefs, extensive fringing coral reefs, sand spits, white sandy beaches and a tidal lagoon. High and Russell islands are relatively rugged. Several islands support lush tropical rainforest or open forest with pockets of mangroves.
- ◆ The islands provide important habitat for numerous species of birds including the little tern and the vulnerable beach stone-curlew. A colony of the migratory pied imperial-pigeon breeds on Normanby Island. Russell Island supports colonies of the vulnerable spectacled flying fox and breeding pairs of sea-eagles and ospreys.
- ◆ The island group has very high scenic landscape values resulting from their high natural integrity and diverse landforms.
- ◆ A range of Indigenous Traditional Owner cultural resources contribute to a rich and dynamic cultural landscape. Coastal Yidinji and Gunggandji people recognise the islands as part of their 'sea country'. The waters and fringing reefs around the islands remain the focus for traditional use of natural resources.

Significant social and economic resources and their values

- ◆ The Frankland Islands provide high recreational, tourism and educational values linked to their diverse landforms, flora, fauna, cultural associations and sites, which exist in an undisturbed remote setting.
- ◆ The islands offer a range of nature-based opportunities including self-reliant camping in a remote and uncrowded location, snorkelling, fishing and sightseeing.
- ◆ Part of Russell Island is a Commonwealth lighthouse reserve.

Coastal management issues

- ◆ Unmanaged visitor access may adversely impact on the natural resources (e.g. fringing coral reefs, sea bird and bat colonies), World Heritage values and visitor experience.
- ◆ Marine and tourism infrastructure may adversely affect the spectacular landscape values.
- ◆ Management of the Frankland Islands, including Russell Island, should occur in a complementary manner and according to the *Frankland Group National Park Management Plan*.
- ◆ Indigenous Traditional Owner cultural resources require adequate recognition and protection and the meaningful involvement of the Indigenous Traditional Owners in the planning, management and coordination processes relating to these cultural resources.



Coastal locality 8.1: Russell Island (map 14)

Desired coastal outcomes

- ◆ The island's high natural integrity, which includes habitat for insectivorous bats, spectacled flying foxes, pied imperial-pigeons and beach stone-curlews is maintained.
- ◆ Management of Russell Island has the same protected area management focus as the neighbouring national park islands in the Frankland Islands.
- ◆ Public access to the island's recreational facilities and the lighthouse is maintained.



Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ Russell Island is in the GBRWHA and has high natural values associated with rocky outcrops densely covered with rainforest plants, surrounding coral and rocky reefs, secluded beaches and a vegetated sand spit.
- ◆ Russell Island provides habitat for insectivorous bats, spectacled flying foxes and eleven bird species including pied imperial-pigeons and beach stone-curlews.
- ◆ The island is of important cultural significance to Indigenous Traditional Owners.
- ◆ The island's lighthouse has cultural heritage values.

Significant social and economic resources and their values

- ◆ Russell Island is a popular and easily accessible island with high recreational values, including boating, swimming and camping.

Coastal management issues

- ◆ Management of visitor access should ensure that the high natural integrity of the island is maintained.
- ◆ Management needs to be consistent with the approved plan for the national park islands of the Frankland Islands group and consistent with the Great Barrier Reef Marine Park Plan of Management and its designation as a low use semi-remote recreational area.

Tenure: Commonwealth land, MP

Key coastal site 9: Malbon Thompson (maps 12 and 15)

Desired coastal outcomes

- ◆ Appropriate management regimes are in place to maintain the extent and diversity of wildlife habitat, particularly the rainforests of the Malbon Thompson Range and the neighbouring dune systems and wetlands, which provide important habitat for the southern cassowary.
- ◆ The natural scenic coastal and island landscape character (part of the site's World Heritage values) are maintained, particularly the forested Malbon Thompson and Murray Prior ranges and Deception Point, False Cape and Cape Grafton.
- ◆ Tourism and recreational use has minimal impact on coastal resources and is compatible with the semi-remote, natural setting.
- ◆ Dugongs and their habitats are conserved. Boating activities are managed to minimise dugong strikes and disturbance of feeding areas such as seagrass beds.



- ◆ Cooperative management arrangements are developed with Indigenous Traditional Owners for the sustainable management of dugong and other marine species.
- ◆ A planning scheme or similar arrangement is prepared for the Yarrabah DOGIT area.
- ◆ Land and marine resource managers, including the Yarrabah community and the appropriate Indigenous Traditional Owners, coordinate in matters relating to planning and management.
- ◆ Indigenous Traditional Owner cultural resources, values and practices are adequately recognised, respected and protected and Indigenous Traditional Owners are meaningfully involved in the planning for, and management of, these resources.

Description

This key coastal site incorporates the entire Malbon Thompson, Nisbet and Murray Prior ranges and the Yarrabah Peninsula. It also includes Fitzroy Island. The site contains the Malbon Thompson Forest Reserve and the Grey Peaks National Park (both are in the WTWHA and are listed and described on the Register of the National Estate). Most of Fitzroy Island is also national park and part of the GBRWHA, with surrounding waters part of the Great Barrier Reef Marine Park and Cairns Marine Park.

Coastal localities within this key coastal site are: 9.1 Russell Heads north; 9.2 Eastern Malbon Thompson; 9.3 Western Malbon Thompson; 9.4 Yarrabah Peninsula; and 9.5 Fitzroy Island.

Significant resources and their values

The following areas of state significance are located within this site (refer to policy 2.5.1 regarding those for Indigenous Traditional Owner cultural resources):

- ◆ cultural heritage (policy 2.6.1) — including areas within Western Malbon Thompson (coastal locality 9.3);
- ◆ scenic coastal landscapes (policy 2.7.1) — including areas within Russell Heads north (coastal locality 9.1), Eastern Malbon Thompson (coastal locality 9.2), Yarrabah Peninsula (coastal locality 9.4) and Fitzroy Island (coastal locality 9.5); and
- ◆ natural resources (policy 2.8.1) — including areas within Russell Heads north (coastal locality 9.1), Eastern Malbon Thompson (coastal locality 9.2) and Yarrabah Peninsula (coastal locality 9.4).

Significant coastal resources (natural and cultural) and their values

- ◆ Relatively erosion-resistant granites form the prominent features of False Cape and Cape Grafton. Quaternary alluvial fan deposits west of the Malbon Thompson (Bellenden Ker Granite), Nisbet and Murray Prior ranges (unnamed granite) form the eastern edge of the Mulgrave Valley and Trinity Inlet. Quaternary alluvial fan deposits marginal to dune systems and freshwater swamp deposits occur east of the ranges (e.g. south of Palmer Point and in the Oombunghi-Yarrabah township corridor). The dunes are associated with six significant beaches between Mutchero Inlet and Yarrabah township. The elongate parabolic dunes at Cape Grafton are unique along the Queensland coast. Mission Bay contains the small Rocky Island and is largely framed by prominent granitic headlands.
- ◆ The westerly group of ranges contain extensive areas of high natural integrity, diverse remnant vegetation dominated by a mosaic of mesophyll vine forests with subordinate simple notophyll vine forests and vine forests with eucalypts and acacias. Open forests and woodlands dominate the Mount Yarrabah-False Cape area. The Yarrabah Peninsula is a complex mosaic of open forests, woodlands and shrublands and has the region's most extensive vine forests with eucalypts and acacias. The peninsula also contains the largest surviving remnant of mesophyll palm vine forest in the Wet Tropics bioregion and a large sedge-dominated wetland. The peninsula's vegetation communities have high overall natural integrity and contain 'of concern' and endangered regional ecosystems.
- ◆ The inshore marine area contains rare and threatened fauna such as the Irrawaddy and Indo-Pacific humpback dolphins, dugong and turtles.
- ◆ The rainforest areas of the Malbon Thompson Range contain important habitat for rare and threatened rainforest species, endangered rainforest community types and areas of special evolutionary significance.



Key coastal sites

- ◆ The freshwater wetlands south of Palmer Point, including the dune system, form an important part of the Russell River Wetland, which is listed and described in the *Directory of Important Wetlands in Australia* (2nd edition, 1996).
- ◆ Mission Bay, between False Cape and Cape Grafton, is zoned 'estuarine conservation' under the State marine park and has very high scenic values and natural integrity. It contains seagrass beds that form important dugong habitat and are areas of state significance (natural resources — significant coastal wetlands).
- ◆ Mission Bay is an important recreation area for the local Indigenous community and is also used by recreational sailing vessels to shelter in bad weather.
- ◆ The scenic backdrop of the forested Malbon Thompson and Murray Prior ranges (Bell Peak North 1026m) and the rugged headland features of Deception Point, False Cape and Cape Grafton, combined with coastal dune forests, mangroves and sandy beaches form a landscape of generally very high scenic quality. It is the only area south of Cairns where there is an unbroken continuum of forest from the coast rising over 1000m to the scenic rim.
- ◆ The rugged, largely inaccessible nature of substantial parts of this site has created significant wilderness values and has acted to maintain high natural integrity, particularly in the coastal sector south of Oombunghi.
- ◆ A range of Indigenous Traditional Owner cultural resources contribute to a rich and dynamic cultural landscape. This site forms part of the traditional lands of Indigenous Traditional Owners, who still reside in the Yarrabah Aboriginal community. The DOGIT area has special economic and social significance for this community and high cultural significance including story places, hunting areas and archaeological sites.
- ◆ False Cape has cultural heritage values associated with its use as a World War II defence facility for the Cairns Seaport. This area was once a leper colony and is of continuing cultural significance to both the local Indigenous and non-Indigenous community.

Significant social and economic resources and their values

- ◆ Yarrabah township is the main coastal town. Giangurra and Koombal are smaller coastal settlements. Dispersed rural and residential development occurs, particularly in the Oombunghi-Yarrabah township corridor and around the western flanks of the Malbon Thompson and Murray Prior ranges. Agricultural crops (mainly sugar cane) are grown in various areas flanking the western ranges.
- ◆ The site contains areas of high recreational value, particularly for the Yarrabah community (e.g. Mission Bay and Oombunghi Beach). Areas south of Palmer Point and within the forest reserve provide opportunities to the general community for self-reliant camping and hiking in a remote setting.
- ◆ Fitzroy Island is an important regional recreation and tourism area.

Coastal management issues

- ◆ Road construction associated with residential development and tourism has the potential to adversely impact on the site's scenic values, natural integrity and water quality.
- ◆ Inappropriate land clearing generally associated with residential and tourism development may adversely impact on biodiversity and water quality.
- ◆ Substantial boating traffic through Mission Bay including fast tourist ferries has the potential to cause dugong strikes or disturbance to dugong feeding.
- ◆ Fitzroy Island requires an approved national park management plan (that also takes into account adjacent land use), given its high biodiversity and significance for recreational and tourism use.
- ◆ The Yarrabah DOGIT area does not have a planning scheme.
- ◆ Due to the multiple jurisdictions involving several tenures such as marine parks and DOGIT area there is a need for coordination between the relevant land and marine resource managers, including the appropriate Indigenous Traditional Owners, in matters relating to planning and management.
- ◆ Indigenous Traditional Owner cultural resources require adequate recognition and protection and the meaningful involvement of the Indigenous Traditional Owners in the planning for, and management of, these cultural resources.



Coastal locality 9.1: Russell Heads north (map 15)

Desired coastal outcomes

- ◆ The significant dune/swale systems are managed to maintain their integrity and outstanding World Heritage values.
- ◆ The very high scenic values and diverse mosaic of lowland vegetation types including wetlands are maintained.
- ◆ Land use and planning is consistent with the erosion prone nature of the Woolanmaroo site and no development or infrastructure occurs in order to maintain the very high scenic values, the integrity of the significant dune/swale systems and the diverse mosaic of lowland vegetation types including wetlands.
- ◆ Land is acquired for conservation purposes where appropriate.
- ◆ The conservation values of the USL (expired lease lot 105, plan NR5260) are recognised and conserved consistent with its World Heritage values.
- ◆ Future use of the reserve (lot 123, plan NR6784) is consistent with its dedicated purpose and includes the community purpose of 'environmental purposes'. The reserve is properly and effectively managed in accordance with an approved management plan.
- ◆ Remnant native vegetation on freehold land is conserved.
- ◆ Any recreational or tourism use does not require infrastructure and is low impact.
- ◆ Pest species including feral pigs are controlled.
- ◆ The site is managed in a coordinated and complementary manner between the various land and marine resource managers, including the appropriate Indigenous Traditional Owners.

Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ A well-developed dune/swale system is associated with 'of concern' and endangered regional ecosystems between Russell Heads and Palmer Point. This system supports intact complex mesophyll vine forest.
- ◆ This locality is ranked as one of the most outstanding and diverse areas of the Wet Tropics lowlands. It contains a unique assemblage of vegetation communities and many rare and threatened species, such as swamp orchids, beach stone-curlews and a substantial southern cassowary population.
- ◆ The dune/swale wetland forms part of the Russell River Wetland and the entire locality is in the WTWHA. The wetland including the associated endangered regional ecosystems and vegetated dune system are areas of state significance (natural resources - significant coastal wetlands, endangered regional ecosystems and significant coastal dune systems). The wetland provides an important nutrient trap and filter for the water draining from the southern end of the Malbon Thompson Range to the coast.
- ◆ The area north of the Russell Heads settlement has high wilderness values. The locality is also associated with very high scenic values and is an area of state significance (scenic coastal landscapes).

Significant social and economic resources and their values

- ◆ The area has high scientific importance associated with its high natural integrity. It provides possibly the only remaining opportunity within the Wet Tropics bioregion to ensure conservation of a significant freshwater wetland.
- ◆ This locality contains the undeveloped subdivision of Woolanmaroo, which is partly in the defined erosion prone area.

Coastal management issues

- ◆ Residential development in the undeveloped subdivision of Woolanmaroo, or other land uses such as ecotourism or camping area development in the adjacent reserve (lot 123, plan NR6784) or USL (expired lease lot 105, plan NR5260) would potentially threaten the area's exceptional coastal resources, including the unique and significant dune/swale system and associated wetlands and scenic values.
- ◆ Feral cattle and pigs threaten the integrity of the significant freshwater wetland.



Key coastal sites

- ◆ The reserve and USL need to be managed to conserve their high environmental values and features.
- ◆ The undeveloped esplanade is unsuitable for development and should be retained in its natural condition.
- ◆ There is a need for coordination between the relevant land resource managers, including Indigenous Traditional Owners, in matters relating to planning and management.

Tenure: DOGIT, USL, FH, FR, RE, Esp

Coastal locality 9.2: Eastern Malbon Thompson (map 15)

Desired coastal outcomes

- ◆ The important vegetation types and their dependent rare and threatened fauna are conserved.
- ◆ Development and recreational activities are planned and managed to ensure that scenic values and areas of high natural integrity are not compromised.
- ◆ Coordinated management occurs among the various land and marine resource managers, including the Yarrabah Community Council and the appropriate Indigenous Traditional Owners, across the land-sea interface.

Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ The locality is part of an impressive coastal range with high natural integrity and is dominated by complex mesophyll vine forest with subordinate simple notophyll vine forest.
- ◆ It is an area of state significance for scenic coastal landscapes and the coastline and hinterland have high wilderness value.
- ◆ The locality has the most extensive examples of vine forest with eucalypts and acacias in the region and contains the largest surviving remnant of mesophyll palm vine forest in the Wet Tropics bioregion.
- ◆ The coastline is generally rocky, however, a significant vegetated dune/swale system and associated beach is situated south of Buddabadoo Creek. The wetland including the associated endangered regional ecosystems and vegetated dune systems are areas of state significance (natural resources — significant coastal wetlands, significant coastal dune systems and endangered regional ecosystems).
- ◆ There are significant natural values with many rare and threatened fauna, including important southern cassowary habitat.
- ◆ The entire locality is in the WTWHA and is mostly designated as Zone A in the *Wet Tropics Management Plan 1998*.

Significant social and economic resources and their values

- ◆ A small estuary at the mouth of Buddabadoo Creek is associated with minor residential development and recreational use.

Coastal management issues

- ◆ The locality is largely pristine and may be adversely impacted by inappropriate recreational and development activity.
- ◆ Due to the multiple jurisdictions (DOGIT area, marine parks, World Heritage area) there is potential for lack of coordination between the relevant land and marine resource managers, including the appropriate Indigenous Traditional Owners, in matters relating to planning and management.

Tenure: DOGIT

Coastal locality 9.3: Western Malbon Thompson (map 15)

Desired coastal outcomes

- ◆ The World Heritage values of the complex mesophyll vine forested slopes and sclerophyll-clad ridges, which support a diverse fauna (including rare and threatened species such as the southern cassowary), are maintained and rehabilitated.



- ◆ The clearing of native vegetation is managed to minimise erosion and adverse impacts on the water quality of Trinity Inlet and maintain biodiversity.
- ◆ Scenic values and water quality are maintained through the rehabilitation of habitat and riparian vegetation.
- ◆ Remnant native vegetation on agricultural land is conserved.
- ◆ A coordinated fire management strategy is developed and implemented involving all stakeholders to maintain biodiversity, particularly on the slopes of the range.
- ◆ The natural, historic and Indigenous Traditional Owner cultural and scenic values at False Cape are conserved and adequately considered in any proposed development of the site.
- ◆ Private maritime infrastructure is not installed around False Cape due to high coastal values and potential adverse impacts on rare and threatened species.
- ◆ Management of Giangurra minimises impacts on coastal resources, protects the foreshore vegetation and maintains the physical and visual integrity of the foreshore and esplanades.
- ◆ Future use of the listed reserves is consistent with their dedicated purpose and includes the community purpose of 'environmental purposes'. The reserves are properly and effectively managed in accordance with an approved management plan:
 - Reserve lot 204, plan NR7567; and
 - Reserve lot 111, plan NR7962.

Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ The rugged ranges have high scenic values and contain part of the western watershed of the Malbon Thompson and Murray Prior ranges, which is a significant catchment area for the Mulgrave River and Trinity Inlet. The ranges have high natural integrity and are vegetated with a mix of communities dominated by complex mesophyll vine forest with subordinate notophyll vine forests and woodlands. These forests contain 'of concern' regional ecosystems.
- ◆ The locality contains important southern cassowary habitat. Together with Eastern Malbon Thompson (coastal locality 9.2), this locality has the most extensive examples of vine forest with eucalypts and acacias in the region and contains the largest surviving remnant of mesophyll vine forest in the Wet Tropics bioregion.
- ◆ Most of the locality, including the forest reserve near Giangurra, is in the WTWHA.
- ◆ False Cape is a prominent highly scenic granite headland with forests and woodlands, which have high natural integrity. False Cape has significant cultural heritage values including rock paintings and story places. False Cape Second World War Defence Facility is an area of state significance (cultural heritage).
- ◆ Seagrass beds in the protected bays and Sturt Cove support dugong and turtles. Irrawaddy and Indo-Pacific humpback dolphins are found in the inshore area, which is part of the State marine parks.

Significant social and economic resources and their values

- ◆ The small residential settlement of Giangurra features a sandy beach interspersed with rocky headlands against the scenic backdrop of the Murray Prior Range.
- ◆ There are many historical values including a wartime gun emplacement and ancillary structures and the remains of infrastructure that supported a leper colony.
- ◆ Recreational fishing is popular.

Coastal management issues

- ◆ Clearing of native vegetation, particularly associated with agricultural activities on the lower foot-slopes, adversely impacts on biodiversity and scenic values and has the potential to create erosion problems and degrade water quality, particularly in Trinity Inlet.
- ◆ Unmanaged wildfire adversely affects the locality's biodiversity significance, particularly on the slopes.



Key coastal sites

- ◆ Potential issues for False Cape include impact of infrastructure on scenic values, unmanaged fires, damage to both Indigenous and historic cultural resources from development or inappropriate use and possible impacts on inshore marine areas from any maritime or adjacent development.
- ◆ Maintenance of scenic and natural values is an important issue for Giangerurra and the neighbouring area. The reserves (lot 204, plan NR7567 and lot 111, plan NR7962) need to be managed to conserve their high environmental values and features, including scenic values.
- ◆ The beaches are unsuitable for vehicle use, as this would compromise the experience for other users.

Tenure: NP, FH, FR, RE, Esp, LL, USL

Coastal locality 9.4: Yarrabah Peninsula (map 15)

Desired coastal outcomes

- ◆ The extensive wetlands and associated habitats are retained.
- ◆ Future development and vehicular access have minimal adverse impacts on the foreshore and scenic amenity values.
- ◆ Future development is limited to the Yarrabah township (avoiding the erosion prone area) and Oombunghi road corridor.
- ◆ The eastern portion of the locality remains free of development to retain its remote character and very high natural integrity.
- ◆ Sediment and stormwater controls are used in all works on the Yarrabah Road corridor to minimise impacts to Mission Bay, including potential impacts from the disturbance of acid sulfate soils.
- ◆ Residential development at Turtle Bay is sympathetic to the low-key, scenic and natural setting.
- ◆ Development at Oombunghi does not exacerbate erosion along the coastal access road, damage natural drainage characteristics or affect the natural integrity of the dune/swale system and lower foot-slopes of the Murray Prior Range.



Yarrabah township and Mission Bay

Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ This rugged peninsula fringes the Murray Prior Range and features two prominent granitic ridges. The lowlands between the ridges feature freshwater and estuarine wetlands, beaches and dune systems (including parabolic dunes).
- ◆ The peninsula vegetation includes woodlands, vine forests, shrublands, sedge wetlands and complex mesophyll vine forests with dominant palms. Many of these communities (classified as 'of concern' and endangered regional ecosystems) are atypical. They support rare and threatened fauna including the southern cassowary and estuarine crocodile and have high scientific and conservation values.
- ◆ The wetlands including the associated endangered regional ecosystems and vegetated dune systems are areas of state significance (natural resources).
- ◆ The Cape Grafton coastal sector is an area of state significance for scenic coastal landscapes.

Significant social and economic resources and their values

- ◆ Yarrabah township is located on the southern margin of Mission Bay with additional scattered settlement adjoining the road access corridor to Oombunghi Beach and along the southern end of Oombunghi Beach. The Yarrabah road corridor follows the base of the Murray Prior Range and provides a focus for community residential development.



- ◆ Scattered residential development adjoins the Oombunghi foreshore, south of Oombunghi Creek. It is accessed by a dirt road from Yarrabah township. This coastal sector's very high scenic values and high natural integrity provide nature-based recreational opportunities in a scenic remote setting.
- ◆ Turtle Bay's secluded and protected position on the rugged eastern portion of the peninsula provides very high scenic and high nature-based recreational values.
- ◆ The locality has important cultural and recreational values, particularly at the beaches.

Coastal management issues

- ◆ Settlement has the potential to adversely impact on the natural integrity of the peninsula and degrade scenic values. Areas associated with estuarine soils may have moderate-to-high risk for acid sulfate soil. The freshwater wetlands between Yarrabah and Oombunghi beaches may have a moderate-to-high risk for acid sulfate soil.
- ◆ Recreational activities such as vehicle use on beaches are a potential threat to the area's natural integrity.
- ◆ Residential development along the road corridor has the potential to further impact on the natural integrity of the area through loss of vegetation and weed invasion. An erosion prone area has been identified along Yarrabah Beach.
- ◆ Residential development at Oombunghi has the potential to adversely impact on coastal resources including scenic values. The road to Oombunghi has the potential to increase erosion problems in this area.
- ◆ Residential development at Turtle Bay may impact on the present low-key and scenic setting.
- ◆ Due to the multiple jurisdictions including marine parks and a DOGIT area there is a need for coordination between the relevant land and marine resource managers, including the Yarrabah Community Council and the appropriate Indigenous Traditional Owners, in matters relating to planning and management, particularly for the Oombunghi, King and Yarrabah beaches.

Tenure: DOGIT, RE

Coastal locality 9.5: Fitzroy Island (map 15)

Desired coastal outcomes

- ◆ The scenic amenity of the island is maintained by conservation of the foreshore and associated vegetation.
- ◆ Development of infrastructure is limited to the canopy height.
- ◆ The island is declared as a recreation area under the *Recreation Area Management Act 1988*.
- ◆ The sewage treatment systems are upgraded and managed appropriately to avoid impacts on water quality.
- ◆ Land and marine resource managers, including the appropriate Indigenous Traditional Owners, coordinate in matters pertaining to planning, management and economic development.
- ◆ Opportunities are available to Indigenous Traditional Owners to participate in planning, management and economic development.
- ◆ A management plan for the national park is finalised.

Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ Very high scenic and natural values are associated with this rugged vegetated granitic island, its few small beaches and fringing coral reef.
- ◆ The island and adjacent waters are areas of state significance (scenic coastal landscapes).
- ◆ Freshwater springs and areas of heath occur on the island.
- ◆ The vegetation supports a colony of spectacled flying foxes.
- ◆ The island is part of the GBRWHA and its adjacent waters are part of the Great Barrier Reef Marine Park and zoned in the State marine park as 'conservation park' and for 'habitat protection'.



Key coastal sites

- ◆ Fitzroy Island is of particular cultural significance to Indigenous Traditional Owners.
- ◆ Its cultural heritage and historical values include a lighthouse, a naval signal station and World War II gun emplacements.

Significant social and economic resources and their values

- ◆ Fitzroy Island has important recreational and tourism values.
- ◆ The more protected western side of the island contains some development including a resort and jetty.

Coastal management issues

- ◆ Infrastructure for tourism and industry needs to be carefully managed to avoid impacts on scenic values.
- ◆ The sewage treatment systems require upgrading to meet increasing demand. Ineffective management of sewage treatment systems can also lead to adverse impacts on water quality.
- ◆ An approved management plan for the national park is required that considers adjacent land uses and provides appropriate strategies for visitor management and maintenance of biodiversity.
- ◆ Coordinated management is required to adequately address a range of tourism, recreational and environmental matters including waste management, weeds and fire.
- ◆ Indigenous Traditional Owners seek greater involvement in the management and presentation of the island's resources and values and a greater role in the island's economic development. Unsustainable tourism has the potential to impact on Indigenous Traditional Owner cultural values.



Tenure: NP, USL, RE, MP, LL

Key coastal site 10: Trinity Inlet (maps 12 and 15)

Desired coastal outcomes

- ◆ The high natural values and biological productivity of the wetlands, including associated closed forest communities, are maintained to ensure the long-term sustainability of the inlet and its coastal resources.
- ◆ The mangroves, estuarine crocodiles and migratory birds associated with the inlet are conserved.
- ◆ Urban and rural land uses (including agricultural drains) and vessel discharges of waste and bilge water are managed to minimise impacts on water quality.
- ◆ Dugongs and their habitats are conserved. Boating activities are actively managed to minimise dugong strikes and the disturbance of feeding areas such as seagrass beds.
- ◆ Cooperative management arrangements are developed with Indigenous Traditional Owners for the sustainable management of dugong and other marine species.
- ◆ Indigenous Traditional Owner cultural resources, values and practices are adequately recognised, respected and protected and Indigenous Traditional Owners are meaningfully involved in the planning for, and management of, these resources.

Description

This key coastal site extends southwards to the coastal plain north of Green Hill from a line joining the mouth of the Barron River and False Cape. It contains the Cairns Seaport and abuts the Malbon Thompson site to the east. Cairns, although not part of the site, abuts its western boundary. The Port of Cairns and Trinity Inlet Wetland is listed and described on the Register of the National Estate and in the



Directory of Important Wetlands in Australia (2nd edition, 1996). A substantial part of its coastal waters are in the GBRWHA and the Trinity Inlet/Marlin Coast Marine Park.

Coastal localities within this key coastal site are: 10.1 Trinity and 10.2 Barron River delta.

Significant resources and their values

The following areas of state significance are located within this site (refer to policy 2.5.1 regarding those for Indigenous Traditional Owner cultural resources):

- ◆ social and economic (policy 2.1.1) — parts of the Cairns Seaport and Cairns International Airport;
- ◆ cultural heritage (policy 2.6.1) — the Cairns Yacht Club, Cairns War Memorial and Cairns Wharf Complex.
- ◆ natural resources (policy 2.8.1) — including areas within Trinity (coastal locality 10.1) and Barron River delta (coastal locality 10.2); and

Significant coastal resources (natural and cultural) and their values

- ◆ The inlet is a remarkable landform of about 11km long and 6km wide, comprised of a natural embayment cradled between coastal ranges. This landform and the resulting combination of habitats are unique in Queensland.
- ◆ Sediment from the Barron River is delivered at an estimated rate of 38,000cu.m annually, providing an outstanding example of coastal accretion in the Wet Tropics bioregion that is of particular importance as a record of recent sedimentation and coastal evolution in this region.
- ◆ The site's outstanding biodiversity and high natural integrity provides significant conservation values. Melaleuca open woodland, a range of mangrove communities, seagrass beds, salt marshes and tidal mudflats provide important habitat for rare and threatened plant and animal species. The mangrove forests are regarded as having a greater variety of habitat and species richness than other tidal wetlands in far north Queensland.
- ◆ The inlet's wetlands are largely intact and support large populations of birds, fish and prawns. The inlet provides habitat for migratory wading birds including species of national significance. The tidal flat off the Cairns Esplanade is one of four main wader sites between Cairns and Townsville and is the most important site for migratory waders in northeast Queensland. Much of the inlet has been declared a Fish Habitat Area, in recognition of the importance of the mangrove forests, freshwater wetlands and mudflats, which function as nurseries for juvenile fish and provide important habitat for estuarine crocodiles.
- ◆ Trinity Inlet has extensive seagrass beds and is one of only two major seagrass areas known to exist between Hinchinbrook Island and Cooktown. The seagrass beds in the region form part of a designated Fish Habitat Area (management areas A and B) (map 20). They provide essential food sources for dugong and green sea turtle, which are traditional food sources for Indigenous Traditional Owners. Seagrass beds also provide important habitat for development of commercial species of juvenile prawns, fish and crustacean communities and have an important role as nutrient and sediment sinks. The seagrass beds and associated waters are areas of state significance (natural resources — significant coastal wetlands).
- ◆ A range of Indigenous Traditional Owner cultural resources contribute to a rich and dynamic cultural landscape. Significant Indigenous economic and cultural values are associated with Trinity Inlet and the site continues to have high Indigenous Traditional Owner cultural heritage values.

Significant social and economic resources and their values

- ◆ Trinity Inlet provides significant economic values as it contains the Cairns Seaport, a naval base and fisheries and tourism resources. The Cairns Seaport is the major port for trading, defence and tourism in the far northern region (refer regional context of policy 2.1.1).
- ◆ Although Cairns is not located within this site, this major regional centre has a range of social, recreational, tourism and economic values that are linked to the site. The site provides a setting of high visual amenity adjoining the city.
- ◆ Two public boat ramps are located at Portsmouth, two at Edmonton and another at Redbank Creek.



Key coastal sites

- ◆ The high visual amenity of the site imparts substantial aesthetic benefits to the Cairns community and is an important focus for recreational activities.

Coastal management issues

- ◆ Urban and rural land uses (including agricultural drains) and discharges of waste and bilge water from vessels may have adverse impacts on the water quality of the adjoining wetlands.
- ◆ The recreational and tourism values of the estuary may be impaired by development that adversely impacts on water quality or scenic values.
- ◆ Maintenance of water quality is a substantial issue due to adjacent urban and rural uses, discharges of waste and bilge water by boats and agricultural drains that have disturbed acid sulfate soils and constrained tidal flushing. This site has areas with a moderate-to-high risk for acid sulfate soil.
- ◆ The substantial amount of boating traffic through this locality, including fast tourist ferries, may result in dugong strikes or disturbance to feeding dugong.
- ◆ Indigenous Traditional Owner cultural resources require adequate recognition and protection and the meaningful involvement of the Indigenous Traditional Owners in the planning, management and coordination processes relating to these cultural resources.

Coastal locality 10.1: Trinity (map 15)

Desired coastal outcomes

- ◆ Management of Trinity Inlet and environs by the various land and marine resource managers, including the appropriate Indigenous Traditional Owners, is coordinated and consistent with the aims and objectives of the State marine park and Fish Habitat Area.
- ◆ Pest management strategies are implemented to avoid the introduction of exotic marine pests and diseases.
- ◆ Conservation of the mangroves and associated freshwater wetlands ensures the continued productivity and natural processes of the estuary.
- ◆ Water quality monitoring is continued to ensure that the integrity of the estuarine system and its tributaries are not compromised.
- ◆ Land use changes in the catchment, including the expansion of urban areas, are managed so that conservation and water quality values within, and adjacent to, the locality are maintained and improved.
- ◆ Stormwater and sediment controls in the catchment prevent the entry of pollutants and sediment to the inlet.
- ◆ Remnant wetland areas are maintained and rehabilitated, for improved water quality, control of floodwaters and in recognition of their value to the amenity and character of the city.
- ◆ Future use of the following unallocated State land on the coast conserves the high environmental values and features, including significant coastal wetlands and scenic values, through the implementation of an appropriate management regime:
 - USL lot 36, plan AP7416;
 - USL lot 34, plan USL9876;
 - USL lot 3, plan USL9877;
 - USL lot 34, plan AP8372;
 - USL lot 2, plan USL9877;
 - USL lot 22, plan USL9877;
 - USL lot 45, plan AP3448;
 - USL lot 153, plan NR4373;
 - USL lot 70, plan USL9513;
 - USL lot 29, plan CP856770;
 - USL lot 2, plan AP3510;
 - USL lot 12, plan AP3442;





- USL lot 7, plan USL9986;
 - USL lot 3, plan USL21945;
 - USL lot 1, plan USL9875;
 - USL lot 8, plan USL9879;
 - USL lot 1, plan USL9878;
 - USL lot 1, plan USL9879;
 - USL lot 4, plan USL21944;
 - USL lot 155, plan NR4561;
 - USL lot 16, plan USL9897;
 - USL lot 16, plan USL9898;
 - USL lot 3, plan USL9879;
 - USL lot 2, plan USL9879; and
 - USL lot 4, plan AP9503.
- ◆ Future use of the following reserves is consistent with their dedicated purpose and includes the community purpose of ‘environmental purposes’. The reserves are properly and effectively managed in accordance with an approved management plan:
 - Reserve lot 146, plan SP129134; and
 - Reserve lot 92, plan NR3051.
 - ◆ The natural ecosystems of East Trinity are appropriately rehabilitated where possible to restore their ecological integrity and function.
 - ◆ Adverse impacts on tidal flushing and water quality from previous drainage modifications at East Trinity are mitigated where possible.

Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ Trinity Inlet is largely within the Trinity Inlet/Marlin Coast Marine Park and remains a significant cultural and economic resource for Indigenous Traditional Owners of the Cairns region.
- ◆ It has extensive mangrove and seagrass ecosystems with significant crocodile and fish habitat, including a Fish Habitat Area (management areas A and B).
- ◆ The inlet’s wetlands provide a valuable sediment and nutrient sink and the mangrove-lined waterways of the upper inlet have ‘near-wilderness’ character, which is unusual in an urban area. The wetlands including the minor associated endangered regional ecosystems and vegetated dune systems are areas of state significance (natural resources).
- ◆ It has high scenic values when viewed from Cairns and the coast and is an integral part of the major vista across the inlet, due to its remnant fringing mangrove forests.

Significant social and economic resources and their values

- ◆ Trinity Inlet contains the major shipping port for the region. The naval base HMAS Cairns is located within the shipping port.
- ◆ East Trinity has a substantial bund wall and reclaimed areas. The site was previously modified for sugar cane production.
- ◆ The locality has high tourist and recreational values, including sailing, boating, skiing and fishing.

Coastal management issues

- ◆ The maintenance of water quality is a substantial issue due to adjacent urban and rural land uses and discharges of waste and bilge water by vessels. Exotic marine species and diseases may be introduced by visiting vessels. Increasing urbanisation has the potential to further impact on water quality of the inlet.
- ◆ Much of the inlet is surrounded by cleared land and edge effects such as weed invasion are significant. There is a moderate-to-high risk for acid sulfate soil.



Key coastal sites

- ◆ Drainage modification at East Trinity has disturbed acid sulfate soil and constrained tidal flushing. There has been substantial habitat loss and environmental change due to past agricultural activities.
- ◆ There are several USL parcels and reserves that need to be managed to conserve their high environmental and scenic values.
- ◆ Due to the multiple jurisdictions involving marine park, port land, USL and reserves, there is a need for coordination between the relevant land and marine resource managers, including the appropriate Indigenous Traditional Owners, in matters relating to planning and management.

Tenure: State owned land, LL, USL RE, FH, MP, Esp

Coastal locality 10.2: Barron River delta (map 15)

Desired coastal outcomes

- ◆ The deltaic wetland's significant environmental values (which include unusual mangrove communities and habitat for migrant waders) on Cairns Port Authority land are conserved.
- ◆ Recreational use has minimal impact on foreshore vegetation.
- ◆ Recreational vehicle use along the foreshore does not occur.
- ◆ Areas adversely impacted by previous uncontrolled visitor access are rehabilitated.
- ◆ Sand extraction operations from the Barron River do not cause significant erosion along northern beaches nor affect the contribution of the Barron River to the sand replenishment process.
- ◆ Sand extraction and associated operational activities at Ellie Point are managed to minimise adverse impacts on seagrass beds and associated fauna and Indigenous Traditional Owner cultural resources.
- ◆ The esplanade along the foreshore and river is retained in its natural condition, free of development and the vegetation is rehabilitated.
- ◆ Future use of the reserve (lot 51, plan NR3159) is consistent with its dedicated purpose and includes the community purpose of 'environmental purposes'. The reserve is properly and effectively managed in accordance with an approved management plan.
- ◆ Land and marine resource managers, including the appropriate Indigenous Traditional Owners, coordinate in matters relating to planning and management.

Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ The locality contains a significant vegetated estuarine delta with distribution channels and tidal creeks of high natural integrity. The accreted deltaic sediments have an extensive cover of tall mangrove forest.
- ◆ The wetland forms part of the Port of Cairns and Trinity Inlet Wetland. The wetland and the associated minor vegetated dune systems are largely areas of state significance (natural resources).
- ◆ It has significant biodiversity values for migratory waders and is an important habitat for estuarine crocodiles.

Significant social and economic resources and their values

- ◆ The locality has high recreational values, including boating and fishing.

Coastal management issues

- ◆ Development may remove or adversely impact on significant areas of mangrove and degrade the natural integrity of the wetland. This locality has a high risk of acid sulfate soil.
- ◆ Road access to the Barron River mouth may degrade the natural and scenic values.
- ◆ The beach is inappropriate for vehicle use as this would damage foreshore vegetation and compromise the enjoyment of the locality by other users.
- ◆ Disruption to natural sand supply to the coast through sand extraction from the Barron River may cause significant erosion problems for northern beach suburbs.



- ◆ Sand extraction and associated operational activities at Ellie Point have the potential to impact on seagrass beds and associated fauna including dugong, fisheries productivity and Indigenous Traditional Owner cultural resources.
- ◆ The recreation and landing reserve at the mouth of the delta needs to be managed to conserve the integrity of the beach and mangroves.
- ◆ Due to the multiple jurisdictions involving marine park, Cairns Port Authority land, esplanade and reserve, there is a need for coordination between the relevant land and marine resource managers, including the appropriate Indigenous Traditional Owners, in matters relating to planning and management.

Tenure: Cairns Port Authority land, USL, FH, MP, RE, Esp

Key coastal site 11: Northern Cairns (maps 12 and 16)

Desired coastal outcomes

- ◆ Appropriate management regimes are in place to maintain and enhance the natural integrity of the mangrove dominated estuarine wetlands, Earl Hill and undeveloped sections of the headlands.
- ◆ The extent of the estuarine and freshwater wetlands remains at, or close to, present levels and they retain their natural values and ecological integrity.
- ◆ Riparian vegetation along watercourses is maintained and rehabilitated where necessary to retain habitat and provide wildlife corridors.
- ◆ The estuarine mouth of the creeks (Redden, Barr, Richters, Yorkeys, Deep, Dead Mans Gully and Delanys) and immediate environs are retained in their natural state, free of additional land-based or maritime infrastructure.
- ◆ Coastal land use and erosion control measures do not adversely affect coastal processes or scenic amenity.
- ◆ The natural integrity of the currently undeveloped headlands, beaches and areas adjacent to the foreshore is maintained.
- ◆ Indigenous Traditional Owner cultural resources, values and practices are adequately recognised, respected and protected and Indigenous Traditional Owners are meaningfully involved in the planning for and management of these resources.



Palm Cove jetty

Description

This key coastal site contains the estuaries, wetlands, scenic headlands and foreshores between the Barron River delta and Palm Cove. It largely adjoins the existing residential areas of the Cairns northern beach suburbs of Machans Beach, Holloways Beach, Yorkeys Knob, Trinity Park, Trinity Beach, Kewarra Beach, Clifton Beach and Palm Cove. The marine component of this site is in the GBRWHA and the Trinity Inlet/Marlin Coast Marine Park. The northern part of the site is within the Great Barrier Reef Marine Park. The estuaries of Redden, Barr, Richters, Yorkeys and Half Moon creeks are zoned 'estuarine conservation'.

Coastal localities within this key coastal site are: 11.1 Machans and Holloways beaches; 11.2 Barr and Redden creeks; 11.3 Yorkeys south and north; and 11.4 Northern coastal headlands.

Significant resources and their values

The following areas of state significance are located within this site (refer to policy 2.5.1 regarding those for Indigenous Traditional Owner cultural resources):

- ◆ natural resources (policy 2.8.1) — including areas within Barr and Redden creeks (coastal locality 11.2) and Yorkeys south and north (11.3).



Significant coastal resources (natural and cultural) and their values

- ◆ A Quaternary dune system up to 3km wide is particularly well developed between the Barron River and Yorkeys Point. Estuarine deposits from the various creeks extensively mask this dune system. These dune deposits have produced an almost unbroken chain of sandy beaches between the Barron River and Palm Cove.
- ◆ The site contains significant remnant areas of tidal wetlands associated with Redden, Barr and Richters creeks, which are distributary channels to the Barron River.
- ◆ The site also contains vegetated dune/swale systems and other native vegetation with high natural integrity, including rainforest and freshwater wetlands, in close proximity to residential development. The remnant vegetation outside estuarine areas is dominated by a mosaic of forests and woodlands, with associated palms and paperbarks in wetland areas. Earl Hill contains remnant rainforest and provides a scenic focal point. These forests, woodlands and wetlands contain endangered and 'of concern' regional ecosystems.
- ◆ The inshore marine area contains rare and threatened fauna such as Irrawaddy and Indo-Pacific humpback dolphins, dugong and turtles.
- ◆ Half Moon, Yorkeys and Barr creeks contain Fish Habitat Areas (management area B) and all of the wetlands and estuaries in this site are valuable fish habitat.
- ◆ A range of Indigenous Traditional Owner cultural resources contribute to a rich and dynamic cultural landscape.

Significant social and economic resources and their values

- ◆ The site provides an important recreational and tourism setting for adjoining residential and commercial development including visitor and tourist accommodation and caravan parks.
- ◆ There are moderate-to-high scenic landscape values associated with the headlands, beaches, estuaries and bays. The views of, and from, the headlands of Taylor Point, Earl Hill and Yorkeys Point and Double, Haycock and Fitzroy islands, make this a very scenic and high value residential area, close to Cairns.
- ◆ Half Moon Bay Marina is located to the north of Yorkeys Point and is a popular and regionally significant facility and launch site to the outer reef, inshore reefs and near-shore islands (e.g. Double, Green and Fitzroy islands) and adjoining coastal waters. Local, regional, national and international visitors and tourists use this marina extensively. The Palm Cove jetty is a significant recreational fishing facility and tourism launch site.
- ◆ The estuaries and wetlands provide popular sites for recreational activities including fishing. Public boat ramps are located at Machans Beach, Holloways Beach, Yorkeys Knob and Palm Cove.
- ◆ Machans, Holloways, Yorkeys Knob, Half Moon, Trinity, Kewarra, Clifton and Palm Cove beaches provide important tourism opportunities and a major recreational focus for adjoining Cairns suburbs.

Coastal management issues

- ◆ There is pressure on the natural and scenic integrity of the estuarine wetlands and associated dune systems from extensive urban development and sugar cane production.
- ◆ New maritime infrastructure could impair the natural setting of the estuaries and tidal channels.
- ◆ Riparian vegetation along the main creeks should be maintained to provide wildlife corridors.
- ◆ Drainage modification and stormwater runoff from adjacent residential and rural lands impact on water quality and biodiversity.
- ◆ Residential development exists within the erosion prone area. Significant shoreline erosion is occurring in places. Rockwalls built to protect this infrastructure may result in degradation or loss of beaches.
- ◆ The tourism and recreational values of the headlands, coast and estuarine areas may be impaired by any further development that has adverse impacts on the natural integrity and scenic values.
- ◆ This site has a high risk of acid sulfate soil in low-lying areas.
- ◆ Indigenous Traditional Owner cultural resources require adequate recognition and protection and the meaningful involvement of the Indigenous Traditional Owners in the planning, management and coordination processes relating to these cultural resources.



Coastal locality 11.1: Machans and Holloways beaches (map 16)

Desired coastal outcomes

- ◆ Erosion mitigation works are designed and located so that they do not adversely affect coastal processes or scenic amenity.
- ◆ The integrity of the coastal vegetation strip is maintained and restored to minimise coastal visual impacts from development.
- ◆ Future use of the unallocated State land on the coast (USL lot 75, plan 9604) conserves the high environmental values and features and avoids significant impacts on coastal processes, through the implementation of an appropriate management regime.
- ◆ Future use of the listed reserves is consistent with their dedicated purpose and includes the community purposes of 'environmental purposes' and 'beach protection and coastal management'. The reserves are properly and effectively managed in accordance with an approved management plan:
 - Reserve lot 121, plan NR840892; and
 - Reserve lot 122, plan NR840892.
- ◆ Recreational vehicle use along the foreshore, particularly the frontal sand dunes and beach, does not occur.
- ◆ The estuarine mouth of Richters Creek and immediate environs are retained in their natural state, free of land-based or maritime infrastructure.



Shoreline erosion at Holloways Beach

Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ The beaches between the mouth of the Barron River and Richters Creek are associated with a portion of the vegetated dune/swale system upon which Cairns is built.
- ◆ The southern bank of Richters Creek supports a mosaic of mangroves, wetlands and open forest.

Significant social and economic resources and their values

- ◆ The beaches are backed by residential and commercial development. Machans Beach has an extensive rock wall to protect the residential development between Redden and Barr creeks. Holloways Beach also has a rock wall.
- ◆ The beaches have significant economic and recreational value, particularly for local residents.

Coastal management issues

- ◆ Significant foreshore erosion is occurring along this coastal sector. Public amenity may be substantially impaired by inappropriate erosion mitigation strategies.
- ◆ The USL and reserves need to be managed to conserve their high environmental values and features, including their significance for beach protection.
- ◆ The use of vehicles on the beaches would have adverse impacts on wildlife and the recreational and social values of other users.
- ◆ Private maritime infrastructure or other intensive development at the mouth of Richters Creek would adversely affect the coastal resources, which are of a very high standard.

Tenure: FH, RE, USL, Esp, MP



Coastal locality 11.2: Barr and Redden creeks (map 16)

Desired coastal outcomes

- ◆ Sand extraction from the mouth of Barr Creek is sustainable and does not have significant erosion effects along the coast nor adversely affect sand replenishment and the Fish Habitat Area.
- ◆ A linked network of remnant native vegetation is maintained along Barr and Redden creeks to minimise impacts of adjacent land uses on water quality, fauna and fish habitat.
- ◆ The integrity of the estuarine system and associated vegetation is maintained.
- ◆ Degraded parts of the estuarine vegetation are rehabilitated to allow for continuous riparian corridors along Barr and Redden creeks.
- ◆ Future use of the following unallocated State land on the coast conserves the high environmental values and features and avoids significant impacts on coastal processes through the implementation of an appropriate management regime:
 - USL lot 15, plan USL9633; and
 - USL lot 147, plan NR4789.

Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ This locality is an important fish habitat that is linked to the open coast and the Barron River. It contains a Fish Habitat Area (management area B) on Barr Creek.
- ◆ Sections of the mangrove complex and associated small patches of rainforest and woodlands are relatively intact.

Coastal management issues

- ◆ Sand extraction from the mouth of Barr Creek has the potential to impact on the integrity of the estuarine system, including the Fish Habitat Area, and natural coastal processes.
- ◆ Water quality and public amenity can deteriorate when the mouth of Barr Creek closes off from the open coast for extended periods during the dry season.
- ◆ Adjoining coastal land uses, including agricultural activities, have the potential to impact on riparian vegetation and water quality. Estuarine areas are associated with a high risk for acid sulfate soil.
- ◆ The two unallocated State land parcels need to be managed to conserve their high environmental values and features, including their significance for beach protection.

Tenure: FH, USL, MP

Coastal locality 11.3: Yorkeys south and north (map 16)

Desired coastal outcomes

- ◆ Land management minimises impacts on the estuarine environment and contributes to the maintenance of the estuarine communities.
- ◆ Development at Earl Hill has minimal impact on its natural and scenic values.
- ◆ Conservation and water quality values are maintained by protection of the riparian vegetation and by application of stormwater and sediment controls.
- ◆ Degraded parts of the estuarine and freshwater wetlands and associated vegetation are rehabilitated.
- ◆ The mouth of Richters Creek and the immediate environs are retained in their natural state, free of development and infrastructure.
- ◆ The esplanade on Richters Creek is maintained in a natural condition.
- ◆ The management of wastewater discharges and waste disposal associated with the marina minimises adverse impacts on water quality.



Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ The estuarine wetlands associated with Richters (also known as Thomatis), Yorkeys and Half Moon creeks have high natural integrity. Richters Creek is a significant distributary channel to the Barron River.
- ◆ Half Moon Creek and Yorkeys Creek are Fish Habitat Areas (management area B) and are contiguous with small areas of freshwater wetlands featuring melaleuca and palms.
- ◆ Earl Hill has high aesthetic and landscape values and a degraded feather palm wetland at its base. Earl Hill is a prominent local scenic feature and contains rainforest habitat within forests and woodlands, which provide important habitat for a range of fauna and contribute to the high scenic amenity. This locality also contains vulnerable species including the crimson finch, Apollo jewel butterfly, scarlet bean, ant plant, beach stone-curlew and various *Macaranga* species.

Significant social and economic resources and their values

- ◆ The estuarine systems have moderate-to-high scenic and recreational values, including fishing.
- ◆ A marina that requires maintenance dredging has been established in Half Moon Bay at the mouth of Half Moon Creek (also known as Moon River). An approved canal development, the Bluewater Canal Estate, is being developed on land adjacent to Half Moon Creek. Some development has already occurred including construction of the access channel to Half Moon Creek.

Coastal management issues

- ◆ The natural integrity of the wetlands could be jeopardised by development and adjoining agricultural activities impacting on water quality and scenic amenity. The estuarine/swamp part of the locality has a high risk for acid sulfate soil.
- ◆ Residential development has the potential to impair the scenic amenity and natural integrity of Earl Hill through landscape modification. Impacts from erosion and land instability may be exacerbated by further development.
- ◆ Development of private maritime infrastructure or any intensive use at the mouth of Richters Creek or major development of the esplanade would be inappropriate because the coastal resources are of a very high standard and value. There is an existing marina on Half Moon Bay and a canal development approval for land on Half Moon Creek. Wastewater discharges and waste disposal associated with the marina have the potential to impact on water quality.

Tenure: FH, RE, USL, LL, Esp, MP

Coastal locality 11.4: Northern coastal headlands (map 16)

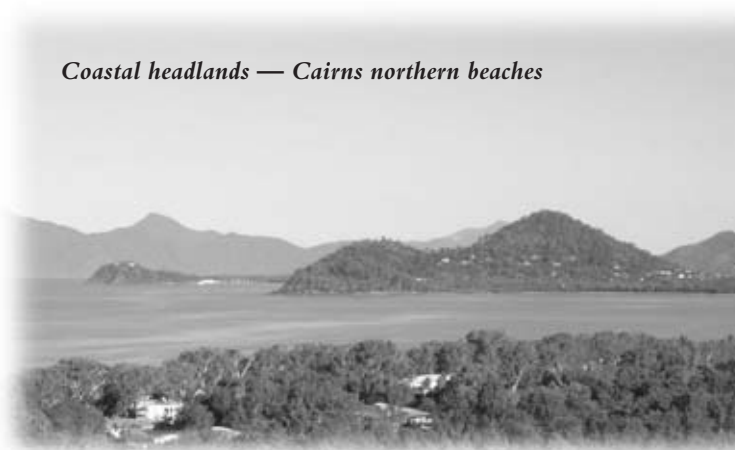
Desired coastal outcomes

- ◆ Development on Taylor Point and Yorkeys Point has minimal coastal visual impact especially when viewed from the sea and the landscape values of the headlands are maintained as natural features.
- ◆ The esplanade at Yorkeys Point is retained in its natural condition free of development.

Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ Taylor Point and Yorkeys Point form prominent scenic headlands composed of Palaeozoic Barron River Metamorphics. These headlands substantially enhance the visual amenity of this coastal sector.



Coastal headlands — Cairns northern beaches



Coastal management issues

- ◆ Residential development has the potential to impair the scenic values of the headlands and impair their natural integrity. Erosion and land instability may be exacerbated by development.
- ◆ Inappropriate development would impair the natural and scenic values of the esplanade at Yorkeys Point.

Tenure: FH, Esp, RE, MP

Key coastal site 12: Macalister Range (maps 12 and 17)

Desired coastal outcomes

- ◆ The high natural integrity and biodiversity values of the Mowbray River estuarine environment are maintained.
- ◆ The high natural integrity and biodiversity values of the mosaic of rainforest gullies, vine thickets, vegetated dune communities and eucalypt woodlands are maintained.
- ◆ Natural scenic values (one of the area's World Heritage values) viewed from the Captain Cook Highway or from offshore are maintained.
- ◆ Road, residential and related infrastructure development and agricultural activities on the narrow coastal strip at the base of the Macalister Range have minimal impact on the scenic amenity and natural integrity of adjoining undeveloped land.
- ◆ Tourism (including associated infrastructure development) and recreational use is compatible with the current low-key setting and has minimal impact on scenic amenity and remnant vegetation.
- ◆ Visitor access to the foreshore is managed to avoid adverse impacts on coastal dunes and associated vegetation.
- ◆ There is no vehicle use on the beaches.
- ◆ Indigenous Traditional Owner cultural resources, values and practices are adequately recognised, respected and protected and Indigenous Traditional Owners are meaningfully involved in the planning for, and management of, these resources.
- ◆ Development at Buchan Point does not exacerbate erosion and land instability and has minimal coastal visual impact especially when viewed from the sea. The landscape values of the headland are maintained as natural features.
- ◆ The esplanade at Buchan Point is retained in its natural condition free of development and introduced plants are controlled.
- ◆ Any adverse impacts of adjacent land use and recreational fishing on Unity and Garioch reefs are investigated to inform the management of these unique in-shore reefs.
- ◆ Road maintenance and construction activities apply stormwater and sediment controls to minimise adverse impacts on adjacent coastal waters, especially Unity and Garioch reefs.

Description

Straddling the land-sea interface this key coastal site extends along the coastal escarpment from Buchan Point and incorporates the small coastal communities of Ellis Beach, Wangetti and Oak Beach. It also includes Double and Haycock islands and Garioch and Unity reefs. The coastal escarpment in this sector includes the area where the Great Dividing Range comes closest to the Wet Tropical Coast. A substantial mainland part of the site is in the WTWHA. The marine part is in the GBRWHA, the Great Barrier Reef Marine Park, the Trinity Inlet/Marlin Coast Marine Park (south of White Cliffs) and the Cairns Marine Park (north of White Cliffs)³⁷.

Coastal localities within this key coastal site are: 12.1 Double Island and Haycock Island; 12.2 Macalister south scenic rim; 12.3 Hartley; 12.4 Macalister north; and 12.5 Yule Point.

³⁷ Refer Marine Parks (Cairns) Zoning Plan 1992 and Marine Parks (Trinity Inlet/Marlin Coast) Zoning Plan 2001 for specific marine park and zone boundaries.



Significant resources and their values

The following areas of state significance are located within this site (refer to policy 2.5.1 regarding those for Indigenous Traditional Owner cultural resources):

- ◆ scenic coastal landscapes (policy 2.7.1) — including areas within Macalister south scenic rim (coastal locality 12.2), Hartley (coastal locality 12.3), Macalister north (coastal locality 12.4) and Yule Point (coastal locality 12.5); and
- ◆ natural resources (policy 2.8.1) — including areas within Hartley (coastal locality 12.3), Macalister north (coastal locality 12.4) and Yule Point (coastal locality 12.5).

Significant coastal resources (natural and cultural) and their values

- ◆ An imposing coastal escarpment dominates this landscape. The range is comprised of Palaeozoic Hodgkinson Formation sediments and scattered small granitic bodies. Limited areas of Quaternary alluvial deposits occur at Wangetti and immediately south of the Mowbray River.
- ◆ The site contains important habitat for rare and threatened rainforest plants and animals, endangered rainforest types and areas of special evolutionary significance.
- ◆ The site contains a climatically unique environment, which is the driest and most seasonally variable coastal environment of the Wet Tropics region. This has resulted in an eastern escarpment dominated by eucalypt woodlands but with significant, tenuous areas of simple and complex notophyll vine forests west and northwest of Wangetti. The extent and nature of these eucalypt woodlands and the associated vegetation communities are unique.
- ◆ The site contains important estuarine crocodile habitat near the mouth of the Mowbray River.
- ◆ Buchan Point is a prominent scenic headland, which substantially enhances the visual amenity of this coastal sector.
- ◆ Unity and Garioch reefs are easily accessible in-shore reefs. They lie in the GBRWHA, Great Barrier Reef Marine Park and Trinity Inlet/Marlin Coast Marine Park. Unity Reef is visible from the Rex Lookout on the Captain Cook Highway. Both reefs represent two of the southern-most surviving coastal fringing reefs. This area has high fisheries values and supports diverse fish groups very close to the shore, such as red emperor, sea perch, mangrove jack and coral trout. These reefs also provide important habitat for hawksbill and loggerhead turtles.
- ◆ The site includes areas of high Indigenous Traditional Owner significance to a range of groups including Gimuy Yidinji, Yirrigandji, Djabuguy and Kuku Yalanji. Story places, rock art and burial sites are known to Indigenous Traditional Owners, but in many cases remain undocumented.
- ◆ The inshore marine area contains rare and threatened fauna such as Irrawaddy and Indo-Pacific humpback dolphins, dugong and turtles.
- ◆ A range of Indigenous Traditional Owner cultural resources contribute to a rich and dynamic cultural landscape.

Significant social and economic resources and their values

- ◆ The site is sparsely populated with only limited residential development in small communities along the main road between Cairns and Port Douglas.
- ◆ Sugar cane farming occurs around the Mowbray River.
- ◆ Several beaches are dispersed along the coastline. They are popular recreational areas providing a more secluded, low-key experience than the northern Cairns beaches. Ellis Beach has a popular caravan park.
- ◆ The *Wet Tropics Nature Based Tourism Strategy* has identified eight visitor sites within this key coastal site (e.g. Ellis Beach and Rex Lookout). Double Island has a tourist resort.
- ◆ The Captain Cook Highway provides spectacular scenic views (e.g. from Rex Lookout) of rugged and relatively undeveloped coastline with extensive vistas of sandy beaches, prominent headlands and the impressively steep and forested coastal escarpment. This scenic drive is internationally renowned.



Coastal management issues

- ◆ Coastal land uses (e.g. agriculture, residential and tourism development, recreational use and road construction) may impair World Heritage values including scenic landscape values, biodiversity and natural integrity.
- ◆ Unmanaged visitor access to the foreshore is causing significant erosion and impacting on vegetated dunes (including vine thickets) and recreational amenity.
- ◆ Vehicle use on the beaches impairs the enjoyment and safety for other users and damages the dune environment.
- ◆ A lack of coastal resource information regarding the deterioration of inshore reefs is impacting on the management of these areas particularly Unity and Garioch reefs. Recreational fishing may not be sustainable at these reefs.
- ◆ Road maintenance and construction and other adjoining land activities can impact on water quality and ultimately reef integrity via sediment and other contaminant runoff.
- ◆ Indigenous Traditional Owner cultural resources require adequate recognition and protection and the meaningful involvement of the Indigenous Traditional Owners in the planning, management and coordination processes relating to these cultural resources.
- ◆ Inappropriate residential development and landscape modification have the potential to exacerbate erosion and land instability and to impair the scenic values and natural integrity of Buchan Point (including the esplanade). Weed species are an additional threat to the headland's natural values.

Coastal locality 12.1: Double Island and Haycock Island (map 17)

Desired coastal outcomes

- ◆ The various land and marine resource managers, including the appropriate Indigenous Traditional Owners, coordinate management activities consistent with the zoning plans for the Trinity Inlet/Marlin Coast Marine Park and Great Barrier Reef Marine Park.
- ◆ The natural integrity of the terrestrial and marine ecosystems is maintained.
- ◆ The high natural scenic landscape values are maintained and development has minimal coastal visual impact.
- ◆ Public access to Double Island is maintained and appropriately managed.
- ◆ Remnant native vegetation is conserved through mechanisms such as voluntary conservation agreements, particularly with regard to current and future resort development.
- ◆ Waste disposal, on-site power generation and weeds are managed to minimise impacts on natural and cultural values.
- ◆ The esplanade on Double Island is maintained in its natural state, free of further development.
- ◆ Future use of the unallocated State land on the coast (Haycock Island USL lot 5, plan USL9992) conserves the high environmental values and features, including scenic values, through the implementation of an appropriate management regime.

Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ The rugged, vegetated islands are composed of Palaeozoic Hodgkinson Formation sediments with a few small, narrow beaches and fringing reefs.
- ◆ The islands and associated reef systems have high scenic values.
- ◆ Both islands are sea bird roosting and breeding sites. Parts of the reef systems have extensive seagrass beds and dugong feeding areas.

Double Island





- ◆ Double Island is of significance to local coastal Indigenous Traditional Owners as an important story place.
- ◆ These islands are within the GBRWHA, Great Barrier Reef Marine Park and Trinity Inlet/Marlin Coast Marine Park.

Significant social and economic resources and their values

- ◆ The islands provide important boating and fishing opportunities close to the mainland for Cairns residents.
- ◆ A tourist resort is located on Double Island.

Coastal management issues

- ◆ Recreational use has the potential to become unsustainable and affect the high natural and cultural values of both islands. There is a need for a coordinated and strategic approach to visitor management across all relevant agencies and leaseholders, including the appropriate Indigenous Traditional Owners.
- ◆ Waste disposal, weeds and on-site power generation have the potential to impact on the natural and cultural values of Double Island.
- ◆ Development, particularly expansion of the tourist resort on Double Island, has the potential to impair scenic and Indigenous Traditional Owner cultural resources and values and impact adversely on biodiversity. Further development may also restrict public use and enjoyment.
- ◆ Haycock Island (USL lot 5, plan USL9992) needs to be managed to conserve its high environmental and scenic values.

Tenure: Special lease, Esp, USL, MP

Coastal locality 12.2: Macalister south scenic rim (map 17)

Desired coastal outcomes

- ◆ The scenic and natural values of the area are maintained, while providing sustainable opportunities for visitor access.
- ◆ Future use of the unallocated State land on the coast (USL lot 315, plan FTY1290) conserves the high environmental values and features, through the implementation of an appropriate management regime.
- ◆ Future use of the listed reserves is consistent with their dedicated purpose and includes the community purpose of 'environmental purposes'. The reserves are properly and effectively managed in accordance with an approved management plan:
 - Reserve lot 31, plan CP881693; and
 - Reserve lot 1, plan RR183.
- ◆ Future development at Ellis Beach does not exacerbate erosion and avoids adverse impacts on scenic amenity and natural integrity.
- ◆ Conservation and rehabilitation of the coastal vegetation strip at Ellis Beach maintains and enhances scenic amenity and natural values.
- ◆ No vehicle use occurs on the foreshore and dunes at Ellis Beach or on the unnamed beaches within this locality.

Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ The locality has very high scenic landscape values, with the steep coastal slopes of the Macalister Range forming a massive backdrop to the narrow coastal plain. It is an area of state significance (scenic coastal landscapes).
- ◆ Much of the locality has high natural integrity and is in the WTWHA. Woodlands ('of concern' regional ecosystem) dominate the slopes of the Macalister Range. The vegetated dunes on the coastal plain contain endangered regional ecosystems.
- ◆ The locality is a significant area for the Indigenous Traditional Owners.



Key coastal sites

Significant social and economic resources and their values

- ◆ Ellis Beach provides a range of recreational and tourism opportunities, including picnicking, swimming and fishing, in close proximity to Cairns. It has a range of tourism and recreational facilities including a surf lifesaving club, camping area and low-key accommodation.

Coastal management issues

- ◆ Unmanaged recreational use and access, including vehicle use on and adjacent to the beaches, has the potential to adversely impact on social and environmental values.
- ◆ Development at Ellis Beach may impact on the scenic amenity of the foreshore and hillslopes, facilitate weed and fire intrusion into the adjoining WTWHA, exacerbate erosion and degrade the natural values of the coastal vegetation strip. Existing sewage treatment may be inadequate to accommodate new demands.
- ◆ The USL and reserves (recreation and rifle range) need to be managed to conserve their high environmental values and features.

Tenure: USL, RE, LL

Coastal locality 12.3: Hartley (map 17)

Desired coastal outcomes

- ◆ The natural integrity of the dune system and associated vegetation, particularly the endangered regional ecosystems, is maintained.
- ◆ The scenic amenity of the viewshed from the Rex Lookout is maintained.
- ◆ The natural integrity of the wetlands at the base of the range is maintained.
- ◆ Opportunities for sustainable visitor access and use of recreation reserve R899 (lot 31, plan CP881693) are available, while maintaining the scenic and natural values of the reserve.
- ◆ Vehicle access through the recreation reserve is managed and there is no vehicle use on the beach.
- ◆ Dune vegetation at Wangetti is not adversely impacted by visitor access, weeds and vehicles.
- ◆ Areas damaged by vehicle use are rehabilitated where appropriate.
- ◆ An appropriate fire and weed management program is in place.



View south from
Rex Lookout

Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ This locality contains the drainage basin rimmed by the Macalister Range with numerous small creeks, including Hartleys and Tin creeks, feeding to the coast.
- ◆ A small vegetated dune/swale system and an attractive beach is located between White Cliff Point and Red Cliff Point. It is backed by a small alluvial fan, centred on Tin Creek and its tributaries.
- ◆ Vine forests, including mesophyll vine forests, dominate vegetation on the upper slopes of the basin.
- ◆ Woodlands, classified as 'of concern' regional ecosystems, occur on the lower slopes and are rated as the third most threatened vegetation type in the Wet Tropics bioregion.
- ◆ Notophyll vine forests, a rare and endangered regional ecosystem, are associated with the dune deposits.
- ◆ The wetland at the base of the Macalister Range and the associated endangered regional ecosystems and vegetated dune system are areas of state significance (natural resources).
- ◆ Overall the locality has high natural integrity and very high scenic values. It is an area of state significance (scenic coastal landscapes).

Significant social and economic resources and their values

- ◆ The locality contains the small coastal settlement of Wangetti.
- ◆ Wangetti rifle range is used for public and defence training purposes.
- ◆ The recreation reserve and the beach are popular areas, particularly for the local community and Cairns residents.



- ◆ The popular Rex Lookout on the Cook Highway provides spectacular views across Trinity Bay and along the Macalister Range and is used for hang-gliding.

Coastal management issues

- ◆ Residential development and unmanaged visitor access have the potential to adversely impact on coastal resources including natural integrity and scenic and social values.
- ◆ Vehicle use on the beach has resulted in environmental degradation in the reserve and affects beach use by others. Impacts from uncontrolled vehicle use are apparent at Wangetti and the mouth of Hartley Creek.
- ◆ Wild fires, uncontrolled access to the foreshore and weed invasion threaten the integrity of the vegetation and dune system at Tin Creek.
- ◆ Residential development and recreational and tourism activities at Wangetti may impact on scenic amenity and natural integrity.

Tenure: USL, RE, LL, FH

Coastal locality 12.4: Macalister north (map 17)

Desired coastal outcomes

- ◆ The scenic and natural values of the area are maintained, while providing sustainable opportunities for visitor access.
- ◆ Future use of the unallocated State land on the coast (USL lot 315, plan FTY1290) conserves the high environmental values and features, through the implementation of an appropriate management regime.
- ◆ Future use of the listed reserve is consistent with its dedicated purpose and includes the community purpose of 'environmental purposes'. The reserve is properly and effectively managed in accordance with an approved management plan:
 - Reserve lot 117, plan SR898.

Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ The steep Macalister Range provides a spectacular backdrop to the coast. It has high natural integrity and, apart from the reserve, is in the WTWHA.
- ◆ The locality has very high scenic values and is an area of state significance (scenic coastal landscapes).
- ◆ Woodlands ('of concern' regional ecosystem) dominate the slopes of the range.
- ◆ These slopes also feature isolated pockets of notophyll vine forests (endangered regional ecosystems), which are areas of state significance (natural resources).

Significant social and economic resources and their values

- ◆ The reserve is used for camping.

Coastal management issues

- ◆ Recreational use of the USL and camping reserve needs to be managed to conserve the high natural and scenic values.

Tenure: USL, RE

Coastal locality 12.5: Yule Point (map 17)

Desired coastal outcomes

- ◆ Adverse impacts on the natural integrity of the inshore reef are avoided, particularly through measures such as the conservation of riparian vegetation and the implementation of effective stormwater and sediment controls.
- ◆ The very high scenic values of the headland and coastline are maintained.



Key coastal sites

- ◆ The biodiversity and natural integrity of the marine and estuarine environment, including the seagrass beds and sandflats, are maintained.
- ◆ The biodiversity and natural integrity of the dune systems and associated vegetation are maintained.
- ◆ Remnant native vegetation on private land is conserved through mechanisms such as voluntary conservation agreements (e.g. under the *Nature Conservation Act 1992*, *Land Act 1994* or the *Wet Tropics Management Plan 1998*).
- ◆ Future use of the following unallocated State land on the coast conserves the high environmental values and features, including significant coastal wetlands, and avoids adverse impacts on coastal processes through the implementation of an appropriate management regime:
 - USL lot 3, plan USL8610;
 - USL lot 10, plan USL8610; and
 - USL lot 14, plan USL8610.
- ◆ Future use of the camping reserve (lot 118, plan SR286) is consistent with its dedicated purpose and includes the community purpose of ‘environmental purposes’. The reserve is properly and effectively managed in accordance with an approved management plan.
- ◆ The esplanade is maintained in its natural state.
- ◆ There is no vehicle use on the beach.
- ◆ Land use associated with the Mowbray River estuary is managed to avoid adverse impacts on water quality from acid sulfate soils.
- ◆ Land and marine resource managers, including the appropriate Indigenous Traditional Owners, coordinate in matters relating to planning and management.

Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ A continuous dune/swale system extends from Yule Point to Port Douglas.
- ◆ Extensive mangrove forests occur at the mouth of the Mowbray River.
- ◆ The marine part of this locality is within the GBRWHA, Great Barrier Reef Marine Park and Cairns Marine Park.
- ◆ A significant inshore reef, sand flats and extensive mangrove forests and seagrass beds contribute to the very high scenic and wilderness values of the locality. It is an area of state significance (scenic coastal landscapes).
- ◆ There are well-established intertidal seagrass beds, which provide significant dugong and turtle habitat. The inshore sand flats and reef support a large benthic fauna and provide important feeding areas for fish, the Irrawaddy dolphin, the Indo-Pacific humpback dolphin and waders. The site also contains significant habitat for migratory birds.
- ◆ The wetlands, including the seagrass beds and vegetated dune systems, are areas of state significance (natural resources).

Coastal management issues

- ◆ Inappropriate land use has the potential to adversely affect water quality and cause further deterioration of the inshore reef.
- ◆ Substantial areas of riparian vegetation have been removed along the Mowbray River.
- ◆ The USL and camping reserve need to be managed to conserve the high environmental and scenic values.
- ◆ Vehicle use on the beach would adversely impact on wilderness values.
- ◆ Unmanaged recreational use and development of the esplanade have the potential to adversely impact on natural and scenic values.
- ◆ There is a localised high risk for acid sulfate soil associated with the Mowbray River estuarine environment.



- ◆ Due to the multiple jurisdictions involving marine parks, USL and reserve, there is a need for coordination between the relevant land and marine resource managers, including the appropriate Indigenous Traditional Owners, in matters relating to planning and management.

Tenure: MP, USL, RE, FH, Esp

Key coastal site 13: Mossman (maps 12 and 17)

Desired coastal outcomes

- ◆ The high natural integrity and biodiversity values are maintained, particularly those associated with the mangrove dominated estuarine wetlands.
- ◆ The extent and ecological integrity of the estuarine systems and their associated plants and animals are maintained.
- ◆ Future development at Newell and Cooya retains its low-key residential character and is limited to the existing urban areas. It also avoids adverse impacts on the water quality of the local wetlands and waterways.
- ◆ Indigenous Traditional Owner cultural resources, values and practices are adequately recognised, respected and protected and Indigenous Traditional Owners are meaningfully involved in the planning for and management of these resources.

Description

This key coastal site extends along the coastal plain from north of Port Douglas to Saltwater Creek and includes Dicksons Inlet, Packer Creek, Saltwater Creek and the Mossman River estuaries. It also includes the Port Douglas marina, Flagstaff Hill, the small coastal communities of Newell and Cooya and fringing reefs at Cooya Beach. The marine part of this site is in the Great Barrier Reef Marine Park and the Cairns Marine Park (from Cooya Beach township south to Port Douglas) and the Trinity Inlet/Marlin Coast Marine Park (from the mouth of the Mossman River north to and including Saltwater Creek). The estuarine complex extending from Dicksons Inlet through to Cooya Beach is zoned for estuarine conservation in the Cairns Marine Park. The estuarine complexes at the mouth of the Mossman River and the mouth of Saltwater Creek are zoned for estuarine conservation in the Trinity Inlet/Marlin Coast Marine Park.

Coastal localities within this key coastal site are: 13.1 Dickson; 13.2 Dicksons Inlet; and 13.3 Flagstaff Hill.

Significant resources and their values

The following areas of state significance are located within this site (refer to policy 2.5.1 regarding those for Indigenous Traditional Owner cultural resources):

- ◆ social and economic (policy 2.1.1) — Port Douglas boat harbour and marina in Dicksons Inlet (coastal locality 13.2);
- ◆ cultural heritage (policy 2.6.1) — Port Douglas Court House Museum, Port Douglas Wharf and Shipwreck Museum and St Mary's by the Sea;
- ◆ scenic coastal landscapes (policy 2.7.1) — including areas within Dickson (coastal locality 13.1); and
- ◆ natural resources (policy 2.8.1) — including areas within Dickson (coastal locality 13.1).

Significant coastal resources (natural and cultural) and their values

- ◆ Estuarine deposits are particularly well defined between Port Douglas and the Mossman River and adjoining Saltwater Creek. The estuarine deposits are largely superimposed on an extensive sequence of dunes between Packers Creek and Dayman Point. These dunes generally extend 1km inland. Relatively minor areas of Cainozoic alluvium/colluvium border the dune and estuarine deposits.
- ◆ The coastline has extensive saline mudflats. There are also fringing reefs at Cooya Beach.
- ◆ Mangroves and saltpans dominate the extensive estuarine wetlands. These wetlands have high natural integrity and high-to-very-high biodiversity values. They provide important estuarine crocodile and wader bird habitat.



Key coastal sites

- ◆ The large mangrove dominated wetland, west of Dicksons Inlet, provides nursery habitat for valuable seafood species such as banana prawns, leader prawns, mud crabs, barramundi and mangrove jack.
- ◆ A range of Indigenous Traditional Owner cultural resources contribute to a rich and dynamic cultural landscape. This site is part of the Kuku Yalanji ancestral homeland estate and is of continuing cultural significance. Much of the site's coastline has special significance for the local Indigenous Traditional Owner community, fulfilling a significant role in their traditional and contemporary lifestyle. It contains significant Indigenous Traditional Owner cultural resources and values including archaeological sites and significant story places.

Significant social and economic resources and their values

- ◆ The small communities of Newell and Cooya are significant residential growth areas within the Douglas Shire. These settlements and adjoining areas are of important social and recreational value to the larger adjacent towns of Port Douglas and Mossman.
- ◆ The estuarine complexes and tidal waterways provide a valuable and largely accessible semi-remote recreational setting, particularly for the fishing and boating community. Public boat ramps are located at Port Douglas and Newell (where there is a major boat ramp at the mouth of the Mossman River).
- ◆ The readily accessible beaches (including foreshore reserves and esplanades) and estuaries are popular low-key recreational areas.
- ◆ Dicksons Inlet and the associated Port Douglas boat harbour, marina and tourism facilities are of significant economic value, providing a departure point for tourism and recreational use of the surrounding reefs, islands and estuaries.
- ◆ A substantial prawn aquaculture operation is located within the Packers Creek estuarine complex.

Coastal management issues

- ◆ Recreational and tourism values may be impaired by the cumulative impacts of incompatible land use such as residential and industrial development and agricultural activities.
- ◆ Clearing of native vegetation has degraded natural and scenic integrity.
- ◆ This site contains areas of moderate-to-high risk for acid sulfate soil.
- ◆ Significant residential growth in the small coastal communities of Newell and Cooya has the potential to adversely impact on water quality.
- ◆ Wastewater discharges from any expansion of the prawn aquaculture operation may potentially have adverse impacts on the Packer Creek estuary.
- ◆ Indigenous Traditional Owner cultural resources require adequate recognition and protection and the meaningful involvement of the Indigenous Traditional Owners in the planning, management and coordination processes relating to these cultural resources.

Coastal locality 13.1: Dickson (map 17)

Desired coastal outcomes

- ◆ The natural integrity of the estuarine and dune systems and associated vegetation is maintained.
- ◆ The natural integrity, scenic amenity and habitat connectivity of the Cassowary Range is maintained.
- ◆ Adverse impacts on the water quality of the extensive wetlands and waterways are avoided, particularly through measures such as the conservation of riparian vegetation and the implementation of effective stormwater and sediment controls.
- ◆ Future use of the following unallocated State land on the coast conserves the high environmental values and features, including significant coastal wetlands and scenic values, through the implementation of an appropriate management regime:
 - USL lot 3, plan USL36779;
 - USL lot 1, plan USL8620;
 - USL lot 113, plan SP105910;



Mouth of Saltwater Creek



- USL lot 27, plan USL8686;
 - USL lot 137, plan CP851586;
 - USL lot 29, plan USL8686;
 - USL lot 138, plan CP851586;
 - USL lot 5, plan USL8686;
 - USL lot 33, plan USL8687;
 - USL lot 1, plan USL8683;
 - USL lot 1, plan AP8350;
 - USL lot 2, plan AP8350;
 - USL lot 3, plan AP8350;
 - USL lot 328, plan SR434;
 - USL lot 5, plan USL8735;
 - USL lot 1, plan USL8764;
 - USL lot 13, plan USL8629; and
 - USL lot 19, plan USL8626.
- ◆ Future use of the following reserves is consistent with their dedicated purpose and includes the community purpose of ‘environmental purposes’. The reserves are properly and effectively managed in accordance with an approved management plan:
 - Reserve lot 170, plan SR865;
 - Reserve lot 122, plan CP890712;
 - Reserve lot 8, plan CP890713;
 - Reserve lot 374, plan SR533;
 - Reserve lot 382, plan SR864; and
 - Reserve lot 5, plan SR906.
 - ◆ The esplanades are maintained free of development and rehabilitated to a more natural condition.
 - ◆ There is no vehicle use on the beaches.
 - ◆ Management of sand extraction from Saltwater Creek and the Mossman River considers the potential adverse effects of erosion along the coast and the important contribution these waterways make to the sand replenishment process.
 - ◆ Land and marine resource managers, including the appropriate Indigenous Traditional Owners, coordinate in matters relating to planning and management.

Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ The riparian corridors along Whyanbeel Creek and the upper reaches of Saltwater Creek and the extensive mangrove communities and estuarine system near the mouth of Saltwater Creek provide important habitat for wildlife, especially the southern cassowary and estuarine crocodile.
- ◆ The marine component of this locality is in the Great Barrier Reef Marine Park and in parts of the Cairns Marine Park and the Trinity Inlet/Marlin Coast Marine Park.
- ◆ The near pristine Saltwater Creek estuary has very high scenic coastal landscape values.
- ◆ The estuarine system near the mouth of the Mossman River supports a spectacled flying fox maternity camp. Riparian vegetation extends along the Mossman and South Mossman rivers.
- ◆ An extensive estuarine system is associated with Dip and Packers creeks between Port Douglas, Cooya and Dicksons Inlet.
- ◆ Parts of this locality contain areas of state significance (natural resources — significant coastal wetlands, endangered regional ecosystems and significant coastal dune systems).



Significant social and economic resources and their values

- ◆ There are high recreational values for local communities including boating and fishing.

Coastal management issues

- ◆ Extensive land clearing for agriculture has impaired riparian corridors and reduced habitat connectivity along the Cassowary Range. Ongoing clearing also threatens the scenic amenity of the range.
- ◆ Estuarine areas are associated with a high risk for acid sulfate soil.
- ◆ There are numerous USL parcels and reserves that need to be managed to conserve their high environmental values and features. The refuse disposal reserve R1245 (lot 170, plan SR865) has the potential to impact on water quality and the integrity of the wetlands.
- ◆ Vehicle use on the beaches conflicts with social and environmental values.
- ◆ Sand extraction from Saltwater Creek and the Mossman River has the potential to reduce the availability of natural sand to the open coast. This may exacerbate coastal erosion problems further along the coast.
- ◆ Due to the multiple jurisdictions involving marine park, esplanades and reserve, there is a need for coordination between the relevant land and marine resource managers, including the appropriate Indigenous Traditional Owners, in matters relating to planning and management.

Tenure: LL, FH, RE, USL, Esp, SF, MP

Coastal locality 13.2: Dicksons Inlet (map 17)

Desired coastal outcomes

- ◆ The natural integrity of the estuary, particularly habitat for waders, is maintained.
- ◆ The disposal of dredge spoil is managed to minimise impacts on the natural integrity and water quality of the inlet and surrounding areas.
- ◆ Water quality in the inlet is maintained. Potential impacts from waste and bilge water discharge and adjacent development (including disturbance to acid sulfate soils) is minimised or avoided through appropriate management.



Dicksons Inlet

Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ The locality contains important habitat for a range of wildlife including fish, dugong and wader birds. It is in the Great Barrier Reef Marine Park and the Cairns Marine Park.

Significant social and economic resources and their values

- ◆ This locality contains the Port Douglas boat harbour and marina and is an internationally famous tourism destination of significant economic value. There is high recreational use by both the local community and tourists. Most reef and fishing trips depart from this location.

Coastal management issues

- ◆ Inappropriate disposal of dredge spoil associated with regular dredging of the shipping channel and port has the potential to impact on natural integrity and water quality.
- ◆ Development may adversely affect water quality and impair the natural values of the estuary including important wader bird habitat. There is a high risk for acid sulfate soil associated with the estuarine sediments.
- ◆ Discharge of waste and bilge water from vessels may also impact on water quality.

Tenure: MP, RE



Coastal locality 13.3: Flagstaff Hill (map 17)

Desired coastal outcomes

- ◆ The scenic landscape and amenity values of the reserve are maintained, while allowing for essential public utilities.

Significant resources and their values

Significant social and economic resources and their values

- ◆ A popular and readily accessible scenic lookout is located close to the centre of Port Douglas on top of the well-vegetated and steeply flanked Flagstaff Hill. It affords spectacular views of the sea, Four Mile Beach and the scenic mountainous rim to the west.



View from Flagstaff Hill

Coastal management issues

- ◆ Maintenance of the major radio transmission tower on Flagstaff Hill has the potential to further impact on native vegetation and scenic values. Management of this locality by the shire council, tourism representatives and radio transmission authority needs to be coordinated to ensure that the radio tower continues to operate effectively without adversely affecting scenic and recreational values.

Tenure: RE, Road reserve, LL, MP

Key coastal site 14: Dagmar Range (maps 12 and 18)

Desired coastal outcomes

- ◆ The biodiversity of the mosaic of vegetation communities, particularly the complex mesophyll and mesophyll vine forests, is maintained.
- ◆ There are no adverse impacts on natural integrity and the very high scenic landscape values from weeds, fire, residential development and agricultural activities.
- ◆ Water quality of the various creek systems is maintained through such measures as the conservation of riparian vegetation on agricultural land.
- ◆ Future use of the following unallocated State land on the coast conserves the high environmental values and features, including significant scenic values, through the implementation of an appropriate management regime:
 - USL lot 19, plan USL8574;
 - USL lot 19, plan USL8901;
 - USL lot 26, plan USL8574;
 - USL lot 116, plan SR247;
 - USL lot 37, plan USL8901;
 - USL lot 58, plan USL8901;
 - USL lot 23, plan USL8901;
 - USL lot 206, plan FTY1322;
 - USL lot 6, plan USL8625; and
 - USL lot 241, plan SR244.
- ◆ Indigenous Traditional Owner cultural resources, values and practices are adequately recognised, respected and protected and Indigenous Traditional Owners are meaningfully involved in the planning for, and management of, these resources.

Description

This key coastal site extends from Dayman Point in the southeast to the Daintree River in the north along the rugged, forested Dagmar Range. Stewart and Whyanbeel creeks form the western boundary. It is largely restricted to the virtually uninhabited Dagmar Range uplands and contains very little coastal plain or



Key coastal sites

alluvial lowlands, except as minor selvedges to the uplands. Most of the site is in the WTWHA and includes two disjunct portions of the Daintree National Park that are listed and described on the Register of the National Estate. The marine component of this site is in the GBRWHA, the Great Barrier Reef Marine Park and the Trinity Inlet/Marlin Coast Marine Park.

There are no coastal localities within this key coastal site.

Significant resources and their values

The following areas of state significance are located within this site (refer to policy 2.5.1 regarding those for Indigenous Traditional Owner cultural resources):

- ◆ scenic coastal landscapes (policy 2.7.1).

Significant coastal resources (natural and cultural) and their values

- ◆ Hodgkinson Formation sediments dominate the site and develop a rocky coastline around Dayman Point.
- ◆ The uplands generally range in height from 150m to 250m, with a high point of 337m. This dissected plateau is a significant catchment and source of high quality water. It contains many relatively small drainage channels that discharge into Stewart Creek (a direct tributary to the Daintree River), the Lower Daintree River Wetland in the north, or Whyanbeel Creek to the south (a direct tributary and major contributor to the Saltwater Creek estuary).
- ◆ The vegetation includes complex mesophyll vine forests and mesophyll vine forests with two disjunct strips of eucalypt-dominated woodlands on the easterly sloping faces of the Dagmar Range.
- ◆ The forests have high biodiversity and high natural integrity. They contain endangered rainforest community types and provide habitat for many rare and threatened rainforest plants and animals.
- ◆ A range of Indigenous Traditional Owner cultural resources contribute to a rich and dynamic cultural landscape. This site makes up part of the Kuku Yalanji ancestral homeland estate and is of continuing cultural significance. It contains significant Indigenous Traditional Owner cultural resources and values including story places and plays an important role in the local Indigenous Traditional Owner community's lifestyle.

Significant social and economic resources and their values

- ◆ There are no towns within this site due to its inaccessible and rugged terrain. The small Daintree township lies on its northern edge and there is scattered residential development north of Dayman Point on the lower footslopes of the Dagmar Range.
- ◆ There is a boat ramp and recreational fishing opportunities at Dayman Point.
- ◆ Limited agricultural activities, mainly sugar cane or beef production, occur on the lower footslopes of the ranges.
- ◆ Much of the forested uplands have high wilderness value and are important as a remote area bushwalking experience.
- ◆ The forested backdrop of the Dagmar Range creates a landscape of very high scenic quality and significantly enhances the scenic coastal drive along the Captain Cook Highway. The Dayman Point area offers excellent views across Trinity Bay where the Dagmar Range falls steeply to the sea and the highway hugs the land-sea interface.

Coastal management issues

- ◆ Edge effects (e.g. weed invasion and fire) from agricultural and grazing activities along the footslopes of the Dagmar Range may adversely impact on World Heritage values, particularly biodiversity and scenic landscape values.
- ◆ Riparian vegetation along the creeks is under threat from agricultural activities. This has the potential to adversely impact on water quality.
- ◆ Rural residential development along the eastern and southern footslopes of the range has the potential to impact on visual amenity and natural integrity.



- ◆ There are several USL parcels that need to be managed to conserve their high environmental and scenic values.
- ◆ Indigenous Traditional Owner cultural resources require adequate recognition and protection and the meaningful involvement of the Indigenous Traditional Owners in the planning, management and coordination processes relating to these cultural resources.

Key coastal site 15: Daintree (maps 12 and 18)

Desired coastal outcomes

- ◆ The high natural integrity and biodiversity values of the unique lowland and upland tropical rainforests (including Gondwanan species) are maintained.
- ◆ The high natural integrity and biodiversity values of the fringing reefs are maintained.
- ◆ Water quality is maintained through measures such as appropriate road management and sediment control and the protection of riparian vegetation.
- ◆ The internationally recognised natural scenic landscape values are maintained.
- ◆ The site is managed in a coordinated and complementary manner between the various land and marine resource managers, including the Wujal Wujal Community Council and the appropriate Indigenous Traditional Owners.
- ◆ The extent and ecological integrity of the estuarine systems and their associated plant and animal communities are maintained.
- ◆ Tourism and recreational use has minimal impacts on coastal resources, including biodiversity, natural integrity, scenic values and cultural resources and is consistent with the *Wet Tropics Nature Based Tourism Strategy* and the *Wet Tropics Walking Strategy*.
- ◆ Indigenous Traditional Owner cultural resources, values and practices are adequately recognised, respected and protected and Indigenous Traditional Owners are meaningfully involved in the planning for, and management of, these resources.
- ◆ Future development at Bloomfield Falls has minimal impact on the visual amenity, wilderness values, cultural heritage significance, water quality and biodiversity.
- ◆ Habitat of the rare and endemic Bloomfield cod and other Gondwanan fish species is maintained.
- ◆ Future use of the following unallocated State land located in the Bloomfield area conserves the high environmental values and features, including significant scenic values, through the implementation of an appropriate management regime:
 - USL lot 21, plan USL8500;
 - USL lot 2, plan USL8491;
 - USL lot 14, plan SR241;
 - USL lot 20, plan USL8398; and
 - USL lot 30, plan USL8390.
- ◆ Remnant native vegetation on agricultural land is conserved through mechanisms such as voluntary conservation agreements with landholders (e.g. under the *Nature Conservation Act 1992*, *Land Act 1994* or *Wet Tropics Management Plan 1998*).

Description

Straddling the land-sea interface this large key coastal site incorporates the Daintree wetlands, Low Isles and Snapper Island, then extends along the coastal escarpment between the Daintree and Bloomfield rivers. It incorporates several small and dispersed coastal communities such as Degarra, Cow Bay and Cape Tribulation. Fringing coral reefs include Struck Island and Black Rock. A substantial part of the site is in the WTWHA or GBRWHA and includes a significant portion of the Daintree National Park (listed and described on the Register of the National Estate) and Timber Reserve 165. Almost the entire marine component of this site is in the Great Barrier Reef Marine Park and the Cairns Marine Park, including



Key coastal sites

the tidal waters of the Daintree and Bloomfield rivers. The site is recognised in the *Far North Queensland Regional Plan* as a ‘priority biodiversity’ area (Daintree–Cape Tribulation).

Coastal localities within this key coastal site are: 15.1 Daintree wetland-dune complex; 15.2 Snapper Island; 15.3 Low Isles; 15.4 Daintree north; 15.5 Shipwreck Bay; 15.6 Cow Bay; 15.7 Bailey Creek complex; 15.8 Thornton footslopes; 15.9 Noah Creek; 15.10 Mason Creek; 15.11 Noah Head to Bloomfield; 15.12 Bloomfield road; and 15.13 Zig Zag.

Significant resources and their values

The following areas of state significance are located within this site (refer to policy 2.5.1 regarding those for Indigenous Traditional Owner cultural resources):

- ◆ cultural heritage (policy 2.6.1) — Low Isles Lightstation;
- ◆ scenic coastal landscapes (policy 2.7.1) — including areas within Snapper Island (coastal locality 15.2), Low Isles (coastal locality 15.3), Shipwreck Bay (coastal locality 15.6), Bailey Creek complex (coastal locality 15.7), Noah Creek (coastal locality 15.9) and Noah Head to Bloomfield (coastal locality 15.11); and
- ◆ natural resources (policy 2.8.1) — including areas within Daintree wetland-dune complex (coastal locality 15.1), Cow Bay (coastal locality 15.6), Bailey Creek complex (coastal locality 15.7), Noah Creek (coastal locality 15.9) and Noah Head to Bloomfield (coastal locality 15.11).

Significant coastal resources (natural and cultural) and their values

- ◆ The entire terrestrial part of the site, apart from the offshore islands, is in the WTWHA. The remnant vegetation forms a mosaic of communities recognised as the most diverse in Australia.
- ◆ This area is characterised geologically by a strongly deformed sequence of Palaeozoic Hodgkinson Formation (mainly sediments) intruded by a large composite granite body (Thornton and Nulbullulul Granites). These relatively erosion resistant granites form impressive mountain peaks such as Thornton Peak (1374m) on the western boundary of the site. The coastal sectors between Cape Kimberley and Cow Bay and north of Cape Tribulation are generally rocky and rugged, offering many exposures of Hodgkinson Formation that are important in interpreting the deformational and stratigraphic history of the Hodgkinson Basin in this region. These areas have considerable educational and scientific value.
- ◆ Restricted Quaternary dune deposits occasionally backed by narrow alluvial plains have developed in embayments, largely south of Cape Tribulation. These embayments feature wide sandy beaches between prominent headlands. The largest accumulation of dunes, located near the Daintree River mouth in Trinity Bay, is about 1.5km wide. The Daintree and Alexandra Bay dunes are also associated with extensive estuarine environments.
- ◆ The Daintree River is the major supplier of sediment to this coastal sector.
- ◆ The site features an almost continuous chain of fringing coral reefs between Noah Head and Cowie Point. This inshore reef development is unsurpassed along the Wet Tropical Coast. It is one of the few areas where the rainforest meets the reef.
- ◆ The steep coastal escarpment combined with high annual rainfall (Cape Tribulation has 3.9m annually) creates numerous freshwater streams of exceptional water quality that enter the sea, rivers or wetlands within this site.
- ◆ The site includes substantial areas of high natural integrity with associated high biodiversity and contains important habitat for many rare and threatened fauna (e.g. southern cassowary and the spotted-tailed quoll) and endangered rainforest community types.
- ◆ The inshore marine area contains rare and threatened fauna such as Irrawaddy and Indo-Pacific humpback dolphins, dugong and turtles.
- ◆ The site contains Australia’s largest remaining stand of lowland tropical rainforest and is the last refuge for high concentrations of unique and archaic plants and animals with ancestral links to Gondwana. This contributes significantly to the site’s world renown. Many species are endemic to this area making it a major centre of endemism in the Wet Tropics bioregion. The Daintree area, in particular, is regarded as one of the most significant areas in Australia and has very high scientific value.



- ◆ Complex mesophyll and mesophyll vine forests (with subordinate eucalypt forests) are the dominant vegetation community, often extending to the foreshore. Estuarine and freshwater communities prevail in the lowland wetlands such as the Alexandra Bay Wetland.
- ◆ This site contains the Alexandra Bay and Lower Daintree River wetlands, which are listed and described in the *Directory of Important Wetlands in Australia* (2nd edition, 1996). These wetlands are some of the most spectacular in the state, featuring tall mangrove forests of high conservation value.
- ◆ The Lower Daintree River Wetland is particularly significant for its tall red mangrove forest in the mid-tidal reaches. It is one of the most significant breeding areas for the estuarine crocodile in the Wet Tropics bioregion. The Alexandra Bay Wetland is an excellent example of freshwater merging with saline communities on a coastal plain in a high rainfall area. The mangrove area is large and diverse with a high diversity of epiphytes.
- ◆ Oxbow Swamp is located within the Daintree River floodplain. It is part of the abandoned ancestral tract of the river. It forms a distinctive melaleuca wetland marginal to the main river and is a seasonally significant habitat for a flying fox colony.
- ◆ The area above the Bloomfield Falls contains rare and endemic Gondwanan fish species such as the Bloomfield cod. This area also has significant Indigenous Traditional Owner cultural resources and values, high scenic integrity and recreational values including fishing, swimming and picnicking.
- ◆ The Bloomfield area comprises remote forested areas featuring a mosaic of eucalypt woodlands, mesophyll and notophyll vine forests with drainage into Woobadda River or directly to the coast. The areas have high natural integrity and are largely part of the WTWHA.
- ◆ A range of Indigenous Traditional Owner cultural resources contribute to a rich and dynamic cultural landscape. This site is part of the Kuku Yalanji ancestral homeland estate and is of continuing Indigenous Traditional Owner cultural significance. Much of the coastline has special significance for the local Indigenous Traditional Owners, fulfilling a significant role in their traditional and contemporary lifestyle. It contains Indigenous Traditional Owner cultural resources and values, including significant story places and archaeological sites.

Significant social and economic resources and their values

- ◆ The site contains the main coastal route between Mossman and Ayton. It is sparsely populated with a few small coastal communities. These usually have very limited and often dispersed residential development, generally confined to freehold enclaves within State land.
- ◆ The site has important social, recreational and tourism values. There are several tourist resorts and a range of other tourist or visitor accommodation, including camping areas. There are also many visitor facilities, particularly between the Daintree crossing and Cape Tribulation, including boardwalks, public toilets, picnic areas and interpretive displays.
- ◆ Farming is largely restricted to the margins of the Lower Daintree River Wetland and the coastal plain west of the Alexandra Bay Wetland.
- ◆ The Daintree region is one of the most significant areas in Australia for tourism opportunities and provides a strong economic base for this site. It has a unique combination of several extraordinary features of international icon status, including spectacular scenery, rare and threatened wildlife and pristine forests. It is an outstanding area for the presentation of World Heritage values. Substantial parts of this site have high wilderness value due to their remoteness and pristine character.
- ◆ A spectacular scenic drive meanders through an expanse of pristine forests and dramatic coastal landscapes. Numerous vantage points provide sweeping vistas across a unique continuous scenic landscape of sandy beaches, fringing reefs and spectacular mountain backdrops. For example, the Alexandra Range Lookout provides a superb view over the mouth of the Daintree River and Snapper Island that promotes a distinct sense of grandeur and remoteness.
- ◆ The *Wet Tropics Nature Based Tourism Strategy* has identified 21 visitor sites within this key coastal site between the Daintree and Bloomfield rivers (e.g. Cape Kimberley and Myall Beach).
- ◆ Low Isles (including the surrounding reef platform) is an important tourist destination. It also features a marine science research centre and a working lighthouse, which is an area of state significance (cultural heritage).



Key coastal sites

- ◆ The dispersed pristine beaches, backed by lush forests, are popular low-key recreational areas for the local community and regional visitors. They are also significant tourist attractions highly valued for their spectacular natural setting.
- ◆ The estuaries, Snapper Island and in-shore reef areas provide popular fishing and boating opportunities.
- ◆ Public boat ramps are located at Wujal Wujal and the Daintree River.

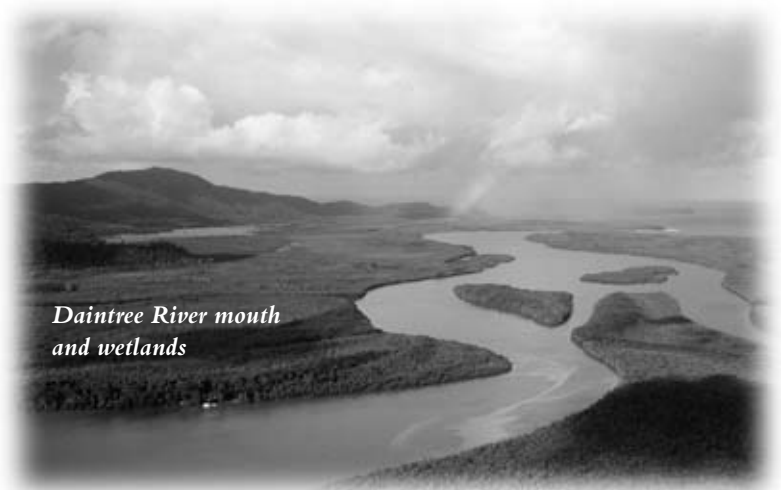
Coastal management issues

- ◆ Infrastructure development, land clearing, waste disposal, domestic animals and weeds (associated with residential and tourism development and agricultural activities) have caused habitat loss and potentially threaten World Heritage values, water quality and scenic amenity. They also threaten biodiversity and the natural integrity of remnant forests, wetlands and the dune/swale system.
- ◆ This site spans various land tenures and the land-sea interface and is subject to multiple and overlapping jurisdictions. Lack of coordination and integration between land managers (including agencies, freehold landholders and Indigenous Traditional Owners) has the potential to significantly reduce the effectiveness and efficiency of management. Although discussed in part in the *Daintree Futures Study*, there is no comprehensive management plan dealing holistically with the land-based tenures (i.e. both in and outside of the World Heritage Area). These land-based tenures are largely managed under a combination of State (including the *Wet Tropics Management Plan 1998*) and Commonwealth legislation and the Douglas Shire Planning Scheme.
- ◆ The site receives very high recreational and tourism use. Unmanaged visitation may adversely impact on environmental values, Indigenous Traditional Owner cultural resources and values, and visitor experiences.
- ◆ Sediment runoff from road maintenance and construction and other adjoining land activities can impact on water quality and reef integrity.
- ◆ Indigenous Traditional Owner cultural resources require adequate recognition and protection and the meaningful involvement of the Indigenous Traditional Owners in the planning, management and coordination processes relating to these cultural resources.
- ◆ Agricultural activities have the potential to significantly impair the natural values associated with Oxbow Swamp.
- ◆ Maintenance of natural and scenic values at Bloomfield Falls is an important management issue. It is a popular visitor area, requiring adequate facilities. Wujal Wujal community is proposing a new water uptake system above the falls to overcome domestic water supply problems.
- ◆ The habitat of rare and endemic Gondwanan fish species located above Bloomfield Falls (e.g. the Bloomfield cod) may be under threat from adverse impacts on water quality and incompatible land use.
- ◆ The use and structural adequacy of the unauthorised Coopers Creek boat ramp is under review.

Coastal locality 15.1: Daintree wetland-dune complex (map 18)

Desired coastal outcomes

- ◆ The World Heritage values of the wetlands and associated mosaic of forest types are maintained.
- ◆ The integrity of the wetland and associated dune/swale system is maintained.
- ◆ The mouth of the Daintree River and its immediate environs (including the esplanade) are retained in a natural condition, free of infrastructure.
- ◆ Water quality is maintained through measures such as the conservation of riparian vegetation and effective stormwater and sediment control.



*Daintree River mouth
and wetlands*



- ◆ Future use of the unallocated State land on the coast (particularly USL lot 97, plan USL8922) conserves the high environmental values and features, through the implementation of an appropriate management regime.
- ◆ Future use of the reserve (lot 373, plan SR783) is consistent with its dedicated purpose and includes the community purpose of 'environmental purposes'. The reserve is properly and effectively managed in accordance with an approved management plan.
- ◆ Management of sand extraction from the Daintree River, to maintain access at the ferry crossing, considers the potential adverse effects of erosion along the coast and the important contribution the river makes to the sand replenishment process.
- ◆ The natural, physical and scenic integrity of the dune/swale system, including the rare mesophyll vine forest on beach dunes, is maintained.
- ◆ There is no vehicle use on the beach beyond the southern limit of USL lot 97, plan USL8922.
- ◆ The natural integrity of the wetland system associated with the Daintree River is maintained.
- ◆ Degraded parts of the Daintree River are rehabilitated to a natural condition.
- ◆ Recreational and tourism use of the Daintree River is managed to provide ecologically sustainable and diverse visitor experiences.
- ◆ No further intensification or expansion of beach hut settlements occurs on the south arm of the Daintree River.
- ◆ There is no further development of private maritime infrastructure on the south arm of the Daintree River.

Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ An extensive estuarine complex with marginal freshwater wetlands and a dune/swale system (approximately 1km wide) extends southwards from Cape Kimberley.
- ◆ These wetlands (known collectively as the Lower Daintree River Wetland), including the associated endangered regional ecosystems and vegetated dune system, are areas of state significance (natural resources).
- ◆ A substantial part of this locality is in the WTWHA. It has high natural integrity and very high scenic and scientific values. All of the coastal waters are within the GBRWHA, Great Barrier Reef Marine Park or Cairns Marine Park.
- ◆ The mouth and environs of the Daintree River have high wilderness values with the highest diversity of mangrove species in Queensland.
- ◆ A mosaic of vegetation communities includes mangrove forests in tidal areas, melaleuca wetlands and complex mesophyll vine forests associated with the dune/swale system.
- ◆ The vegetation diversity provides habitat for a wide range of wildlife including estuarine crocodiles, turtles, the southern cassowary and Irrawaddy and Indo-Pacific humpback dolphins. The tidal flats are used by migratory and resident waders.
- ◆ The *Far North Queensland Regional Plan* recognises the Daintree to Cape Tribulation section of this locality as a 'priority biodiversity' area.

Significant social and economic resources and their values

- ◆ The locality has a popular beach and is a highly frequented recreational and tourism area of international renown for fishing, scenic amenity and wildlife appreciation.
- ◆ The excellent opportunities to view estuarine crocodiles are a tourism drawcard.

Coastal management issues

- ◆ Much of the Daintree floodplain has been cleared for sugar cane production and grazing. This has impacted on water quality and caused the erosion of stream banks and the introduction of weeds.
- ◆ Drainage of agricultural land can adversely affect wetlands and may expose acid sulfate soils. Acid sulfate soil risk is high.



Key coastal sites

- ◆ Disruption to natural sand supply to the coast may cause significant erosion for this coastal sector.
- ◆ The USL parcels and reserve need to be managed to conserve their high environmental values and features.
- ◆ Due to the multiple jurisdictions involving marine park, esplanades and reserve, combined with a World Heritage listing, there is a need for coordination between the relevant land and marine resource managers, including the appropriate Indigenous Traditional Owners, in matters relating to planning and management.
- ◆ The natural integrity of the Daintree dunes is potentially threatened by unmanaged recreational use. Vehicle use on the beaches can damage and degrade the dunes and associated vegetation. It also impacts on the enjoyment of the beaches by other users.
- ◆ Maintenance of the natural and scenic integrity of the wetlands of the Daintree River requires careful management. Coastal land use (residential and tourism development) has the potential to impair the integrity of the wetland.
- ◆ Commercial tourist operations on the Daintree River require careful management to maintain natural integrity and visitor experience. Increasing visitor numbers may adversely impact on the environmental and social values of the river and cause the displacement of wildlife. Tourist operations may also compromise the enjoyment of the river by other users.
- ◆ Beach huts and maritime infrastructure on the south arm of the Daintree River adversely impact on the natural and wilderness values of the estuarine system.

Tenure: USL, RE, FH, MP, LL, NP, Esp

Coastal locality 15.2: Snapper Island (map 18)

Desired coastal outcomes

- ◆ Land and marine resource managers, including the appropriate Indigenous Traditional Owners, coordinate in matters relating to planning and management.
- ◆ Management of the island and its surrounding waters maintains the remote setting by ensuring low-level use.
- ◆ A management plan is developed for the island that provide for the protection of the high biodiversity, historic, Indigenous Traditional Owner and very high scenic coastal landscape values of the island.
- ◆ Development is consistent with the 'no structures' zone intent for the marine parks.

Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ Snapper Island is a relatively rugged, vegetated island composed of strongly deformed Hodgkinson Formation sediments. It has high natural integrity and features fringing coral reefs and small attractive beaches. It contains many endemic plant and animal species. The locality has very high scenic values and is an area of state significance (scenic coastal landscapes).
- ◆ The island contains Indigenous Traditional Owner cultural resources and story places and other places of historic significance.
- ◆ It is located in the GBRWHA and has high biodiversity values. The marine part of the locality is within the Great Barrier Reef Marine Park and Cairns Marine Park.

Significant social and economic resources and their values

- ◆ The very high scenic, natural and recreational values make this a popular locality for tourism and local use. It is accessible to small craft in most weather conditions.

Coastal management issues

- ◆ The island lacks an approved management plan. A coordinated approach to management across the land-sea interface is required.



- ◆ Increased visitor use and development may significantly impact on the natural, cultural and scenic values of the island. Particular attention needs to be given to protecting the significant Kuku Yalanji Indigenous Traditional Owner cultural resources and values.

Tenure: NP, MP

Coastal locality 15.3: Low Isles (map 18)

Desired coastal outcomes

- ◆ The terrestrial and marine ecosystems of the reef flat, the mangrove cay (Woody Island) and the vegetated sand cay (Low Island) are conserved.
- ◆ Indigenous Traditional Owner cultural resources and values and the cultural heritage significance of Low Isles, particularly the lighthouse, are protected and presented appropriately.
- ◆ Opportunities continue for the public to enjoy low-impact, high-quality recreational and educational experiences based on the coastal resources and associated values of Low Isles and its reef.
- ◆ Human disturbance does not impact on the breeding success of bird colonies on Woody Island.
- ◆ The management of sewage disposal minimises impacts on water quality and marine life.
- ◆ Land and marine resource managers, including the appropriate Indigenous Traditional Owners, coordinate in matters relating to planning and management.
- ◆ The Commonwealth owned Low Island retains its conservation management focus regardless of future land ownership.



Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ The site includes a reef flat, mangrove cay (Woody Island) and vegetated sand cay (Low Island). These habitats support a diverse biota of fish, soft and hard corals, other marine and intertidal invertebrates, birds, mangroves and seagrasses.
- ◆ Low Island is the southern most wooded island on the Great Barrier Reef and is situated within the GBRWHA. The marine part of the locality is within the Great Barrier Reef Marine Park and Cairns Marine Park.
- ◆ Woody Island is a significant bird-nesting site for the pied imperial-pigeon.
- ◆ Low Isles has very high scenic landscape values and is an area of state significance (scenic coastal landscapes).
- ◆ Low Isles is particularly significant to local Indigenous Traditional Owners. It is a traditional meeting and ceremonial place and is used for cultural and subsistence purposes. The Indigenous Traditional Owners maintain an ongoing connection with Low Isles.
- ◆ The lighthouse is listed on the Register of the National Estate and still functions as an important navigational aid to shipping within the Great Barrier Reef. It was built in 1878 and has been automated since 1993. It is an area of state significance (cultural heritage).

Significant social and economic resources and their values

- ◆ Low Isles is a significant research centre. In 1928–29 it was the site of the Great Barrier Reef Expedition. The locality contains one of the few coral reefs in the world where data has been collected over a long period. It is of immense importance as a research site.
- ◆ Low Isles is an important tourist destination easily accessed from Port Douglas. Providing a sheltered boat anchorage, it is used regularly by commercial fishing boats, charter and tourist vessels, and private cruising and local yachts. The reef is also an important pelagic bait-netting site for commercial fishing.
- ◆ Due to its strategic location, the Bureau of Meteorology weather station on Low Isles is an important regional facility for both routine data collection and the monitoring of severe weather events.



Coastal management issues

- ◆ Low Island may not be able to sustain increased visitor numbers without adverse effects on environmental integrity and visitor amenity. High visitor numbers would impact on the natural, Indigenous Traditional Owner, cultural, socio-economic and scientific values of the area. Excessive noise from leisure activities such as jet-skiing and paragliding has the potential to detract from the peaceful, low-key visitor amenity that is a key attraction of Low Isles.
- ◆ Presentation of the locality's unique array of natural, cultural and historical values provides a valuable opportunity to raise public awareness of coastal management issues and the value of marine research. Any presentation needs to be undertaken in collaboration with all stakeholders, including the relevant Indigenous Traditional Owners.
- ◆ Bird nesting on Woody Island is prone to human disturbance, especially during the main breeding season from October to March. Woody Island is outside the Great Barrier Reef Marine Park but within the Cairns Marine Park.
- ◆ The disposal of sewage in the vicinity of the reef and islands has the potential to adversely affect marine life.
- ◆ Due to the multiple jurisdictions involving marine parks and Commonwealth land within a World Heritage Area, there is a need for coordination between the relevant land and marine resource managers, including the appropriate Indigenous Traditional Owners, in matters relating to planning and management. There needs to be complementary land and sea management consistent with the *Cairns Plan of Management* (GBRMPA, 2002).

Tenure: MP, Commonwealth land, RE (Lighthouse Reserve)

Coastal locality 15.4: Daintree north (map 18)

Desired coastal outcomes

- ◆ Clearing of native vegetation is minimised to maintain the high biodiversity and conservation values.
- ◆ Remnant native vegetation on private land is conserved through measures such as voluntary conservation agreements (e.g. under the *Nature Conservation Act 1992*, *Land Act 1994* or *Wet Tropics Management Plan 1998*).
- ◆ The natural integrity and biodiversity of the remnant forest is maintained and degraded areas are rehabilitated.
- ◆ Water quality of the Daintree River is maintained.
- ◆ Domestic animals are managed to avoid adverse impacts on wildlife.
- ◆ Weed invasion of the remnant forests is minimised.
- ◆ Future use of the following unallocated State land conserves the high environmental values and features, including significant remnant native vegetation, through the implementation of an appropriate management regime:
 - USL lot 1, plan USL8836;
 - USL lot 2, plan AP5920;
 - USL lot 33, plan SR118; and
 - USL lot 104, plan USL20207.
- ◆ Future use of the reserve (lot 85, plan SR702) is consistent with its dedicated purpose and includes the community purpose of 'environmental purposes'. The reserve is properly and effectively managed in accordance with an approved management plan.

Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ The locality contains an extensive mosaic of mainly rainforest vegetation types, despite substantial habitat clearing and fragmentation from residential development and agricultural activities. It is part of the



largest area of intact lowland rainforest in Australia. These remnant forests provide important habitat for many rare and threatened fauna including the southern cassowary.

- ◆ The *Far North Queensland Regional Plan* recognises the locality as a ‘priority biodiversity’ area (Daintree to Cape Tribulation). A part of the locality is in the WTWHA.
- ◆ Forest Creek has a high degree of scenic amenity. It contains substantial areas of remnant mesophyll vine forest and provides significant habitat for rare and threatened endemic fauna such as the McCullochs rainbow fish, the red-tailed jungle perch and several endangered stream-inhabiting frog species.

Coastal management issues

- ◆ Residential development and agricultural activities have resulted in habitat loss or impairment and potentially threaten the biodiversity and natural integrity of remnant forests. Further clearing of native vegetation needs to be avoided.
- ◆ Domestic animals and weeds, particularly associated with residential development, need to be managed to avoid adverse impacts on natural integrity and biodiversity.
- ◆ Waste disposal, including sewage treatment, has the potential to impact on the water quality of the Daintree River.
- ◆ The USL and reserve need to be managed to conserve their high environmental values and features.

Tenure: FH, NP, USL

Coastal locality 15.5: Shipwreck Bay (map 18)

Desired coastal outcomes

- ◆ Future development remains low-key and does not adversely impact on coastal resources and values, including natural integrity and scenic values.
- ◆ Tourism and visitor management is consistent with the locality’s high wilderness values.
- ◆ Remnant native vegetation and other coastal values on the lease (lot 78, plan SP112240), including scenic and wilderness values, continue to be maintained by measures such as the existing Cooperative Management Agreement under the *Wet Tropics Management Plan 1998*.
- ◆ Land and marine resource managers, including the appropriate Indigenous Traditional Owners, coordinate in matters relating to planning and management.
- ◆ The esplanade remains in an undeveloped natural condition and access is managed to protect the coastal resources.
- ◆ Future use of the unallocated State land on the coast (USL lot 9, plan USL8830) conserves the high environmental values and features and avoids significant impacts on coastal processes, through the implementation of an appropriate management regime.



Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ This locality features a secluded beach, fringing coral reefs, headlands and a small yet distinctive island (Black Rock). The Alexandra Range provides a highly scenic backdrop.
- ◆ The locality is an area of state significance (scenic coastal landscapes).
- ◆ A vegetation mosaic dominated by notophyll vine forest and eucalypt forest provides habitat for many endemic plant and animal species. It is part of the largest area of intact lowland rainforest in Australia with exceptionally high plant diversity adjacent to coral reefs.



Key coastal sites

- ◆ The locality has important wilderness values due to its high natural integrity and isolation.
- ◆ The mainland part of the locality is in the WTWHA. The marine part is within the GBRWHA, Great Barrier Reef Marine Park and Cairns Marine Park.
- ◆ The *Far North Queensland Regional Plan* recognised Shipwreck Bay as a ‘priority biodiversity’ area (Daintree to Cape Tribulation).

Coastal management issues

- ◆ A Cooperative Management Agreement under the *Wet Tropics Management Plan 1998* between the lessees and the Wet Tropics Management Authority provides for the sustainable use and management of the lease (lot 78, plan SP112240). Currently, infrastructure is small scale and low-key. Any development, particularly intensification, may cause unacceptable impacts on the lease’s high natural integrity and wilderness values.
- ◆ Due to the multiple jurisdictions involving marine park, esplanade and USL, combined with a World Heritage listing, there is the need for coordination between the relevant land and marine resource managers, including the appropriate Indigenous Traditional Owners, in matters relating to planning and management.
- ◆ The esplanade and USL need to be managed to conserve their high environmental values and features.
- ◆ Development and visitor use has the potential to impact on their natural and scenic values.

Tenure: USL, LL, MP, Esp

Coastal locality 15.6: Cow Bay (map 18)

Desired coastal outcomes

- ◆ The biodiversity and natural integrity of the mosaic of forest types, including fan palm forests, are maintained and degraded areas rehabilitated.
- ◆ Scenic integrity is maintained.
- ◆ Foreshore vegetation is conserved.
- ◆ There is no vehicle use along the beach. The issue of vehicle use across the beach for boat launching purposes is resolved through the Indigenous Land Use Agreement negotiations, achieving an outcome that balances the needs of all parties with the conservation of coastal values.
- ◆ The Kuku Yalanji Indigenous Traditional Owners are involved in the planning for, and management of, the locality’s development.
- ◆ Future use of the unallocated State land (lot 15, plan USL8831) conserves the high environmental values and features, through the implementation of an appropriate management regime.
- ◆ Future use of the reserve (lot 88, plan SR831) is consistent with its dedicated purpose and includes the community purpose of ‘environmental purposes’. The reserve is properly and effectively managed in accordance with an approved management plan.
- ◆ Remnant native vegetation is conserved and water quality maintained through mechanisms such as voluntary conservation agreements on private land (e.g. under the *Nature Conservation Act 1992*, *Land Act 1994* or *Wet Tropics Management Plan 1998*).

Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ The unique structural vegetation represents a continuum of rare forest types, which is quite unusual. The large intact areas of fan palms and small exposed dry eucalypt ridge provide a diversity of forest types. These form part of a wildlife corridor for the southern cassowary, connecting the high altitude Bailey Hill to lowland habitats including coastal mangrove communities.
- ◆ A creek system with intact vine forest provides habitat for many rare and threatened plant and animal species such as Bennett’s tree kangaroos and spotted-tailed quolls.
- ◆ Cow Bay is part of the largest area of intact lowland rainforest in Australia with exceptionally high plant diversity adjacent to coral reefs. Some of the vegetation communities in this locality contain endangered regional ecosystems.



- ◆ The wetland including the associated endangered regional ecosystems and vegetated dune system are areas of state significance (natural resources).
- ◆ The *Far North Queensland Regional Plan* recognised the locality as a 'priority biodiversity' area (Daintree to Cape Tribulation) with very high scenic coastal landscape values. A part of the locality is in the WTWHA. The marine part of this locality is within the Cairns Marine Park and the Great Barrier Reef Marine Park.
- ◆ This locality holds special significance for Indigenous Traditional Owners.

Coastal management issues

- ◆ Residential development needs to be managed to minimise habitat loss, degradation and fragmentation. Associated issues such as waste disposal (including sewage treatment), domestic animals and weeds have the potential to impact on water quality, natural integrity and biodiversity.
- ◆ Indigenous Traditional Owner cultural resources and values require adequate recognition and protection and Indigenous Traditional Owner involvement in this process. The designation of the reserve should be reviewed with the input of interest groups, including Indigenous Traditional Owners.
- ◆ The visitor sites at Cow Bay require appropriate management. The issue of boat launching across the beach is the subject of negotiations between State agencies, Douglas Shire Council, the Kuku Yalanji Indigenous Traditional Owners, local residents and tour operators. Inappropriate use has the potential to conflict with cultural, social and environmental values.
- ◆ The USL and reserve need to be managed to conserve their high environmental values and features.

Tenure: FH, USL, RE, NP, MP

Coastal locality 15.7: Bailey Creek complex (map 18)

Desired coastal outcomes

- ◆ The mosaic of vegetation types and habitats is conserved.
- ◆ The high quality and integrity of the coastal resources, including the wetlands and scenic values, are maintained.
- ◆ Biodiversity values including endangered species such as the southern cassowary are maintained.
- ◆ Degraded sections, particularly those associated with important southern cassowary habitat and wildlife corridors, are rehabilitated.
- ◆ The esplanade remains in an undeveloped state with foreshore vegetation retained.
- ◆ There is no use of vehicles on the beaches.
- ◆ Remnant native vegetation on private land is conserved through measures such as voluntary conservation agreements (e.g. under the *Nature Conservation Act 1992*, *Land Act 1994* or *Wet Tropics Management Plan 1998*).
- ◆ Future use of the following unallocated State land conserves the high environmental values and features, including significant coastal wetlands and remnant native vegetation, through the implementation of an appropriate management regime:
 - USL lot 79, plan SR845;
 - USL lot 7, plan USL8841; and
 - USL lot 8, plan USL8841.
- ◆ Future use of the reserve (lot 98, plan SR23) is consistent with its dedicated purpose and includes the community purpose of 'environmental purposes'. The reserve is properly and effectively managed in accordance with an approved management plan.
- ◆ Land and marine resource managers, including the appropriate Indigenous Traditional Owners, coordinate in matters relating to planning and management.
- ◆ Clearing of native vegetation is avoided to retain the high biodiversity and conservation values of the wetlands.



Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ The various wetlands (which collectively form the Alexandra Bay Wetland) provide an excellent example of the merging of freshwater and saline wetlands in a high rainfall area. Coopers Creek and Bailey Creek are the prominent estuaries and are an integral part of the wetland system. Drainage into the wetlands is mostly from the rugged Thornton Range.
- ◆ A mosaic of wetland, rainforest and eucalypt vegetation communities contain endangered regional ecosystems that are of the highest natural integrity. It is part of the largest area of intact lowland rainforest in Australia with exceptionally high plant diversity adjacent to coral reefs.
- ◆ The wetlands, including the associated endangered regional ecosystems and vegetated dune system, are areas of state significance (natural resources).
- ◆ This locality is prime habitat for the southern cassowary and an important fish nursery.
- ◆ The locality is an area of state significance (scenic coastal landscapes) with pristine beaches and excellent viewsheds.
- ◆ Intensive recreational activities occur in the Thornton Beach area.
- ◆ Most of the locality is in the WTWHA. It is recognised in the *Far North Queensland Regional Plan* as a 'priority biodiversity' area (Daintree to Cape Tribulation).

Coastal management issues

- ◆ Residential development needs to be managed to minimise habitat loss, degradation and fragmentation and to avoid adverse impacts on the locality's very high scenic values. Associated issues such as waste disposal (including sewage treatment), domestic animals and weeds have the potential to impact on water quality, natural integrity and biodiversity.
- ◆ Vehicle use on the beach conflicts with cultural, social, wilderness and environmental values.
- ◆ The USL, esplanade and reserve need to be managed with the input of a range of interest groups, including Indigenous Traditional Owners, to conserve the high environmental values and features.
- ◆ Due to the combination of World Heritage listing and the multiple jurisdictions involving Cairns Marine Park, reserve and USL, there is potential for lack of coordination between the relevant land and marine resource managers, including the appropriate Indigenous Traditional Owners, in matters relating to planning and management.
- ◆ Clearing of native vegetation needs to be managed to minimise impacts on the high biodiversity and conservation values, particularly the wetlands.

Tenure: NP, MP, USL, RE, FH

Coastal locality 15.8: Thornton footslopes (map 18)

Desired coastal outcomes

- ◆ There are no adverse impacts on the habitats of rare and threatened fauna (such as the southern cassowary) and endemic plants (including primitive angiosperms).
- ◆ Biodiversity, particularly the plant diversity associated with the lowland rainforest, is maintained.
- ◆ The high water quality in creeks draining into the Alexandra Bay Wetland is maintained through the conservation of riparian areas and application of effective stormwater and sediment controls.
- ◆ Degraded sections, particularly the riparian corridors, are rehabilitated.
- ◆ Remnant native vegetation on private land is conserved through mechanisms such as voluntary conservation agreements (e.g. under the *Nature Conservation Act 1992*, *Land Act 1994* or *Wet Tropics Management Plan 1998*).



Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ This locality provides critical habitat for rare and threatened fauna such as the southern cassowary. It includes large areas of remnant vegetation comprising mesophyll vine forest, some with dominant palms. It is part of the largest area of intact lowland rainforest in Australia with exceptionally high plant diversity adjacent to coral reef. It contains areas of state significance (natural resources — endangered regional ecosystems and significant coastal wetlands).
- ◆ More than 40 rare and threatened plant species have been recorded from this area. Part of the locality is in the WTWHA. The *Far North Queensland Regional Plan* recognised the area as a ‘priority biodiversity’ area (Daintree to Cape Tribulation). It contains endemic species (many with a very restricted distribution) and vegetation containing primitive angiosperms and ferns.
- ◆ The locality includes Nature Refuges declared under the *Nature Conservation Act 1992* over freehold land — Acaciavale Nature Refuge (lot 1, plan RP724149), Cooper Creek Nature Refuge (lot 52, plan SR537) and Kaba-kada Nature Refuge (lot 391, plan RP7390).

Significant social and economic resources and their values

- ◆ The locality has high tourism and recreational values because of its very high scenic amenity.
- ◆ The locality contains substantial residential development and agricultural activity.

Coastal management issues

- ◆ Residential development needs to be managed to minimise habitat loss, degradation and fragmentation. Associated issues such as waste disposal (including sewage treatment), domestic animals and weeds have the potential to impact on water quality, natural integrity and biodiversity.

Tenure: NP, USL, FH, RE, NR

Coastal locality 15.9: Noah Creek (map 18)

Desired coastal outcomes

- ◆ There are no adverse impacts on the habitats of rare and threatened fauna (such as the southern cassowary) and endemic plants (including primitive angiosperms).
- ◆ The very high scenic values are maintained.
- ◆ The integrity of the Indigenous Traditional Owner cultural resources and values, including places of significance, are maintained in conjunction with the local Indigenous Traditional Owners.
- ◆ The esplanade remains in an undeveloped natural state with foreshore vegetation conserved.
- ◆ There is no use of vehicles on the beach.
- ◆ The impacts from visitor use and development are minimised to protect coastal resources, including wildlife habitat, scenic amenity and wilderness values.
- ◆ The existing road development and its maintenance has no adverse impacts on the fringing coral reefs and World Heritage values.
- ◆ Remnant native vegetation on private land is conserved through mechanisms such as voluntary conservation agreements (e.g. under the *Nature Conservation Act 1992*, *Land Act 1994* or *Wet Tropics Management Plan 1998*).
- ◆ Future use of the unallocated State land on the coast (USL lot 63, plan RP898391) conserves the high environmental values and features, including significant coastal dunes and wetlands and remnant native vegetation, through the implementation of an appropriate management regime.
- ◆ Future use of the reserve (lot 86, plan SR798) is consistent with its dedicated purpose and includes the community purpose of ‘environmental purposes’. The reserve is properly and effectively managed in accordance with an approved management plan.
- ◆ Further clearing of native vegetation is avoided to maintain the high biodiversity and conservation values and to minimise impacts on the Noah Creek wetlands.



Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ The locality is centred on the Noah Creek estuary, the lower portion of Oliver Creek and the associated dune/swale system. It has high natural integrity and is an area of state significance (scenic coastal landscapes).
- ◆ Oliver and Noah creeks contain areas of high biological significance with many endemic plant and animal species with ancestral links to Gondwana and several endangered regional ecosystems. Noah Creek contains a significant number of plant species that have not yet been described.
- ◆ The wetland and associated endangered regional ecosystems and vegetated dune system are areas of state significance (natural resources).
- ◆ The locality provides important habitat for the southern cassowary, with the highest concentration of the species recorded near the mouth of Noah Creek.
- ◆ The locality contains significant Indigenous Traditional Owner cultural resources and values and historical sites.
- ◆ The locality is in the WTWHA and is recognised by the *Far North Queensland Regional Plan* as a 'priority biodiversity' area (Daintree to Cape Tribulation). All of the coastal waters are within either the Great Barrier Reef Marine Park or the Cairns Marine Park.

Significant social and economic resources and their values

- ◆ Popular tourism and recreational activities include camping and swimming. A substantial track and boardwalk has been constructed to present the rainforest and estuarine communities.

Coastal management issues

- ◆ Development has the potential to adversely impact on natural and cultural values, including Indigenous Traditional Owner cultural resources and values.
- ◆ The substantial number of visitors may create a demand for additional facilities such as car parking, toilets and walking tracks.
- ◆ Road maintenance and development have the potential to impact on water runoff into the estuary.
- ◆ Vehicle use on the beach conflicts with cultural, social, wilderness and environmental values.
- ◆ Development and visitor use of the esplanade have the potential to impact on the natural and scenic values, particularly the foreshore vegetation.
- ◆ The USL and reserve need to be managed to conserve their high environmental values.
- ◆ Further clearing of native vegetation needs to be avoided to retain the high biodiversity, conservation values and minimise potential impacts on the Noah Creek wetland.

Tenure: USL, RE, Esp, MP, NP, FH, WTWHA

Coastal locality 15.10: Mason Creek (map 18)

Desired coastal outcomes

- ◆ The habitats of rare and threatened species such as the southern cassowary, primitive angiosperms and endemic species are maintained.
- ◆ Degraded sections, particularly riparian corridors, are rehabilitated.
- ◆ The high water quality of the creeks is maintained.
- ◆ Remnant native vegetation on private land is conserved through mechanisms such as voluntary conservation agreements (e.g. under the *Nature Conservation Act 1992*, *Land Act 1994* or *Wet Tropics Management Plan 1998*).

Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ This locality is centred on the lower drainage tracts of Myall and Mason creeks, with remnant mesophyll vine forest particularly prolific on the foot-slopes of the range and as riparian corridors.



- ◆ The locality contains many endemic plant and animal species, including stream-inhabiting frogs. It is a lowland area containing numerous rare and threatened plant species with a high degree of endemism and biodiversity.
- ◆ The *Far North Queensland Regional Plan* recognised the locality as a 'priority biodiversity' area (Daintree to Cape Tribulation).

Significant social and economic resources and their values

- ◆ A residential area exists within a major tourism and recreational area.

Coastal management issues

- ◆ Residential development needs to be managed to minimise habitat loss, degradation and fragmentation. Associated issues such as waste disposal (including sewage treatment), domestic animals and weeds have the potential to impact on water quality, natural integrity and biodiversity.
- ◆ Degraded areas, particularly riparian corridors, require rehabilitation to ensure maintenance of water quality and habitat connectivity.

Tenure: FH, NP

Coastal locality 15.11: Noah Head to Bloomfield (map 18)

Desired coastal outcomes

- ◆ The habitats of rare and threatened species such as the southern cassowary, primitive angiosperms and endemic species are maintained.
- ◆ Development is consistent with the 'no structures zone' of the marine parks in the coastal sector between Cape Tribulation and the Bloomfield River.
- ◆ The impacts from visitor use and development are minimised to protect coastal resources, including wildlife habitat, scenic amenity and wilderness values.
- ◆ Erosion associated with development has no adverse impact on the fringing reefs or associated GBRWHA values.
- ◆ The main access road and its maintenance have no adverse impacts on the fringing coral reefs and World Heritage values.
- ◆ There is no use of vehicles on the beaches.
- ◆ Development at Cape Tribulation does not adversely impact on the very high scenic values. The esplanade at Cape Tribulation remains in an undeveloped and natural condition with foreshore vegetation conserved.
- ◆ Development does not adversely impact on coastal resources, particularly wildlife habitat, Indigenous Traditional Owner cultural resources and values, water quality and the very high scenic values of Emmagen and Melissa creeks.
- ◆ Management of visitors to the Emmagen Creek road crossing minimises impacts on World Heritage values, particularly water quality and biodiversity, and Indigenous Traditional Owner cultural resources and values.
- ◆ Operations on the gravel reserve (lot 45, plan SR841) have no adverse impacts on Emmagen Creek and minimal impacts on World Heritage values. This reserve and the adjoining reserves (lots 44 and 46, plan SR841) are managed to maintain their World Heritage values.
- ◆ Coastal resources (including Indigenous Traditional Owner cultural resources and values, the high natural integrity of the forests, scenic amenity and wilderness values) in the Bloomfield wilderness area, between Cowie Beach and the mouth of the Bloomfield River, are maintained.
- ◆ Access to existing development in the Bloomfield coastal sector remains via the sea.



*Coastline near
Cape Tribulation*



Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ This locality has high natural integrity and spans the land-sea surface along a generally rugged and highly scenic coastline. The Thornton Range provides a spectacular forested backdrop.
- ◆ This locality is an area of state significance (scenic coastal landscapes).
- ◆ The Cape Tribulation area's mosaic of vegetation types, including mesophyll vine forests, provides important habitat for many endemic plant and animal species.
- ◆ The vegetated dune system south of Cape Tribulation contains endangered regional ecosystems and is an area of state significance (natural resources).
- ◆ The locality contains Indigenous Traditional Owner cultural resources and values, and historic cultural sites.
- ◆ The inshore fringing coral reefs are a major feature of this locality. Most of the terrestrial area is in the WTWHA. The marine area is in the GBRWHA, Great Barrier Reef Marine Park and Cairns Marine Park.
- ◆ The *Far North Queensland Regional Plan* identifies the terrestrial portion of the locality to just north of Cape Tribulation as a 'priority biodiversity' area.
- ◆ The Bloomfield wilderness area has outstanding natural, cultural, scenic and wilderness values. It contains many endemic plant and animal species associated with eucalypt woodlands, mesophyll and notophyll vine forests and has cultural heritage values.

Significant social and economic resources and their values

- ◆ The locality is a popular tourism and recreation area.
- ◆ Minor residential development occurs north of Cape Tribulation. An unsealed coastal road links Cape Tribulation to the Bloomfield River.
- ◆ The Bloomfield wilderness area provides excellent remote and adventure experiences for visitors.
- ◆ There is a tourist lodge development east of the mouth of the Bloomfield estuary.

Coastal management issues

- ◆ Inappropriate development may impair scenic, natural and wilderness values and cause erosion that adversely impacts on the fringing reefs.
- ◆ Due to the multiple jurisdictions involving marine parks, esplanade and USL combined with a World Heritage listing, there is a need for coordination between the relevant land and marine resource managers, including the appropriate Indigenous Traditional Owners, in matters relating to planning and management.
- ◆ Natural, cultural and scenic values may be impaired by vegetation clearing, infrastructure development and associated erosion.
- ◆ The 'no structures' zone of the Cairns Marine Park extends north of Cape Tribulation to just south of the mouth of the Bloomfield River. Inappropriate maritime infrastructure and related development has the potential to impact on natural integrity and scenic values.
- ◆ High visitor use may adversely impact on natural integrity and scenic and recreational amenity.
- ◆ Vehicle use on the beaches conflicts with cultural, social, wilderness and environmental values.
- ◆ Future extraction of quarry materials from the unused gravel reserve (R214) (lot 45, plan SR841) on the Emmagen Creek catchment has the potential to adversely impact on World Heritage values. The management of this and the other neighbouring reserves should be reviewed with the involvement of Indigenous Traditional Owners.
- ◆ The unsealed road, and its maintenance, causes sediment runoff to the fringing reefs.
- ◆ Provision of amenities or alternative arrangements to cope with the high levels of visitation is a significant management issue at the Emmagen Creek road crossing. Commercial tourist buses regularly stop at the crossing, causing a public health issue in the absence of toilet facilities.



- ◆ Development at Cape Tribulation, including the esplanade, needs to be managed to protect the foreshore vegetation and to maintain the very high scenic values.
- ◆ Access to development in the Bloomfield coastal sector is mainly by sea. New road access has the potential to adversely impact on natural integrity, scenic amenity and water quality.

Tenure: FH, Esp, NP, USL, RE, LL, MP

Coastal locality 15.12: Bloomfield Road (map 18)

Desired coastal outcomes

- ◆ Indigenous Traditional Owner, biodiversity, scenic and natural values are maintained.
- ◆ There are minimal impacts from visitor use and development on coastal resources, including scenic amenity, natural integrity and water quality.
- ◆ Management of the road minimises dust problems during the dry season and sediment runoff during the wet season and maximises public safety.
- ◆ Impacts on the fringing coral reefs and coastal streams associated with maintenance and any upgrading of the road are avoided.
- ◆ Management of visitors to the upper Woobadda River road crossing minimises impacts on World Heritage values, particularly water quality and biodiversity, and Indigenous Traditional Owner cultural resources and values.



Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ The locality is within the WTWHA and contains a largely unsealed coastal road linking Cape Tribulation to the Bloomfield River. This road passes through important habitats containing endemic plants and diverse vegetation communities. It has high scenic amenity.
- ◆ The Woobadda River road crossing features eucalypt woodland and complex mesophyll vine forest and has high natural and cultural values. It contains many endemic plant and animal species.

Significant social and economic resources and their values

- ◆ The locality is a popular recreational area, especially for picnicking and swimming. Woobadda River is an important water source for a number of downstream residents.
- ◆ It is a popular tourism and recreational drive and an important access route for Wujal Wujal, Ayton and Degarra residents.

Coastal management issues

- ◆ Due to the multiple jurisdictions involving a timber reserve and a road reserve, combined with a World Heritage listing, there is a need for coordination between the relevant land managers and Indigenous Traditional Owners in matters relating to planning and management.
- ◆ Development may impair scenic, cultural and natural values.
- ◆ Erosion associated with the road may adversely impact on the fringing reefs and coastal streams and impair World Heritage values. Dust during the dry season has the potential to impact on visual amenity (dust-coated roadside vegetation) and impact on visitor experiences and the health and well-being of residents.
- ◆ Provision of amenities or alternative arrangements to cope with the high levels of visitation at the upper Woobadda River road crossing is a significant management issue. Commercial tourist buses and independent travellers regularly stop at these sites and there is a public health issue in the absence of toilet facilities. Visitor use has the potential to adversely impact on the natural and cultural values. The maintenance of water quality, particularly for drinking water purposes, at the Woobadda River is an issue that needs to be managed in conjunction with local residents, including the Indigenous Traditional Owners.

Tenure: The road reserve passes through or adjacent to FH, NP, USL, RE, Esp and TR.



Coastal locality 15.13: Zig Zag (map 18)

Desired coastal outcomes

- ◆ The conservation values of the various forest types are maintained.
- ◆ Track use remains low and primarily for maintenance of infrastructure and local community access.
- ◆ The track is maintained to minimise the impacts of erosion on coastal streams.
- ◆ Infrastructure and resource extraction sites are managed and rehabilitated to minimise the adverse impacts of erosion and weeds.

Significant resources and their values

Significant coastal resources (natural and cultural) and their values

- ◆ This locality is in the WTWHA and traverses eucalypt woodlands and notophyll vine forests on dissected, rugged hills with drainage into the Bloomfield and Woobadda rivers.

Significant social and economic resources and their values

- ◆ The Zig Zag track provides access to hinterland communities and pastoral properties and facilitates powerline maintenance.
- ◆ A quarry at the base of the Zig Zag track provides gravel and other raw materials used locally for road and other infrastructure works.

Coastal management issues

- ◆ The impact of the powerline and access track needs to be managed to minimise adverse impacts on the natural integrity of the various forest types. The access track becomes badly eroded during each wet season and runoff adversely impacts on the water quality of local streams.
- ◆ Resource extraction in the vicinity of the track could adversely impact on Indigenous Traditional Owner cultural resources and values, water quality and scenic amenity and promote weed invasion.

Tenure: DOGIT, TR